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MENTAL RETARDATION

Readings and Resources

HOLT, RINEHART AND WINSTON · NEW YORK

PREFACE

AT THE TURN of the century, Clifford Beers wrote *The Mind That Found Itself*. This book and Beers' personal experiences gave the mental health movement in the United States and throughout the world its greatest impetus. Not until almost forty years later, however—and most certainly not as a result of one person or one book—did the field of mental retardation reach maturity. The phenomenal growth and development of interest in mental retardation after World War II can probably be attributed to four events: (1) a thorough revulsion toward the Nazi mass slaughter of retarded persons; (2) an adamant, unashamed, and well-organized parent movement; (3) a reawakening of interest on the part of biological and social scientists, and (4) public awareness of how little had been done for these "forgotten people."

This book uses a multidisciplinary approach and attempts to balance the readings and references so that they will be of interest to educators, psychologists, guidance personnel, physicians, and sociologists. It is also designed to provide many sources of information for parents and parent groups concerned with mental retardation.

The organization of the book is a result of the editor's many years of experience in preparing personnel for work with the retarded. The book can serve as a college text in such courses as "Introduction to Mental Retardation," "Psychology of Mental Retardation," and "Guidance of the Mentally Retarded." It can also be used in association with a basic textbook on mental retardation (see pp. 18–20 for a comprehensive list of such books). The chart on the front endpapers correlates the readings of this volume with a number of basic texts. The left-hand column lists the chapters or sections of the general textbooks; the other columns list, by number, the readings in this book that are appropriate to specific chap-

ters. Used in conjunction with curriculum guides for educable and trainable retarded children, *Mental Retardation* will provide a complete course in "Curriculum and Methods for Teaching the Retarded" and for workshops in this field.

The readings were selected from 5000 articles and reports published in the last 25 years. Three major criteria were used to select the readings: (1) the over-all importance of the subject, (2) the clarity and form of the article, and (3) the technical accuracy of the data. The vocabulary and concepts have been geared to both upper-division and graduate levels of instruction.

The section introductions are intentionally structured to provide some historical background, to present related problems, and, in lieu of adding lengthy suggested supplementary reading materials, to discuss related articles. Wherever possible, the sections have been kept to a fairly uniform size, although Section 2 is purposely long. That section approaches the problem of assessment, diagnosis, and classification as a global concept.

To complement and amplify the readings, the editor has provided a number of supplementary resource materials and bibliographies in the text and in the appendix. A major problem confronting the reader is the inevitable lack of uniformity in terminology, definition, and incidence statistics. The editor's resources are an attempt to eliminate just such confusion. Initially, the reader would do well to become familiar with the terminology chart on pages 12–13.

I would like to extend my thanks to the authors, editors, and publishers who granted permission for their work to be reprinted here. I am also indebted to Leo F. Cain, vice-president of San Francisco State College, for providing opportunities for professional growth and the freedom to pursue research and study. I am especially appreciative of the efforts of my two assistants, Virginia Vitero and Anne Palmer, who did much of the basic researching. Gratitude is expressed to my wife, Dorothy, for her critical evaluation and editorial assistance, and finally to Jacqueline, Bob, and Harriet, who have taught me so much about children and youth.

J.H.R.

San Bruno, California
April 19, 1961

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1

GENERAL CONSIDERATIONS

THIS VOLUME might easily be called the "new look" or modern trends and issues in mental retardation. Actually, it is a blending of ideas, both old and new, and, hopefully, a forecast for a brighter future for all retarded individuals.

Why was the terminology "mental retardation" used in lieu of many other descriptive terms? The best answer to this lies in a quote made by Edgar A. Doll, one of the most respected contributors to the field:

> changes are reflected in new modes of expression which indicate the alteration in thinking and values. As the term "feebleminded" gave place to "mental deficient," so this in turn has changed to "mental retardation." These changes in terminology show a drift away from precise clinical diagnosis toward more general appraisal of the child as a person in "softer" words and with more generally descriptive evaluation of total aptitudes.[1]

How great is the social and economic problem of mental retardation? It is conservatively estimated that there are five million mentally retarded individuals of all ages in the United States. Directly concerned with them are the parents and close relatives, which would indicate that a large percentage of the population has direct contact with mentally retarded individuals every day. Almost 70 percent of the permanently disabled population falls into the cate-

[1] Edgar A. Doll, "The Second Decade," *The Training School Bulletin*, 52.2 (April 1955), 19.

gory of mental retardates. The following table provides comparative data concerning permanent afflictions.

Affliction *	*Of each 100,000 population*
Mental retardation	3,000
Rheumatic heart	700
Cerebral palsy	350
Polio (permanent)	300
Blindness	200

The second table, prepared by Dr. Clemens Benda, provides statistical data concerning the incidence and distribution of mental retardation in the United States. These data are considered to be modest estimates. In addition to the information provided on the number of institutionalized mentally retarded, at least another 20,000 retarded people of all ages are living in private residential facilities. It must be noted that Benda uses as a cut-off score an IQ of 70. If this were increased to 75 or 80, as is usual, the figures relating to the educable or mildly retarded group would be increased by 1 or 2 percent.

Mental retardation is impervious to economic status, race, color, or religion. Simply stated, three to four children out of every hundred born are destined to be mentally retarded. It might be optimistically forecasted that current studies on the prevention of mental retardation may ultimately change this picture.

In summary, it must be reiterated that mental retardation is an unbelievably complex social and economic problem, the ramifications of which even the best trained professional worker cannot fully comprehend. The concept of mental retardation includes such a varying combination of factors and such a lack of uniformity in definition, terminology, classification, treatment, and training that its challenge may be considered of equal importance with any known to man.

The organization of readings and references in this first section varies slightly from the format used throughout the book. This is necessary in order to provide a foundation through these general considerations.

The first reading, by Gunnar Dybwad, is a general discussion

* National Association for Retarded Children, *The Child Nobody Knows* (New York: The Association, 1955).

Statistical Calculations of Mental Retardation Computed for the Total Population of the United States

Classification	*Total No. of Mental Defectives (3% of 180,000,000) 5,000,000*		*% Distribution of Institutionalized Mental Defectives within Classification*	*No. of Institutionalized Mental Defectives 150,000*	*No. of Mental Defectives in Community 4,850,000*
Severely retarded (totally dependent) IQ 0–19	(.1% of 180,000,000) (3.5% of 5,000,000)	180,000	30%	45,000 (25% of severely retarded)	135,000 (75% of severely retarded)
Moderately retarded (trainable) IQ 20–49	(.3% of 180,000,000) (11.5% of 5,000,000)	540,000	50%	75,000 (15% of moderately retarded)	465,000 (85% of moderately retarded)
Mildly retarded (educable) IQ 50–70	(2.3% of 180,000,000) (85% of 5,000,000)	4,280,000	20%	30,000 (1% of mildly retarded)	4,250,000 (99% of mildly retarded)

SOURCE: *Proceedings* of Conference on Research and Training in the Field of Mental Retardation, Lynchburg, Va., 1958, p. 34. Reprinted with the permission of Clemens E. Benda and the Lynchburg Training School and Hospital.

of the problems relating to mental retardation.[2] While Dybwad's report was prepared specifically for a meeting of social workers, it has real significance for all professional personnel in the field of mental retardation. It is followed by a table comparing the different terminology used to describe mental retardation. It is hoped that the reader will refer to this table when there appears to be some confusion in regard to terminology.

Efforts to define mental retardation have been made by hundreds of people. It was Esquirol, an eighteenth-century French psychiatrist, who first described it as a condition of arrested development and not a disease. The article from *A Manual on Terminology*, prepared by the Technical Planning Committee of the American Association on Mental Deficiency and edited by Rick Heber, provides the most recent and comprehensive definition. There may be disagreement with the definitions, but preparation of the manual is a step in the right direction. Appended to this article is a summary of various other definitions of retardation which have been propounded by authorities in the field.

The history of mental retardation has not been thoroughly chronicled. There is evidence that as far back as the pre-Christian era there was concern about the retarded individual. In the third reading Lloyd M. Dunn provides a short historical review of developments during the last 150 years. To conclude the section, a list of basic textbooks in the field of mental retardation is included.

[2] Due to the absence of a consistent and universal nomenclature, for the purpose of this book the term "mental retardation" is used as an all-inclusive classification embracing all individuals functioning below normal intellectual levels.

1 *Mental Retardation*

GUNNAR DYBWAD

MENTAL RETARDATION is a condition which originates during the developmental period and is characterized by markedly subaverage intellectual functioning, resulting to some degree in social inadequacy.

There is a great variation in the use of terminology relating to this condition, both in the United States and abroad. Several years ago the World Health Organization proposed that the problem be referred to as mental subnormality with two major subdivisions reflecting causative factors: mental deficiency for those cases where biological factors have resulted in an impairment of the central nervous system, and mental retardation for those cases where the causative factors are in the social, economic, cultural, and psychological realms. Masland, Sarason, and Gladwin [1] used this terminology for their survey. However, there has been little inclination to follow their lead, and the American Association on Mental Deficiency has gone on record as recommending the over-all use of the term mental retardation, their own official name notwithstanding. In any case, in perusing the literature in this field one needs to ascertain the particular author's use of terms, and this is especially important with foreign sources.

Another point of confusion of significance to the social worker also relates to etiology and involves the phrase "environmental factors." At first glance one would relate this term to the cases originating from social, economic, cultural, and environmental influences, and this is indeed appropriate. However, the term is also used within the broad biological category to separate endogenous—

From the *Social Work Year Book* (New York: National Association of Social Workers, 1960), Vol. 14, pp. 395–396. Reprinted with the permission of the Association and the author. Dr. Dybwad is executive director of the National Association for Retarded Children.

[1] Richard L. Masland, Seymour B. Sarason, and Thomas Gladwin, *Mental Subnormality* (New York: Basic Books, 1958).

that is, genetic—factors from exogenous—that is, environmental—factors such as damage to the embryo from a virus infection of the mother, or injuries suffered during the birth process.

Even in limiting mental retardation to a markedly subaverage intellectual functioning, leaving out the sizable "dull normal" group, a wide realm is covered, from those so severely impaired as to require permanent bed care to those whose retardation is a problem only during the exacting days of public school attendance. Until recently the terms moron, imbecile, and idiot were used to denote degrees of impairment. Because of the unhappy connotations these words had assumed, the terms mildly retarded, moderately retarded, and severely retarded have been substituted. Another new terminology speaks functionally of these groups as marginally independent, semidependent, and totally dependent. With the increasing emphasis on educational programs the mildly retarded are often referred to as educable, the moderately retarded as trainable. The term feeble-minded has fallen into disuse altogether.

The problem of proper identification and classification does not pertain just to the individual afflicted with the condition but to the condition itself. Traditionally mental retardation was looked upon merely as a mental-health concern, in so far as textbooks and governmental activities were concerned. Today's more comprehensive knowledge has made it clear that such unilateral identification is most misleading and apt to hinder effective program development, whether in practice, teaching, or research. Now the pediatrician claims a primary stake in this area as a general-health rather than just a mental-health concern, while from other sides the sociologist and social worker, the educator and the psychologist make similar claims. Not only have more than 90 causative factors been identified as operative in mental retardation, representative of these various fields, but they frequently manifest themselves in combinations requiring diagnostic and therapeutic measures from different fields. In practice this has resulted at the present time in heated legislative arguments as to which state agency should have prime responsibility for this field, and has similarly vexed the community planners.

No definite statistics are available regarding the numerical extent of mental retardation, and even the estimates differ widely. However, the most authoritative sources agree that the present number of mental retardates should be estimated for the United States as five million individuals or approximately thirty per thousand population. Of these thirty, about twenty-five are mildly re-

tarded and five are moderately retarded, leaving one in thirty in the severely retarded group.

Several important considerations suggest caution in the use of these figures. First, in many cases the basis for these classifications remains in practice the intelligence quotient (IQ) arrived at on the basis of one or more standard tests, with different ceilings prevailing from state to state. In view of the fact that the numbers sharply increase the higher the ceiling is pushed, those using an IQ of 75 would include a far larger group among the mentally retarded than those using the lower figure of 70. Furthermore, we are not dealing with static groups. Studies both here and abroad have shown that an individual can move from one group into another as a result of improved performance. Finally, recent medical advances also substantially affect these figures: the advent of antibiotics has markedly decreased the previously high number of deaths from infectious diseases during childhood and adolescence, and this will increase the number of adult retardates in our communities. Medical skill also keeps alive an increasing number of infants who formerly would have died before or during birth.

Comparative Terminology in Mental Retardation

	Organization					*Intelligence levels based on Stanford-Binet*	
	WHO and American Psychiatric Association	*American Clinical*	*American Educational* *	*American Association on Mental Deficiency*	*British*	*IQ Children*	*MA in years Adults*
	Mild subnormality	Moron	Educable	Mild	Feebleminded	50–79	8–12
	Moderate subnormality	Imbecile	Trainable or dependent	Moderate	Imbecile	20–49	3–7
	Severe subnormality	Idiot	Severely retarded	Severe or profound	Idiot	0–19	0–2
Generic usage:	Mental subnormality	Mental deficiency or feeble-minded	Mentally retarded or handicapped	Mental retardation	Mental deficiency amentia	0–83	0–14

* British educational terminology includes use of "educational subnormal" to indicate American "educable mentally retarded" and "backward" to indicate American "trainable or dependent."

Table for Converting IQ Scores

Arthur Point Scale of Performance Tests	*1937 Stanford-Binet Tests*	*Wechsler Scales*
83–67	83–68	84–70
66–50	67–52	69–55
49–33	51–36	54–40
32–16	35–20	
Below 16	Below 20	

2 Definition of Mental Retardation

RICK HEBER

Mental retardation refers to subaverage general intellectual functioning which originates during the developmental period and is associated with impairment in one or more of the following: (1) maturation, (2) learning, and (3) social adjustment.

THE TERM *mental retardation*, as hereafter used, incorporates all of the meanings that have been ascribed historically to such concepts as amentia, feeblemindedness, mental deficiency, mental subnormality, idiocy, imbecility, and moronity. Choice of the term *mental retardation* was predicated on the basis that it appears at present to be the most preferred term among professional personnel of all disciplines concerned. Though the separate words *mental* and *retardation* both have meanings not always consonant with those of their present context, it is felt that the combined term, *mental retardation*, will prove adequate if all personnel will consistently utilize this term according to the criteria set forth.

Subaverage refers to performance which is greater than one standard deviation [1] below the population mean of the age group involved on measures of general intellectual functioning. Level of *general intellectual functioning* may be assessed by performance on

From *A Manual on Terminology and Classification in Mental Retardation*, monograph supplement to the *American Journal of Mental Deficiency*, 64:2 (September 1959). Reprinted with the permission of the American Association on Mental Deficiency and the editor. Dr. Heber is director of special education, University of Wisconsin.

[1] A statistical unit which expresses the variability or dispersion from the mean of a range of measurements in a sample.

one or more of the various objective tests which have been developed for that purpose. Though the upper age limit of the *developmental period* cannot be precisely specified it may be regarded, for practical purposes, as being at approximately sixteen years. This criterion is in accord with the traditional concept of mental retardation with respect to age and serves to distinguish mental retardation from other disorders of human behavior.

The definition specifies that the subaverage intellectual functioning must be reflected by *impairment* in one or more of the following aspects of adaptive behavior: (1) maturation, (2) learning, and (3) social adjustment. These three aspects of adaptation assume different importance as qualifying conditions of mental retardation for different age groups.

Rate of *maturation* refers to the rate of sequential development of self-help skills of infancy and early childhood such as sitting, crawling, standing, walking, talking, habit training, and interaction with age peers. In the first few years of life adaptive behavior is assessed almost completely in terms of these and other manifestations of sensory-motor development. Consequently, delay in acquisition of early developmental skills is of prime importance as a criterion of mental retardation during the preschool years.

Learning ability refers to the facility with which knowledge is acquired as a function of experience. Learning difficulties are usually most manifest in the academic situation and if mild in degree may not even become apparent until the child enters school. Impaired learning ability is, therefore, particularly important as a qualifying condition of mental retardation during the school years.

Social adjustment is particularly important as a qualifying condition of mental retardation at the adult level where it is assessed in terms of the degree to which the individual is able to maintain himself independently in the community and in gainful employment as well as by his ability to meet and conform to other personal and social responsibilities and standards set by the community. During the preschool and school-age years social adjustment is reflected, in large measure, in the level and manner in which the child relates to parents, other adults, and age peers.

It is this accompanying deficiency in one or more of these three aspects of adaptation which determines the need of the individual for professional services and/or legal action as a mentally retarded person. Delayed maturation in the preschool years, for example, is

the primary basis of referral to medical clinics. Impairment in learning ability at the school-age level creates a need for specialized educational services and at the adult level inadequate social adjustment creates a need for supportive and remediative vocational and welfare services.

Since adequate population norms and highly objective measures of the various aspects of adaptive behavior are not yet available, it is not possible to establish precise criteria of impaired functioning in these areas. At present, the most precise statement that may be made is that, for a judgment of inadequate or impaired social adjustment, learning, or maturation, an individual's behavior in these areas must be clearly inefficient or subnormal as judged by the best standards available for the comparison of a person's performance level with that of the general population. The inclusion of criteria of impaired adaptive behavior in the definition demands that objective measures of general intelligence be supplemented by evaluation of the early history of self-help and social behavior, by clinical evaluation of present behavior, and by whatever measures of academic achievement, motor skills, social maturity, vocational level, and community participation are available and appropriate.

Because of the different roles of maturation, learning, and social adjustment for the preschool, school, and postschool aged groups, the definition specifies that it is necessary for the subaverage intellectual functioning to be reflected by impairment in only one of these three aspects of adaptive behavior in order to confirm a diagnosis of mental retardation. In actual practice, however, it will be found that a great percentage of individuals diagnosed as mentally retarded will be impaired, or have a history of impairment, in all three areas of adaptation.

Within the framework of the present definition mental retardation is a term descriptive of the *current* status of the individual with respect to intellectual functioning and adaptive behavior. Consequently, an individual may meet the criteria of mental retardation at one time and not at another. A person may change status as a result of changes in social standards or conditions or as a result of changes in efficiency of intellectual functioning, with level of efficiency always being determined in relation to the behavioral standards and norms for the individual's chronological age group.

Definitions of Mental Retardation

Seymour B. Sarason (psycho-social)

[Mental retardation] refers to individuals who, for temporary or long standing reasons, function intellectually below the average of their peer groups but whose social adequacy is not in question or, if it is in question, there is the likelihood that the individual can learn to function independently and adequately in the community. [*Psychology of Exceptional Children*, ed. by W. W. Cruickshank (New York: Prentice Hall, 1955), pp. 440–442.]

[Mental deficiency] refers to individuals who are socially inadequate as a result of an intellectual defect which is a reflection of an impairment of the central nervous system which is essentially incurable.

A. F. Tredgold (medico-legal)

Mental deficiency or amentia, then, is a condition in which mind has failed to reach complete or normal development. [*A Textbook of Mental Deficiency*, 7th ed. (Baltimore: Williams and Wilkins, 1947), p. 1.]

George A. Jervis (medical)

Mental deficiency may be defined, from a medical point of view, as a condition of arrested or incomplete mental development induced by disease or injury before adolescence or arising from genetic causes. ["Medical Aspects of Mental Deficiency," *American Journal of Mental Deficiency*, 57 (October 1952), p. 175.]

Christine P. Ingram (educational)

The term "slow learning" is used by many as a designation for any child who cannot meet average grade academic standards year by year. This group comprises approximately 18 to 20 percent of the school population—those who measure approximately 50 to 89 IQ on individual, standardized intelligence scales. Within this classification the terms "borderline" or "dull normal" are generally applied by the psychologist to those who measure approximately 75 to 89 IQ. This is the larger group, comprising 16 to 18 percent of the school population. The terms "mentally retarded" or "mentally handicapped" are applied to those who measure approximately 50 to 75 IQ, the lowest 2 percent of the school population in learning ability. [*Education of the Slow Learning Child*, 2d ed. (New York: Ronald, 1953), p. 4.]

Edgar A. Doll (psycho-social)

The mentally deficient person is (1) socially incompetent, that is, socially inadequate and occupationally incompetent and unable to manage his own affairs; (2) mentally subnormal; (3) retarded intellectually from birth or early age; (4) retarded at maturity;

(5) mentally deficient as a result of constitutional origin, through heredity or disease, and (6) essentially incurable. ["The Essentials of an Inclusive Concept of Mental Deficiency," *American Journal of Mental Deficiency,* 46 (October 1941), p. 214.]

Stanley D. Porteus and **G. R. Corbett** (legal)
Feebleminded persons are those who by reason of permanently retarded or arrested mental development existing from an early age are incapable of independent self-management and self-support. ["Statutory Definitions of Feebleminded in the U.S.A.," *The Journal of Psychology,* 35 (1953), 103–104.]

E. Paul Benoit (neuropsychological)
Mental retardation may be viewed as a deficit of intellectual function resulting from varied intrapersonal and/or extrapersonal determinants, but having as a common proximate cause a diminished efficiency of the nervous system, thus entailing a lessened general capacity for growth in perceptual and conceptual integration and consequently in environment adjustment. ["Toward a New Definition of Mental Retardation," *American Journal of Mental Deficiency,* 63:4 (January 1959), 56.]

3 *A Historical Review of the Treatment of the Retarded*

LLOYD M. DUNN

MANY OF US are inclined to be impatient and dissatisfied with our progress in serving the retarded. However, when viewed in the total context of history, much has been accomplished in a relatively short period of time. Professional services are less than 150 years old in Western civilization, and just over a century old in this country.

Reprinted from *The Proceedings of the 1956 Conference of the Woods Schools,* pp. 17–21, with omissions. Reprinted with the permission of the Woods Schools and the author. Dr. Dunn is coordinator of special education, George Peabody College, Nashville, Tennessee.

Prior to the year 1800, society's record was one of the "most pathetic chapters in the history of man." In ancient times, Spartan parents exposed their handicapped offspring to the elements to perish. In the Middle Ages, the retarded were exploited as "fools" or "jesters" for the pleasure of the lords and their ladies. During the Protestant Reformation most people thought handicapped persons were "possessed with the Devil," and therefore the common treatment was "to beat the Devil out of them."

In spite of these interpretations of the teachings of Luther and Calvin, the Church provided the one bright spot for the weak, disabled, and retarded prior to 1800. Most religions of the world emphasized compassion for the less fortunate. From the thirteenth century and on, the churches of Europe began rather systematically to provide asylums for the less fortunate members of society, including the intellectually handicapped. No attempt was made at treatment or education. These "asylums" were intended solely to provide a sanctuary for those unable to survive in a cruel and competitive society.

The unfortunate status of the retarded was further complicated by the philosophy which influenced the thinking of most professional persons of that day. I am sure that everyone in the audience has heard of the "nature-nurture controversy" which is still with us. It concerns the relative effects of heredity and environment on growth and development of the individual. Before 1800, the "naturalists" predominated. They believed that heredity was the primary cause of mental retardation and that it was incurable. This pessimistic and defeatist point of view precluded treatment and education. The prevailing belief was "Once retarded, always retarded; nothing can be done."

In retrospect, we see that, until 150 years ago, professional persons completely ignored the intellectually subnormal. Whatever care there was, was provided by the Church.

One of the first professional persons to enter this field was a French physician, Jean Itard. He rejected the teachings of the "naturalists" and turned to the teachings of John Locke of England and Jean Rousseau of France. They believed that learning came only through the senses and that all persons could develop the ability to learn if given adequate stimulation. The Golden Rule was: "Practice makes perfect." This school of thought was the opposite of the "hereditarians" and "naturalists." Its followers were "environmentalists" and "sensationalists." From approximately 1800 to 1805,

Dr. Itard took charge of a boy of twelve, captured in the forests of Aveyron and diagnosed by the great physician Pinel as severely retarded. He taught him intensively, emphasizing sense and motor training. His efforts produced marked changes in the behavior of this boy, though he was unable to teach him to talk or to live independently in Parisian society. While Itard viewed his experiment as a failure, students in the field of retardation regard it as the first scientific attempt at training a retarded child. It marked the beginning of a new movement where professional personnel assumed responsibility from the Church for the retarded. It also marked a radical change of emphasis from incurability and custodial care to treatment and education.

Recently, I reread Itard's reports. While 150 years old, they are as modern as tomorrow. His creative and systematic approach to learning warrants reappraisal as to appropriate techniques for training our severely retarded boys and girls.

Residential School Movement

The type of residential school program we have in the United States can be traced directly to Itard and his work. As has been the case in so many other instances in our history, a social incident and its impact on a single man have set the stage. Just as the emphasis on the manual alphabet and sign language in our residential schools for the deaf can be traced to a visit of Gallaudet to Paris, so our residential schools for the retarded were influenced by the immigration, about 1850, of one of Itard's students, Edward Seguin, to the United States, following some political persecution.

Prior to his arrival in America, he had expanded his teacher's techniques into a complex, systematic, sequence of training which he called the "physiological method." At the same time, he established the first residential school for the retarded in Paris in 1837, as part of the famous Bicetre Hospital, to test out his procedures. So, by the time he joined us near the middle of the century, he was recognized as an international leader in the field. In this country, he became the first president of the organization which is known today as the American Association on Mental Deficiency and was responsible for encouraging the development of a number of residential schools in this country. By 1900, residential schools were established in most of the states of New England, the Great Lakes Area, and in

California, with a total number of patients approximating 14,000. The twentieth century has seen the spread of this movement to almost all states of the union. The last state to build a residential school was Arizona, in 1952. Today, to the best of my knowledge, only three states are without residential schools. They are Nevada, Arkansas, and West Virginia. Some 125,000 persons of *all* ages are now living in private and public residential institutions; approximately 25,000 are of school age.

Our first schools were begun as experiments to test Seguin's methods and the environmentalist's theories. They were intended as training schools and not asylums. In fact, severely retarded persons were often not admitted; neither were the very young nor the very old. These schools were dedicated to the curing of mental retardation. This curing did not occur.

Today, the purpose of most *state* residential schools has changed radically. Among children, admissions are primarily extremely retarded cases, many of whom will require constant and complete care all of their lives. Among youth and adult cases, admissions are usually only mildly retarded, but present serious social problems.

This changed role has evolved because of many factors. First, experience soon taught professional persons in the field that the extreme claims of the environmentalists were ill-founded. Second, society was seldom prepared to provide needed funds for professional persons in the quality and quantity needed to provide intensive training programs. Too often states, considering their responsibilities terminated with the construction of elaborate physical plants, were content to see the retarded removed from society and placed in a setting where only custodial care could be provided. Third, professional persons themselves must accept part of the responsibility for the neglect of retardates; until recently, few have been prepared to devote their lives to the study or treatment of this group of citizens. Fourth, a new development began in this country about 1900, aimed at educating a larger and larger percentage of moderately retarded boys and girls through public day schools and classes. Permit me to review briefly this day-school movement.

The Day-school Movement

The first day-class for retarded pupils was established in Providence, Rhode Island, in 1896. Since individual intelligence tests

had not been devised at that time, it is likely that this class and others established before 1915 enrolled pupils who were "problem children" because of educational, social, and/or intellectual difficulties. With the advent of efficient psychometric devices, especially the original Stanford-Binet Test of Intelligence in 1916, the practice of making special classes "human dumping grounds" somewhat abated. (Today, more and more school systems are employing psychologists to insure adequate screening and referral practices.)

This has been most commendable, since special day schools and classes have increased fairly rapidly. In 1922, 23,000 retarded pupils were enrolled in such facilities; by 1940 the number had increased to 99,000; in 1953 it was up to 114,000. At first glance, those figures may appear overly encouraging. In actual fact, the general increase in population of the United States somewhat depreciated the extent to which needed services are being extended. Too, these day-school facilities are restricted largely to urban communities. Children in rural areas, by and large, continue to be neglected.

Before leaving this discussion of the day-school movement, a new development warrants comment. The 1953 survey of the United States Office of Education revealed that almost 5000 of the 114,000 retarded pupils in day classes were "trainable" children. Very few facilities for this group of pupils existed in day schools before 1953. When these statistics are again gathered, we will find a sharp increase in services to this group of youngsters.

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2

ASSESSMENT, DIAGNOSIS, AND CLASSIFICATION OF MENTAL RETARDATION

THE NEED for efficient and reliable methods for assessing and diagnosing mental retardation are basic. This need can be met only if the purposes of these procedures are understood by all professional workers. Assessment and diagnosis leads to classification, and hence makes up the triad which will provide the foundation for (1) prevention, (2) treatment, training, and education, and (3) research. Since assessment and diagnosis involve the procurement of information from all available sources, the analysis and interpretation of these data, and the determination of the prognosis, a large variety of specialists are required to perform these tasks. Conferences held at The Training School [1] and the Lynchburg School and Hospital [2] provide information concerning the numerous specialty areas involved in assessment and diagnosis. In the biological field, they include neurophysiology, electrophysiology, neurology, biochemistry, and endocrinology; in medicine—obstetrics, gynecology, pediatrics and psychiatry; in the behavioral and social sciences—clinical psychology, social work, education in its broadest terms, and speech and hearing therapy.

Why the sudden interest of so many scientists? Historically,

[1] Walter Jacob (ed.), "Report on the Conference on Diagnosis in Mental Retardation," *Training School Bulletin*, 55:2 (August 1958).

[2] Benedict Nagler (ed.), *Proceedings of the Conference on Research and Training in the Field of Mental Retardation* (Colony, Va.: Lynchburg Training School and Hospital, 1958).

only a few experimentally minded individuals demonstrated an interest in mental retardation. The attitude that only institutionalization, education, or training was needed after a cursory examination long prevailed in America. It is only at the present time, with the awareness that over 5 million people are mentally retarded, that the major sciences have recognized their responsibility. Science education, especially in medicine and psychiatry, has become cognizant of the place of mental retardation in its curriculum.

New information and techniques are improving both diagnostic and prognostic procedures. Assessment devices of every kind are being developed. New approaches in sociology, education, and psychology make the future look exceedingly bright. During this period of transition, there will obviously be many conflicting theoretical concepts, methods, and techniques. Time and patience are needed until there can be a crystallization of ideas.

Currently two approaches to assessment and diagnosis are of particular importance: the comprehensive clinic and the public school case conference. The diagnostic clinic is a recent innovation. Since 1950 the growth of these clinics has been very great, and there are now more than 70 in the United States. The table on page 593 lists these clinics by location, area served, and the ages of individuals accepted for diagnosis. It must be recognized that diagnostic clinics primarily deal with the more complicated cases which require specialized diagnostic techniques. Although it might be worthwhile if all retarded children could be processed through such centers, at the same time it would be infeasible and a questionable practice where less intensive methods of diagnosis can serve the same purpose. For the large majority of children who are of public school age and who are not too severely retarded, the use of the school guidance, health, and psychological services will suffice.

Interesting developments are taking place in the field of psychological testing. New devices, such as the Peabody Picture Test by Lloyd M. Dunn, the Illinois Tests of Language Ability by Samuel Kirk, and the Infancy Scales by Professor R. S. Illingworth of the University of Sheffield in England, are starting to supplement such well-accepted assessment tools as the Stanford-Binet and Wechsler scales. A constant problem in measuring the academic achievement and vocational potential of retarded children may possibly be solved by the battery of tests devised by Wrightstone and his asso-

ciates in New York City.[3] Although it is impossible to cover all of the new trends and problems in an introductory section, the readings included are both informative and provocative.

The first article in this section, by Dr. Margaret J. Giannini, describes the purposes and functions of clinics for the mentally retarded. As the director of a clinic for mentally retarded children, Dr. Giannini primarily treats children with multiple handicaps. In her article she discusses the operation of clinics, diagnostic procedures, and clinic personnel. The table on page 593, detailing information about clinical programs throughout the United States, supplements Dr. Giannini's report.

The controversy over classification and etiological systems has added much confusion to the understanding of mental retardation. These controversies are primarily semantic in nature. The article by Dr. Herman Yannet presents an over-all summary of classification and etiology in the field.

The problems of diagnosing mental retardation are often complicated by psychiatric syndromes that tend to resemble true retardation. Three such syndromes are (1) childhood schizophrenia, (2) autism, and (3) Heller's disease.[4] Accurate identification is also dependent upon psychological evaluation. Do psychologists really assess or do they merely test children? Harold E. Delp discusses some of the problems encountered in psychological evaluation and makes a number of valuable suggestions. His article is supplemented by a table, devised by G. Orville Johnson and Rudolph J. Capobianco, showing the applicability of various psychological tests for assessing the severely retarded. No evaluation of mentally retarded individuals would be complete without a determination of their social maturity. Such a measure is the Vineland Social Maturity Scale, developed by Edgar A. Doll and, along with the Binet and Wechsler tests of intelligence, a major contribution to psychometric and evaluative techniques. The scale is a developmental schedule for determining personal independence and responsibility. Through the kindness of Dr. Doll, a copy of the scale and information concerning its use are included here. Two other articles discuss the

[3] J. Wayne Wrightstone *et al., A Comparison of Educational Outcomes under Single-Track and Two-Track Plans for Educable Mentally Retarded Children* (Brooklyn, N. Y.: Board of Education of the City of New York, 1959).

[4] For additional data on these syndromes, see Clemens E. Benda, *Proceedings of the 1st International Medical Conference on Mental Retardation* (New York: Grune and Stratton, 1960).

ifficulties of diagnosing mental retardation accurately. The article y Robert Suzeek deals with the problem of assessing brain-injured ildren, whose difficulties are widely described in clinical circles s the "Strauss syndrome." The article by Harold F. Burks discusses ie problem of diagnosing pseudo-mental retardation from a neuro-hysiological point of view. Pseudo-mental retardation has been ost commonly considered the result of emotional disturbances or nvironmental deprivation.

Diagnostic and assessment data are valuable only if they are eported and interpreted in a form which has real meaning for the ractitioner who is in constant contact with the subject. In his econd contribution to this volume, Harold E. Delp makes a fer-ent plea for the type of case reporting that will be meaningful to ie personnel using it.

Not all retarded children are examined in special diagnostic inics. The largest percentage of these youngsters fall into the ducable retarded group and are identified and diagnosed by public hool personnel. The Illinois State Department of Public Instruc-on has devised precise methods for the use of school psychologists selecting and placing retarded children in special classes. This ticle, which can serve as a guide for all school systems, carefully utlines the step-by-step procedures in case evaluation. The article y George Tarjan, which discusses the role of the interdisciplinary eam in case evaluation, ties together the other readings in this ection.

The final selection is an excerpt from the *Manual* of the Technical lanning Study of the American Association on Mental Deficiency hich has provided new data for a system of classification. Although ie work is coming under much scrutiny, it is probably the best pproach, so far, toward a comprehensive method of classification. o supplement this classification, the editor has compiled a table sting other commonly used systems of classification of mental re-rdation.

4 *Diagnostic Approach in Mental Retardation*

MARGARET J. GIANNINI

THE PHYSICIAN is responsible for the supervision of the health of the whole child including the physical, mental-emotional, and social aspects. This requires periodic examinations and evaluations of the child. The rate and progress of growth and development over a period of time give more information than a single evaluation. Deviations from the norm that cannot be explained adequately by factors in the history require more special studies, *e.g.*, roentgenogram, laboratory, and psychometric examinations.

Psychometric tests will aid in evaluation of a child's development and in the differential diagnosis of mental retardation from pseudoretardation. (Pseudoretardation may be due to physiologically delayed maturation, poor environment, emotional problems, psychoses, or handicaps such as deafness, blindness, or cerebral palsy. Psychometric techniques will aid in determining exactly how much less than "normal" is the native intellectual endowment, in what area or areas is the greater or lesser impairment, and what is the emotional pattern as revealed by projective tests. This information is important not only in diagnosis but in planning for the education and treatment of the child.)

We have selected four of the psychologic screening techniques that can be used readily by physicians. These have aided our pediatricians in evaluation of the child and in determining those children who require more detailed study by the psychologist. The physician cannot perform the interpretive functions of the psychologist. What he can do is to use psychometric screening tests to guide him in his referral. These tests include (1) the Goodenough

From *Public Health News*, 38:10 (October 1957), 322–332, with omissions. Reprinted with the permission of the New Jersey State Department of Health and the author. Dr. Giannini is administrative director of the Clinic for Retarded Children, Flower and Fifth Avenue Hospitals, New York City.

Draw-A-Man Test, (2) copying geometric figures, (3) a test of auditory memory which consists of repeating digits forward, and (4) a modified social maturity and competence scale.*

Our physicians have used these screening techniques for more than four years. They believe these tests are aids to the more subjective opinion of the trained physician who uses his clinical knowledge and insight into the child, the parents, and their environment in making a reliable evaluation of the child's development. There has also been an increasing awareness of psychometric examinations as an ancillary service. There has been more frequent use of the psychologist for more specialized studies and recognition of the psychologist as part of the medical team.

Operation of Clinics for the Mentally Retarded

The need for clinics for the evaluation and management of mentally retarded children has been evident for a long time. Various studies have shown that approximately 3 percent of the population in the United States is mentally retarded; 0.1 of 1 percent of the total population, or 160,000 persons, are so retarded as to be completely dependent, with a mental age of below 3 years when they become adults; 0.4 of 1 percent of the population, or about 640,000, have a mental age of from 3 to 7 years when adults. These may be termed "trainable" so that they can perform simple repetitive tasks. Two and one half percent of the total population, or about 4,000,000 persons, have a mental age of 7 to 11 years when they become adults. Most of these should be able to support themselves in adulthood, provided that they have appropriate education, family stability and proper counseling and assistance from trained personnel.

The New York State Citizens' Committee of One Hundred for Children and Youth, in its report of May 1951, stated that clinics for the over-all management of mentally retarded children should be established on the basis of one clinic for each 150,000 of the general population. In rural areas, they further advised that there be traveling clinics properly staffed to help in the management of this situation.

At the present time, we could count on our fingers the total number of clinics in the United States serving the mentally retarded child. New York City has a population of more than 8,000,000, but

* [For a full description of these devices, see the original article.]

we have just one clinic where we have 2000 children on an active patient list, with a year and a half waiting list before they can be seen. However, other clinics are in process of being established. I wish to make the point very clear that whatever a clinic can do or has done, it is not an indication that mentally retarded children or adults have access to clinics, schools, and social and guidance facilities which they so sorely need. There is a shortage of doctors, nurses, teachers, and other needed services for the retarded child and his family. There are far too few community services to offer psychiatric and other assistance in solving their problems. In the case of the mentally retarded child, as with other handicapped individuals, the community-wide program does not need, and need not consist entirely of, services established for purposes of serving them alone.

Difficulties in Classifying Mental Retardation Mental retardation is a descriptive term and does not identify a single disease entity. It is not enough merely to label a child or adult as defective, slow, or mongoloid, brain-injured or hydrocephalic, or whatever his classification might be. There are many difficulties in classifying mental retardation because of the limitations of our present knowledge as to the exact etiologic factors and pathologic processes involved. Therefore a completely satisfactory classification of all forms of mental retardation has not as yet been devised. A classification which considers as completely as possible both the pathologic and etiologic aspects of each individual instance of retardation is desirable.

In order to understand the child and his needs, much more must be known about his actual functioning level and his potential capacity for social adaptation and growth. We are moving farther and farther away from the concept of the IQ as a single criterion, and more toward the concept of social adaptation and absorption.

Mental retardation as a lack of normal intelligence, again by definition, creates a need for special educational facilities; that is, schooling for children whose IQ level is slightly below normal, and still other types of classes for those who are severely retarded with IQs below 50. Beyond grade school age, about three fourths of the number of retarded can benefit from training in social skills, vocational guidance, and training. Those with very low IQs create the necessity for good institutions and for programs of care and guidance for families caring for the retarded in the home.

However, between the family and the child and those specialized services and others which can serve the retarded, such as family service agencies, Boy and Girl Scouts, church groups, medical and hospital facilities, there is often a deep moat of separation. Not only does the family fail to learn what services there are, and fail to get them, but there is also the problem of discovering what the child needs through evaluation and a plan for management of the child and the family. It is not a singular problem. A clinic is a bridge that crosses this moat, but perhaps this is oversimplifying to some extent.

Many Need Help; Few to Serve Them There remains the problem of serving all who need help and of informing families that there is such a service. The truth remains—that even when we know what the child needs and should have—a large number of the mentally retarded, when measured against the available services, make a situation so familiar today, so many to be served and so few to serve them.

The retarded child was disregarded for centuries, shunned, neglected, and forgotten. Often, he was the butt of the practical joker and sometimes the prey of the malicious or the unscrupulous. However, a great change has come about. Now, there is a recognition that retarded children are to be considered as worthy of training, and are given the opportunity to become useful and participating citizens. Over the years, progress has been made, chiefly in the development of the concept of the importance of training and conditioning these children to a measure of self-help and to offer community participation.

The public now has a changed attitude toward disabilities such as cerebral palsy, muscular dystrophy, blindness, and others, because of the influence of radio, television, the press, and films, as well as our developing maturity. The communications industry is also beginning to carry a message about what I call the gentle 4,000,000 who are nonarticulate. They cannot go out and talk about their problems. They need us to speak for them—to lead them. We cannot know the exact number because there are no inflexible definitions and standards. There has never been a census of the retarded as such. In addition to the primary family trauma, we must consider the vast contingent of sociologic, economic, educational, and legal circumstances, and the responsibilities and dislocations stemming from this disability. Retarded children are found in

all social, racial, religious, and economic groups and their situation involves physical and emotional factors as well as the problem of retardation itself.

Purposes of the Clinic The purposes of a clinic are manifold, but we can summarize as follows:

1. First, to make an etiologic and pathologic diagnosis of the individual patient's mental retardation. The clinic would then follow a standardized classification of mental retardation.
2. To determine the effect of the retardation on his intellectual, physical, emotional, and social growth and development.
3. To determine the adjustment of the family to the presence of a mentally retarded child in the family unit.
4. To give therapy to the total child including physical, mental-emotional, and social.
5. To discuss and counsel parents as to the prognosis and future management of the retarded child.
6. To inform physicians, medical students, nurses, psychologists, and other personnel about mental retardation.
7. To serve as a guide for the establishment of other clinics for the management of retarded children.
8. To serve as a training center where other professional people can be trained in assuming leadership in this field, and, of course, to engage in research for the prevention and treatment of mental retardation.

The policy of the clinic for mentally retarded children should be to accept for evaluation and management any child who has been found to have an intelligence quotient of less than 80 who is not already known as a psychotic child or pseudo-retarded child. The latter may occur as a side or secondary effect of some other disorder such as a hearing defect, reading disability, or emotional disorder. Patients might come to the clinic from numerous sources. Referrals come from private physicians, psychologists, social workers, teachers, various social agencies, other clinics, parent organizations, and directly.

A unit system of records should be set up in the clinic with all data, including both in-patient and out-patient care, kept together in one central folder for each individual patient. Accurate and complete records are kept on each child, including initial evaluation, diagnosis, therapy, periodic evaluation, social service, information, psychological examination, consultations with other specialists, lab-

oratory and x-ray data, and staff-conference minutes. In addition to the patient, the clinic should keep statistical records in regard to patient load, patient visits, numbers of new patients, financial data, and diagnostic categories.

The management of each patient in a clinic should be individualized according to his specific needs, but certain procedures are routine. For instance, a detailed history is always taken from the parents by a psychiatric social worker. This history should include family history, a pre-natal, peri-natal, neo-natal, and general history, including growth and development up to the time of admission, and summary of previous psychologic, speech, neurologic, orthopedic, and other studies. Other consultations, such as ophthalmologic, otolaryngolic are arranged as indicated for each individual patient. Laboratory studies may include skull and chest. Osseus development may be ascertained from x-ray studies of the wrists and long bones. Complete blood counts, serum cholesterol determination, and urinalysis are all part of the work. Specialized procedures, such as electroencephalography, pneumoencephalography, or electrocardiography, should be made when indicated. When the workup has been completed, there should be a conference among the clinical personnel to discuss the case and all its aspects. A complete evaluation and a plan for management are then agreed upon.

Staff meetings are held on each child, conducted by the director of the clinic. The pediatrician gives the history, physical findings, diagnosis, and plan for management. The social worker presents the social aspects of the case in relation to the entire family unit. The psychologist next gives his evaluation and interpretation. All other personnel involved in the management who are present at this conference give any relevant material they may have. The psychiatrist then gives the interpretation and recommendations for psychological care of the child and family. Finally, a general discussion among all present members is held, and, in an assessment of the findings, progress is made in terms of the total child. A pathologic and etiologic diagnosis, when possible, is presented, and future management for the total child, including the family unit, is resolved. Also, of course, analysis of therapy should be worked out to see if it is satisfactory. The presentation to the parents of the results of this conference by pediatricians is, perhaps, the most important aspect of the clinic's function. It has been our philosophy that it is our

moral obligation to tell the parent what we, as professionals, know about the child.

The prognosis, potentialities, and future management of the total child from all aspects, including physical, mental, emotional, and social, are discussed thoroughly with the parent. The role of each parent and agency involved in the future care of this child is outlined. During return visits to the pediatrician and other members of the team, which are held at regular intervals, the child's progress should be closely followed. The child is referred to a clinic or community facilities for specific needs which become apparent. These might include play therapy, music therapy, group therapy, special parent counseling, education, and child guidance.

Weekly conferences attended by the entire clinic staff should be held and the individual problems and cases discussed. Consultants in various medical specialties and representatives of community and educational facilities concerned in the management of the individual child should also be invited to participate.

It is often necessary to use other facilities in the community, such as hospitals, to meet the specific needs of the patient and his family. Such facilities as may be indicated for the individual patient are custodial care, private school education, vocational guidance, recreational centers, helpful resources in the community, or the hospital. The parents are encouraged to appreciate the scope of the over-all plan of management of their child, so that with understanding they may participate actively and constructively and take the fullest advantage of all available facilities.

While the major function of the clinic staff is to provide service to the family in its relationship to the retarded child, it must participate in the broadening and deepening of the community's responsibility and understanding of mental retardation through all appropriate channels of interpretation.

In terms of physical requirements for the establishment of a clinic, I should like to review what adequate space and equipment are necessary in the clinic. There should be a waiting room, reception areas, office space, rooms for workers, medical examinations, psychological examinations, speech, music, and play therapies, conference rooms, toilet facilities, storage rooms and record rooms, and, of course, as we mentioned, a unit set of records containing everything we know about the patient in terms of evaluation social service, psychological questionnaires, and consultations.

Personnel for the Successful Clinic In terms of personnel, there should be a qualified pediatrician, psychiatrist, or neurologist, who is responsible for the establishment of policies and procedures for the operation of such a service, whether it takes place in a hospital or under medical school facilities. Pediatricians have direct responsibility for the integration of the evaluation, management, and follow-up of the patient and his family. The psychiatrist determines the presence of emotional disturbance of such magnitude as to preclude a complete diagnosis of mental retardation. The neurologist and neurosurgeon aid in making an etiologic and pathologic diagnosis. Because the incidence of orthopedic disability in mentally retarded children is higher than in the normal population, the orthopedist is used for diagnosis, evaluation, and management. The psychologist aids in the diagnosis, prognosis, and management of the mentally retarded child by determining the extent of the deficiency in the child's intellectual, emotional, and social development. The educational therapist makes an educational evaluation to determine what kind of training, whether it be home, school, or what type, will benefit the child. We have language and speech therapy, because the majority of mentally retarded children will require language and speech help, as they are very closely related. In addition, we use all kinds of dental and other ancillary services.

Another type of service, which we have found most successful and important with these patients, is group therapy. Group therapy may be helpful in the development of better social maturation in selected retarded children. This is carried out by the psychiatric and psychological staff in a clinic. The aim of this therapy is to promote emotional growth through social interaction. These children are provided with interpersonal experiences that are usually denied them by unequal competition when among average children.

Another very important problem, and an aspect of treatment, is parent counseling. This is under the direction of a psychologist, social worker, or pediatrician, or any other qualified member of the staff, and is for those parents whose children are concurrently being seen in therapy sessions by other staff members. The program is focused specifically on the problems of the individual parents themselves. Groups are limited to five to seven parents, who meet weekly. The content of the discussions is initiated and spontaneously developed by the parents themselves. The role of the therapist is not to control the discussions but rather to highlight aspects which develop parental insight and to give individual group members the

support they need in expressing their feelings and relating their experiences before the group. Using this procedure, the group sessions have focused on the same problems which parents usually present at individual sessions; namely, how to handle aggression, promote social security, and combat timidity and lack of initiative, as well as their own personal feeling of guilt for rejection of the youngster.

In a clinic, the role of the parent becomes very important because clinic therapy and management of the retarded child must have the active cooperation of the parents if it is going to be successful. With this in mind, all the clinic disciplines enlist the help of the parents by complete exploration of the objectives sought, and the means by which these are obtained. Group therapy with the parents as described previously, parent sessions with the social worker, and the constant advice and assistance of the members of the clinic team serve to strengthen the important role that the parents must play.

Education for Mentally Retarded Mentally retarded children are entitled to receive the kind of education and training which will enable them to contribute to society and to their own needs in accordance with their capabilities. To meet this aim, after the complete workup is done by the clinic staff, the educational consultants assess every child in terms of present and future educational opportunities, home-training programs, nursery experiences, public or private school experiences, sheltered workshops, vocational and special schools.

The clinic has a role in its relation to the community because the child is not only a part of the family but also a part of the community. The clinic attempts not only to aid in home management but also to work with and coordinate the community facilities for the child's benefit. These community agencies could include Visiting Nurse Service, Division of Vocational Rehabilitation, Association to Help Retarded Children, United Cerebral Palsy, League for the Hard of Hearing, Catholic Charities, Protestant welfare groups, Jewish Family Services, and all other types of community agencies that are presently operating. The clinic also seeks to promote understanding of the problem of mental retardation in various groups in the community, and thus stimulate formation of new facilities.

In addition to the services described, a mental retardation clinic should carry on an extensive research plan where evaluative, and original research is followed through. Research should be instituted

by each division of the clinic as well as encompassing projects which require integration of all departments. The over-all philosophy should be directed toward etiology, prevention, detection, and correction of mental retardation. For example, one of the most interesting scientific research projects now in progress is the study of the animal biochemical and clinical marks of the relationship of fetal and prenatal hypoxia to mental deficiency, which is, simply, the lack of oxygen to the blood and then to the brain cells.

Other aspects of mental retardation under investigation and clinical study are new forms of drug therapy and the use of drugs to lessen neurotic, emotional, and endocrine disturbance, and the use of drugs to stimulate possible cerebral functioning and promote and maintain optimum health.

Research is presently conducted in pediatrics, neurosurgery, education, psychiatry, psychology, speech, and all the therapies. Also, a clinic should furnish scientific papers and present its findings at meetings to stimulate further interest in research in the field of mental retardation and, of course, should teach others to take leadership.

In summary, a clinic staff to serve the mentally retarded is the connecting link between the family and the community. It can serve only to the extent that its findings about the child's needs can be used to integrate the child into the society beyond the doors of the clinic. We are able to diagnose and plan a program, but we depend upon the community to provide the means to carry out this program.

5 Classification and Etiological Factors in Mental Retardation

HERMAN YANNET

WELL OVER A HUNDRED different etiologies, diseases, and syndromes have been described in which mental retardation represents a more or less important symptom. Most of these, however, are extremely rare, some to the point of being considered medical curiosities. About 20 percent are encountered with sufficient frequency to have practical importance, and it is this group to which we intend to confine our attention at this time.

They can be etiologically classified, most effectively, into three large groups, depending on the period of life during which their causative mechanisms are established: (1) the prenatal; (2) the natal and paranatal; and (3) the postnatal. The data relative to incidence of the various conditions that will be offered refer to our experience with over 2500 admissions to the Southbury Training School for Mentally Retarded in Connecticut. As is true of any other institutional statistics, these cannot be considered as random selections and therefore indicative of the over-all situation in the country. Obviously, children are committed to institutions not only because they are mentally retarded, but also because of associated sociological and psychogenic factors not related to the etiology of the mental retardation. It is also clear that institutions, as a rule, contain a much greater proportion of the more serious retardates than will be found in the community as a whole. Thus, various surveys in this country and abroad have indicated that approximately 75 percent of the mentally retarded are in the minimal or high-grade category, 20

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percent in the moderately retarded or middle-grade category, and about 5 percent in the severely affected or low-grade category. The proportions of these different categories in the Southbury admissions, however, are in the order of 40 percent high grade, 30 percent middle grade, and 30 percent low grade. It is to be expected that those conditions, genetic or otherwise, that result in the more extensive cerebral abnormalities will tend to be more numerous and important in our institutional population than will the less devastating etiologies.

Prenatal Mechanisms

The importance of genetics in the causation of mental retardation has been variously estimated to cover from 5 to 75 percent of the problem. This may be because of the failure to differentiate the two distinct groups which are included. In the first group, to which the term "familial" or "subcultural" retardation is applied, the genetic determinants might properly be called "physiological," in that they represent a part of the genetic pool which determines the hereditary transmissions of normal intelligence. Intellectually inferior individuals in this category inherit from their parents those genes, undoubtedly multiple in nature, which determine their position in the lowest levels of the normal distribution curve of intelligence. These represent our intellectual marginal population whose social adequacy will be closely related to the nature and complexity of the society in which they live at the moment. Their problem is basically sociological, and their numerical magnitude will depend on the efforts of society to meet their special needs. There are no reliable data to indicate their extent in the general community at any one time. However, some concept of the importance of this group is indicated by our Southbury statistics in which they represented approximately 40 percent of our total inmate population covering over 2500 admissions. This so-called "familial" group, as might be expected, has the most promising prognosis. Of the more than 700 individuals discharged from Southbury during the last ten years, either to their own homes, gainfully employed, or to working homes, by far the greatest proportion (70 to 80 percent) belonged to this group. Similarly, of those being managed in the community through local facilities, such as special classes and guid-

ance clinics, the best results, by far, have been in this familial category.

The second group in our hereditary category represent an entirely different mechanism. The genetic factors involved in these patients are truly pathological in that they determine abnormal cerebral, structural, and metabolic manifestations. These conditions, which are fortunately few in number although diverse in nature, are due, as a rule, to single, mutant genes. They may be discussed most conveniently from four aspects. First are a number of diseases which have been called "inborn errors of metabolism." The responsible genes determine either the absence of, or the interference with, a specific enzymatic activity. They are represented in each of the various metabolic processes, involving proteins, carbohydrates, and lipids. Of the more important conditions represented here are:

1. Phenylpyruvic disease, which involves a defect in protein metabolism—specifically, the absence of the enzyme system which determines the metabolism of phenylalanine.

2. Galactosemia, involving a defect in carbohydrate metabolism and specifically affecting the metabolism of galactose.

3. Glycogenosis, also involving carbohydrates, specifically affecting the metabolism of glycogen or animal starch.

4. The Tay-Sachs' group of cerebral lipoidoses in which the intracellular lipid metabolism of the brain cells is abnormal.

5. The white matter or myelin degenerations, also called the cerebral scleroses, a lipoidal defect.

6. Gargoylism, a disease of a complex nature probably involving more than one metabolic system.

The importance of this group of metabolic disorders lies not in their frequency as compared to other causative mechanisms, since they are rare, or basically in the eugenic implications of their recognition, important as this is. It lies in the relatively recent advances in our understanding of the mechanisms by which the respective metabolic disorder injures the brain or interferes with its growth and function, and the development of methods to circumvent this injurious activity. It thus represents a new and hopeful approach to the medical management of genetic disorders, namely the prevention of the clinical expression of the genetic factor. So far, two of these have yielded or seem to be yielding to this technique namely, galactosemia, and phenylpyruvic disease.

A second group of genetically determined conditions have in common the fact that in addition to the cerebral defect, the disorder also results in a maldevelopment of the skull, by which the condition can be recognized and properly categorized. These include primary microcephaly, craniostenosis or premature cranial suture closure, and hypertelorism. It should be stressed that not all children with these skull defects show cerebral abnormalities. Conversely, in practically all of these cranial anomalies there is no obligate cause-and-effect relationship between the distorted cranial shape and the cerebral dysfunction if present. Thus, surgical procedures designed to prevent or ameliorate the cranial anomaly, as for instance in the craniostenoses, may have little or no effect on the underlying cerebral defect, and prognosis should be guarded.

A third group of genetically determined conditions have in common a cellular dysplasia that may include many organs of the body in addition to the brain. Three such conditions are recognizable, but with so many similarities and overlapping of clinical features and familial genetic expressions that a unitary genetic mechanism is suggested. These clinical syndromes, commonly called the congenital ectodermoses, include tuberous sclerosis, neurofibromatosis, and cerebral angiomatosis. One of the most striking features of this group is the almost unbelievable variability of expression of the responsible gene or genes. A parent carrying the genetic factor involved may have, as the only clinical expression, a small skin lesion of no practical importance to his social status. Yet, his offspring may be completely devastated by the cerebral dysplasia and other organ defects. When we have learned which factors, genetic or otherwise, are responsible for such a variability in the clinical expression of an inherited condition, we may have another key to the possible bypassing of undesirable genetic traits; this would be in addition to that applicable to the metabolic disorders previously mentioned.

Finally, in our genetic survey, we have a group of conditions, probably variable in nature and more disturbing to us than those mentioned above, since they cannot be recognized as yet as being genetically determined except through the birth of a similarly involved sibling. In other words, unlike the above-mentioned inherited conditions, there are no recognizable associated disorders, and the only presenting symptom is the intellectual defect, which is nonspecific. The dilemma which such a condition presents to the medical counselor is at the present time insurmountable. Fortunately,

these conditions making up this last group are relatively rare, and such a category was diagnosed in only 1 percent of our Southbury admissions.

The total incidence of inherited conditions due to pathological or mutant genes (not including mongolism which may have a genetic component in its etiology) represented about 5 percent of our total admissions.

Other prenatal conditions not definitely genetically determined and mentioned above have an incidence of about 10 percent in our series. These include:

1. Prenatal infections, of which we recognize at least three; namely, congenital toxoplasmosis, maternal rubella, and congenital syphilis. Cytomegalic inclusion disease may represent a fourth, but its relationship to the mental retardation problem has yet to be established.

2. Kernicterus, a cause of mental retardation, is a disease of the neonatal period resulting from high levels of bilirubin in the infant's blood due to various mechanisms. While rightfully not belonging in the prenatal category, it is placed here, since the most common clinical condition responsible for its development is erythroblastosis fetalis due to maternal Rh immunization. An appreciation of the importance of the hyperbilirubinemia, as the etiological mechanism, and the development of techniques to combat it (exchange transfusions) have reduced the incidence of this condition almost to the vanishing point in certain clinics.

3. Endocrine disorders are quite common among the mentally retarded. Basic cerebral injuries of one type or another may involve the nervous connections of the pituitary gland, and various factors affecting the brain at certain periods of prenatal life may conceivably also adversely affect other endocrine glands. However, the only hormone for which a reasonably acceptable cause-and-effect relationship with mental retardation can be established at the present time is the thyroid. It is also becoming more apparent that the cerebral abnormality resulting from complete absence of this hormone may well be established at the time of birth or quite soon thereafter in many of the cases. This probably explains the relatively poor prognosis encountered even in cretins treated within the first month of life.

4. Finally among the recognizable conditions prenatally determined, we come to mongolism, which was established as a syndrome almost ninety years ago and whose complete etiological story re-

mains to be told. While advanced maternal age is accepted by all as one factor, and implies an environmental causative mechanism, there is also strong evidence to implicate some type of genetic mechanism as well. As yet, the nature and mechanics of expression of this genetic factor have not been established. The incidence of mongolism in our Southbury data is about 8 percent.

A total of about 90 percent of our admissions were classified as either genetic or otherwise prenatally determined. If we add up the conditions already discussed, we are left with a prenatally determined group of unknown etiology representing about 35 percent of the total. This is a substantial number that bears strong witness to the limited nature of our knowledge of prenatal abnormalities and to the great need for continued research in this area. Studies of pregnancies resulting in abnormal children, including the mentally retarded, have shown a significant incidence of such conditions as early maternal bleeding, suggesting imperfect placental attachments, toxemias of pregnancies, including eclampsia, and prematurity. The nature and importance of the role these abnormal conditions play are still being evaluated.

Cerebral Injury Due to Factors Associated with the Birth Process

In our Southbury survey, mental retardation due to cerebral birth injury, neonatal asphyxia, or other mechanisms associated with the process of birth was diagnosed in about 3 percent of the admissions. A high incidence of associated neurological abnormalities, such as cerebral palsy and convulsive disorders, was found in this group.

Postnatal Conditions

Approximately 6 percent of our admissions could be related to postnatal conditions of various kinds. The most common included inflammations of the central nervous system, as meningitis and encephalitis. The next most common cause was cerebral trauma as a result of various accidents in infancy. Occasional mention is made of accidental poisoning with lead, carbon monoxide, and coal-tar derivatives. It was also somewhat disconcerting to find at least

two cases resulting from vaccination against pertussis and one after smallpox vaccination.

To summarize this survey of etiologies, we may say that the causes and mechanisms involved in the problem of mental retardation are many and greatly varied. In our Southbury survey, approximately 40 percent represented the familial group, or lower end of the normal distribution curve for intelligence. About 5 percent were due to specific pathological mutant genes, and 10 percent were classifiable, prenatally determined, nongenetic, acquired conditions. Another 35 percent were also prenatally determined but were unclassifiable and of unknown etiology. Only 10 percent represented the group injured at birth or in the early postnatal years.

6 *Psychological Evaluation: Some Problems and Suggestions*

HAROLD A. DELP

ALL TOO MANY psychologists still believe and practice with conflicting ideas involved. Consequently, this has an effect on their reports and interpretations. Educators, social workers, medical personnel, and others need a basis for using reports with understanding. Persons using reports should have some idea of what they can expect from the data obtained in psychological evaluations. The comments and suggestions contained here will seem trite to some psychologists—but the problems appear frequently enough in practice and in reports to be worthy of comment.

In the area of psychological testing, especially in terms of the mentally retarded, there are several conflicting ideas. First, there are those who believe that no test is really useful in terms of ob-

From *The Training School Bulletin*, 56:3 (November 1959), 79–84. Reprinted with the permission of The Training School at Vineland, New Jersey, and the author. Dr. Delp is director of "Little City," Palatine, Illinois.

taining valid estimates of the mental level (IQ) of an individual. Second, there are those who believe they can get everything from one test. We have heard discussion from people that administering a Stanford-Binet will allow them to obtain mental level, personality characteristics, and the like. In the same vein there are those who believe the Rorschach will give them everything. Third, there are those people who admit that *the* test administered in a particular case is not satisfactory for any number of reasons, such as hearing loss, reading difficulty, physical handicap, and the like. However, many of these same people proceed to interpret the score from the test as though it were completely reliable and valid. It should be pointed out that in general all three of these attitudes provoke difficulties in terms of the actual results of psychological measures for individual persons.

The standards or norms on any psychological tests pose problems for most people in their uses. Either the standards are not accepted in general for such testing or the persons placed too much arbitrary confidence in the results. It should be pointed out that psychological evaluation does not produce an "all or none" result. To be at all consistent the score itself is necessary to any kind of adequate evaluation of psychological material. Next, there must be a study of the accuracy (validity, reliability, objectivity) of the score for the particular individual being evaluated. Finally, there is the interpretation of the evaluation procedures which, of necessity, must go into all of the factors relating to the use of the scores in various areas as well as describing how this applies to the particular individual being tested.

Psychological tests (particularly mental tests) are specific samples of the behavior and abilities of the individual. For some tests, these samples are less limited than for other tests but nevertheless all such tests produce only samples. Almost any basic battery of test items might be best for a particular psychologist to use. Its primary value is in the general information which is obtained concerning the individual as well as defining the areas needing added evaluation. After the basic test battery is administered the psychologist in most cases will need to use other evaluation devices to supplement and complement the material obtained on the first. There is a tendency for some psychologists to overinterpret the information in the direction of the individual being evaluated. Perhaps an example of this might be given.

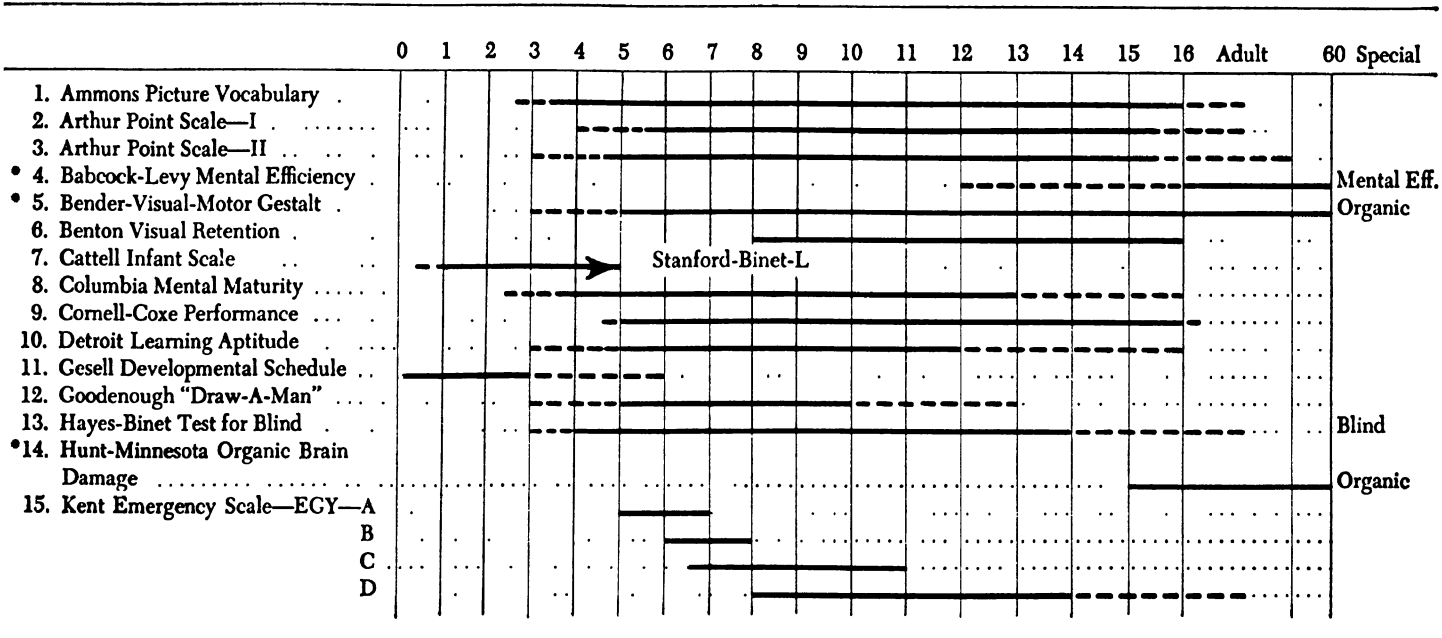
Suppose a particular psychologist feels that the Binet or the

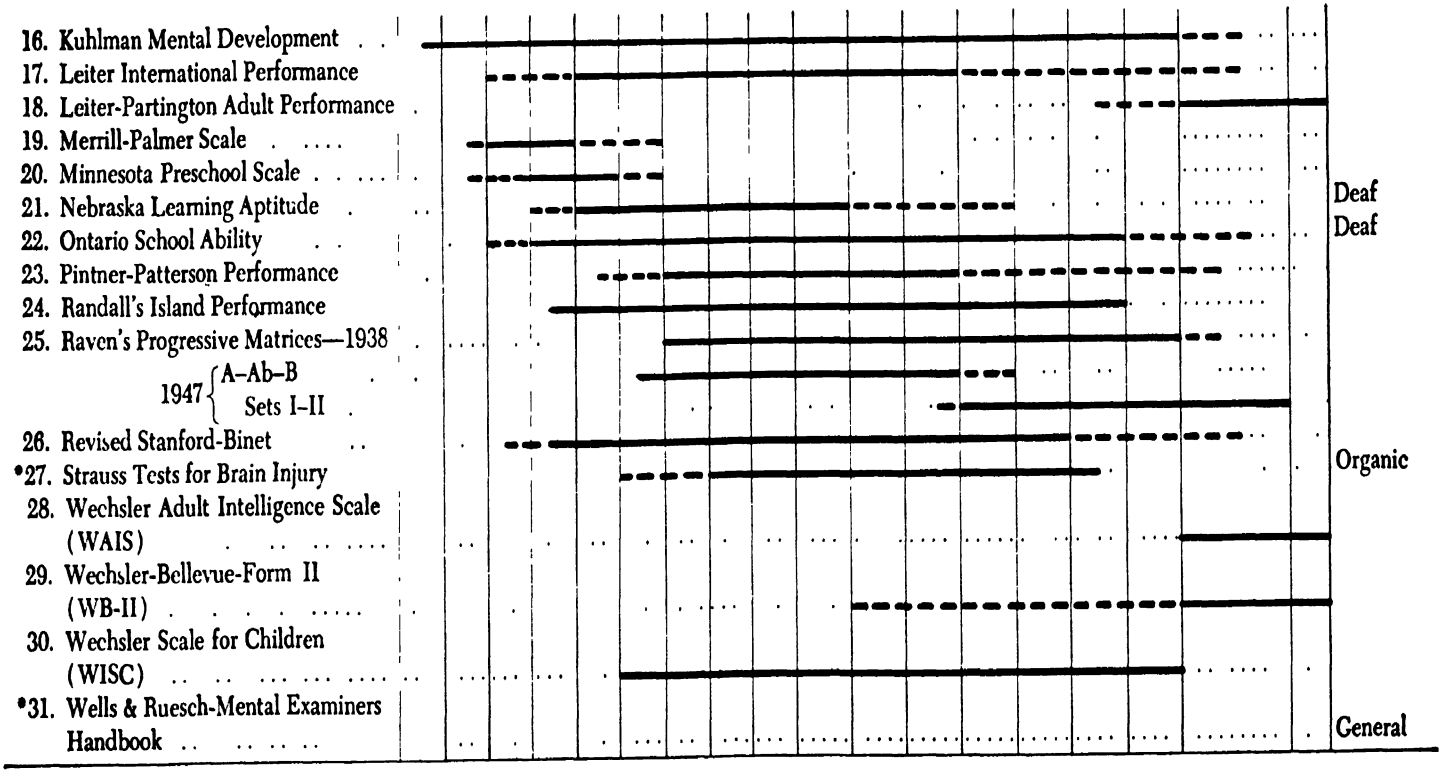
Wechsler test allows him to obtain the best general estimate of the person being tested. This test would then be administered in most cases initially. However, the person being tested might pose a problem concerning the extent to which his malcoordination has affected performance items on the test administered. In this case the psychologist should always make use of another test battery which for the most part eliminates the need for coordination in terms of the estimate to be obtained. Similar situations often exist for individuals with problems of speech, hearing, reading, and other handicaps. If this multiple testing is done, the situation would not occur where the examiner makes a comment in his report that the subject's reading difficulty may have produced errors resulting from inability to read and blocks to reading situations which may make the scores inadequate—and then proceed to interpret the results as though he had never made a comment concerning limitations from the reading problem.

All textbooks concerning measurements have used the words "validity, reliability, objectivity, and standardization." In most cases these terms have been defined in their relationship to the construction of the tests. Perhaps they should be redefined in terms of the value of the results obtained in an actual testing situation. From this point of view one could label the results of a particular test administration for a definite individual in terms of *validity*. This would mean the feeling of the psychologist as to any factors existing in this individual which might cause constant error in the results for the individual. These would be factors which, for the particular test administered, would produce a constant deflecting influence in the score. This might be the situation with the hearing handicapped person taking the Binet. Reliability in terms of the test results would involve the degree to which the psychologist feels that there have been accidental errors and inaccuracies resulting in obtaining the score. This factor should in most cases be able to be kept to a minimum. However, in some cases the individual being tested may be constantly looking out the window or being disturbed by other factors existing in the situation, such as noises, persons passing by, and the like. It may be that occasionally an item will be spoiled because of an accident in terms of the administration. Nevertheless, in these terms reliability has to do with variable and unpredictable errors which may occasionally crop up in an administration at a particular time. The degree to which these factors may have occurred, however, should always be pointed out by the psychologist.

TABLE 1

Age-Ranges for Selected Individual Mental Tests





* Not basically a test of mental level—special use.

Objectivity in terms of test results might involve the personal error in terms of the opinions of the psychologist together with other factors which restrict the objective point of view—objectivity, of course, should exist in all testing situations to the largest possible degree. The degree to which the psychologist involves subjective points of view to too great a degree would influence this characteristic of objectivity but would be less recognized by the examiner in many cases. *Standardization* as related to test results has to do with the interpretation of those scores. If the psychologist misunderstands some of the data he has obtained, if he gives incorrect meanings to data existing, or if assumptions are made which are not valid in terms of the particular case being evaluated, the results, and hence all interpretations based on those results, will not conform to standardized information and procedures.

It has been pointed out that, especially with clinic cases, we have definite difficulty. These individuals tend to be like the ones who caused the measurement errors in the original standardization of the test materials. If there were not the handicapped and disturbed individuals who need special consideration and if these persons had not been included in the original standardization of the test battery, the error of measurement of a particular test would in most cases be much smaller. Each type of handicap which persons might have requires specific consideration in psychological evaluation. In any sample of a thousand cases picked at random for standardizing a test there will be those who have at least mild hearing problems, visual problems, crippling problems, emotional problems, as well as many others. Each of these handicaps should be evaluated in terms of a test which in general eliminates that factor as a requirement. We have tests which have been developed and standardized for use with deaf children. We have tests which eliminate the use of oral language on the part of the subject. We have tests which fit the blind, the cerebral palsied, and the like better than the most used test batteries. It should be obvious that, when multiple handicaps come into the picture, there are limits beyond which the psychologist cannot go in obtaining a test battery ideally suited to the particular individual. Nevertheless, it is possible in a great majority of cases, even in the clinic to use a test battery or at least selected test items which do a much better job in the field of psychological measurement for the particular kind of person involved.

In projective testing there are like problems which occur. Too

often the psychologist feels that the Rorschach, the TAT, or some other device will work in all cases. This obviously is not true. The problem of age of the individual being examined, as well as the particular types of emotional problems anticipated, will in a great measure determine which of the projective devices will best elicit the kind of responses necessary for an evaluation of the personality of the individual.

Many other factors are involved in good practice in terms of psychological evaluation. One of the biggest handicaps to good evaluation is the limited repertoire of evaluation devices which most psychologists have. At one time while sitting on a state board evaluating state psychologists, the author incidentally asked the candidate to "name all of the individual intelligence tests or mental tests which you know." It was surprising the number of persons who could only name at most two or three such test batteries. It is not at all unusual to find psychologists who feel that, if they are experienced in the administration of three or four test batteries, they can accomplish adequate results with any types of case. This, of course, would seem to be beyond any amount of reason. There are at least 30 to 40 different mental measurement devices which at times should be called upon to assist in the evaluation of particular individual cases. When one considers the breadth of evaluation from the young to the old, from the retarded to the gifted, the emotionally disturbed to the non-disturbed, and including all types of physical handicapping problems, the background of the competent clinical psychologist must be quite enormous. And even with the broad background, evaluation devices used should be fitted to the individual being evaluated and his particular problems. (See the table on pp. 44–45 of age ranges and specialty uses for a number of mental tests.)

An adequate psychological evaluation must go beyond the mere reporting of test scores, and even the statement of problems. In numerous cases the psychologist in the past has simply stated problems or made recommendations which were only restatements of the reasons for referral. To be useful the report must include descriptions, interpretations, and recommendations which are useful to others in actually improving or solving the basic issues.[1]

In any reporting the final summary must go beyond that which many psychologists use. It must include a global description of

[1] H. A. Delp, "Interpretation and Report to Using Personnel," *Training School Bulletin*, 52 (1956), 231–236. See Reading No. 10.

Applicability of a Variety of Psychological Tests for the Severely Mentally Retarded

Test	*Applicability*	*Comments*
Raven's Progressive Matrices	Not applicable in present form	Too difficult. No range of scores. Scoring system not appropriate to population.
Columbia Mental Maturity Scale	Limited value with older or relatively more intelligent children	Many children guessed. Test colorful, relatively short, and held interest of children. Suitable for children with speech and motor deficiencies.
Arthur Point Scale of Performance Tests—II	Not applicable except for Seguin Form Board	Too difficult; Seguin satisfactory; clinically useful.
Wechsler Intelligence Scale for Children	Three subtests applicable	Too difficult—does not go down far enough. Information, Digit Span, and Picture Completion applicable.
Ontario School Ability Examination	Three subtests applicable	Short and varied in nature. Subtests I, II, and V suitable. Subtests III, IV, and VI not suitable.
Nebraska Test of Learning Aptitude	Nine subtests applicable	Useful—only three of twelve subtests too difficult (Com-

the individual as a person rather than merely being a set of isolated statements about mental level, personality status, or even specific problems. This summary must lead into a set of recommendations which are pointed to the person as an individual, to his limiting problems, and to what the using personnel might be able to do to assist this child whether it be in school, in an institution, or whether it is related to his mental, emotional, or physical status.

Briefly, then, it is anticipated that the psychologists will develop a large body of background devices in both mental testing and personality testing which would be usable on demand to more completely satisfy the needs in evaluation of particular individuals. It

Test	*Applicability*	*Comments*
		pletion of Drawings, Puzzle Blocks, and Pictorial Analogies). However, these had clinical usefulness. Sufficient number and variety of subtests adequate for motor handicapped. Too long—administer in two sessions.
Merrill-Palmer, Minnesota Pre-School Scale, and Kuhlmann Tests of Mental Development	Applicable—can be substituted for Stanford-Binet, or provide a downward extension of the Stanford-Binet	Useful—though slightly weighted in verbal tasks. Very similar to Stanford-Binet and redundant if latter is administered.
Stanford-Binet	Best single test	Most useful, though subjects with speech and motor coordination difficulties were handicapped. Enough variation to compensate for this major lack.
Draw-a-Man	Clinical evaluation only	Useful in most cases to add some information as to intellectual level, concept of self, and "organization" or integration (personality).

SOURCE: G. Orville Johnson and Rudolph J. Capobianco, *Research Project on Severely Retarded Children*, Special Report to the New York State Interdepartmental Health Resources Board (Albany, N. Y.: 1957), pp. 14–15.

is also assumed that evaluation devices will be used, both in a sense of administration and for the persons involved, in such a way that they obtain the maximum information with the fewest limiting conditions. Tests must be used for the purposes for which they were intended. It is rather absurd for one to assume that a mental test should also be used to evaluate the personality characteristics of the individual, or that a projective test would also be used for the measurement or prognosis of mental level, when we have many adequate evaluation devices in each of these areas which do a better job when they are used for their intended purposes. If tests are

used for their intended purposes, and with the added understanding that we gain all available clues as to the additional specialty evaluation devices which might best be used to complete the situation, then it is felt that an adequate complete evaluation of the person would result.

7 *The Vineland Social Maturity Scale*

EDGAR A. DOLL

A FIRST FORMULATION of the Vineland Social Maturity Scale was published in April 1935.[1] The scale provides a definite outline of detailed performances in respect to which children show a progressive capacity for looking after themselves and for participating in those activities which lead toward ultimate independence as adults. The items of the Scale are arranged in order of increasing average difficulty, and represent progressive maturation in self-help, self-direction, locomotion, occupation, communication, and social relations. This maturation in social independence may be taken as a measure of progressive development in social competence.

The underlying principles involved in the construction of this scale are much the same as those employed by Binet and Simon for their scale for measuring intelligence. Each item is conceived as representing a general growth in social responsibility which is expressed in some detailed performance as an overt expression of that responsibility. Consequently, the value of the detailed items is to be determined principally by the extent to which they reflect this

From the *Manual of Directions of the Vineland Social Maturity Scale* (Minneapolis: Educational Test Bureau, 1947). Reprinted with the permission of The Training School at Vineland, New Jersey, Educational Publishers, Inc., and the author. Dr. Doll is consulting psychologist of the Bellingham Public Schools, Bellingham, Washington. Since the original publication of the *Manual of Directions* for the scale, Dr. Doll has published the complete text relating to the scale, providing expanded content and statistical data. See Edgar A. Doll, *Measurement of Social Competence* (Minneapolis: Educational Publishers, 1953).

[1] Edgar A. Doll, "A Genetic Scale of Social Maturity," *The American Journal of Orthopsychiatry*, 5 (April 1935), 180–188.

personal independence in personal activities, in respect to which the detailed performances are otherwise relatively unimportant.

The usefulness of the Scale for practical purposes and as a technique for research in the social sciences will immediately be evident to those interested in social problems. The Scale affords: (*a*) a standard schedule of normal development which can be used repeatedly for the measurement of growth or change; (*b*) a measure of individual differences and, consequently, of extreme deviation which may be significant in such problems as mental deficiency, juvenile delinquency, child placement, or adoption; (*c*) a qualitative index of variation in development in abnormal subjects such as the maladjusted, the unstable, the psychopathic, the epileptic; (*d*) a measure of improvement following special treatment, therapy, and training; (*e*) a schedule for reviewing developmental histories in the clinical study of retardation, deterioration, and rates or stages of growth and decline.

The Scale is also useful in distinguishing between mental retardation with social incompetence (feeble-mindedness) and mental retardation without social incompetence (which is often confused with feeble-mindedness). It also affords assistance in child guidance and child training, by indicating the relative aspects of social competence. It provides another means of evaluating the influence of environment, of cultural status, and the effects of such handicaps as blindness, deafness, or crippling. In short, the social status of the individual is a basic consideration in many scientific studies where human adjustment is a consideration.

The Scale

The revised Scale is printed herewith. Each item of the Scale has been given a categorical designation which is indicated by the following letters:

S H G—self-help general	O—occupation
S H E—self-help eating	C—communication
S H D—self-help dressing	L—locomotion
S D—self-direction	S—socialization

The items of the Scale are arranged in order of average age norms and are numbered in arithmetical succession from 1 to 117. They have also been separated in year groups according to the

Vineland Social Maturity Scale

EDGAR A. DOLL, *Director of Research*
The Training School at Vineland, New Jersey

Name . . . . . Sex . . . . . Grade . . . . Date . .
Year Month Day
Residence . . . . . Descent . . . . . Born . .
Year Month Day
M.A. or I.Q. or
M.G.U. . . . . P.A. . . . . Test Used . . . . When . . . Age .
Years Months Day
Occupation . . . . . Class . . Yrs. Exp. . . Schooling
Father's Occupation . . . . . Class . . . . Yrs. Exp. . Schooling
Mother's Occupation . . . . . Class . . . . . Yrs. Exp. Schooling
Informant . . . . . Relationship . . . . . Recorder .
Informant's est. . . . . Basal Score *
Remarks: Additional pts.
Total score . . . .
Age equivalent
Social quotient . . .

Age Levels

0–I

Categories		
C	1.	"Crows"; laughs . . . . .
S H G	2.	Balances head . . . . .
S H G	3.	Grasps object within reach . . . . .
S	4.	Reaches for familiar persons . . . . .
S H G	5.	Rolls over . . . . .
S H G	6.	Reaches for nearby objects . . . . .
O	7.	Occupies self unattended . . . . .
S H G	8.	Sits unsupported . . . . .
S H G	9.	Pulls self upright . . . . .
C	10.	"Talks"; imitates sounds . . . . .
S H E	11.	Drinks from cup or glass assisted . . . . .
L	12.	Moves about on floor . . . . .
S H G	13.	Grasps with thumb and finger . . . . .
S	14.	Demands personal attention . . . . .
S H G	15.	Stands alone . . . . .
S H E	16.	Does not drool . . . . .
C	17.	Follows simple instructions . . . . .

* For method of scoring see *Manual of Directions.*

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I–II

Categories		
L	18.	Walks about room unattended
O	19.	Marks with pencil or crayon
S H E	20.	Masticates food
S H D	21.	Pulls off socks
O	22.	Transfers objects
S H G	23.	Overcomes simple obstacles
O	24.	Fetches or carries familiar objects
S H E	25.	Drinks from cup or glass unassisted
S H G	26.	Gives up baby carriage
S	27.	Plays with other children
S H E	28.	Eats with spoon
L	29.	Goes about house or yard
S H E	30.	Discriminates edible substances
C	31.	Uses names of familiar objects
L	32.	Walks upstairs unassisted
S H E	33.	Unwraps candy
C	34.	Talks in short sentences

II–III

S H G	35.	Asks to go to toilet
O	36.	Initiates own play activities
S H D	37.	Removes coat or dress
S H E	38.	Eats with fork
S H E	39.	Gets drink unassisted
S H D	40.	Dries own hands
S H G	41.	Avoids simple hazards
S H D	42.	Puts on coat or dress unassisted
O	43.	Cuts with scissors
C	44.	Relates experiences

III–IV

L	45.	Walks downstairs one step per tread
S	46.	Plays cooperatively at kindergarten level
S H D	47.	Buttons coat or dress
O	48.	Helps at little household tasks
S	49.	"Performs" for others
S H D	50.	Washes hands unaided

IV–V

S H G	51.	Cares for self at toilet
S H D	52.	Washes face unassisted
L	53.	Goes about neighborhood unattended
S H D	54.	Dresses self except for tying
O	55.	Uses pencil or crayon for drawing
S	56.	Plays competitive exercise games

V–VI

Categories

O 57. Uses skates, sled, wagon
C 58. Prints simple words
S 59. Plays simple table games
SD 60. Is trusted with money
L 61. Goes to school unattended

VI–VII

SHE 62. Uses table knife for spreading
C 63. Uses pencil for writing
SHD 64. Bathes self assisted
SHD 65. Goes to bed unassisted

VII–VIII

SHG 66. Tells time to quarter hour
SHE 67. Uses table knife for cutting
S 68. Disavows literal Santa Claus
S 69. Participates in pre-adolescent play
SHD 70. Combs or brushes hair

VIII–IX

O 71. Uses tools or utensils
O 72. Does routine household tasks
C 73. Reads on own initiative
SHD 74. Bathes self unaided

IX–X

SHE 75. Cares for self at table
SD 76. Makes minor purchases
L 77. Goes about home town freely

X–XI

C 78. Writes occasional short letters
C 79. Makes telephone calls
O 80. Does small remunerative work
C 81. Answers ads; purchases by mail

XI–XII

O 82. Does simple creative work
SD 83. Is left to care for self or others
C 84. Enjoys books, newspapers, magazines

XII–XV

S 85. Plays difficult games
SHD 86. Exercises complete care of dress
SD 87. Buys own clothing accessories

Categories		
S	88.	Engages in adolescent group activities
O	89.	Performs responsible routine chores

XV–XVIII

C	90.	Communicates by letter
C	91.	Follows current events
L	92.	Goes to nearby places alone
S D	93.	Goes out unsupervised daytime
S D	94.	Has own spending money
S D	95.	Buys all own clothing

XVIII–XX

L	96.	Goes to distant points alone
S D	97.	Looks after own health
O	98.	Has a job or continues schooling
S D	99.	Goes out nights unrestricted
S D	100.	Controls own major expenditures
S D	101.	Assumes personal responsibility

XX–XXV

S D	102.	Uses money providently
S	103.	Assumes responsibility beyond own needs
S	104.	Contributes to social welfare
S D	105.	Provides for future

XXV+

O	106.	Performs skilled work
O	107.	Engages in beneficial recreation
O	108.	Systematizes own work
S	109.	Inspires confidence
S	110.	Promotes civic progress
O	111.	Supervises occupational pursuits
S D	112.	Purchases for others
O	113.	Directs or manages affairs of others
O	114.	Performs expert or professional work
S	115.	Shares community responsibility
O	116.	Creates own opportunities
S	117.	Advances general welfare

average age scores obtained for the Scale as a whole. The method combines both the year-scale and point-scale principles. The arrangement facilitates the interpretation of total scores in terms of year values from the blank itself without the use of conversion tables as employed in the earlier manual for the original Scale.

General Instructions

The central purpose of each item of the Scale is to represent some particular aspect of the ability to look after one's own practical needs. The specific items aim to sample such various aspects of social ability as self-sufficiency, occupational activities, communication, self-direction, and social participation, and to reflect progressive freedom from need of assistance, direction, or supervision on the part of others. The items aim to avoid measuring intelligence, skill achievement, personality, emotionality, and the specific results of environmental opportunity, training, incentive, habit, and so on, as such. The influence of such factors is expressed in terms of their composite capitalization for socially independent behavior.

To facilitate administration of the Scale, the detailed items are roughly grouped according to general similarity of content. However, each item is to be understood as a measure of general social maturation. By grouping similar items in categorical hierarchies the examiner is able to apply the Scale with more facility, thus quickly appraising the position of the subject examined in respect to each of these major aspects of social competence. This grouping is for purposes of convenience only, and the examiner should not hesitate to employ such an order as may seem to him most practicable in examining a given individual. The examiner is also expected to exercise discretion as to the order to be followed for the major groups themselves, since this also will be influenced by the particular circumstances surrounding each examination as well as by the range of the Scale that will apply to a given subject.

Each item of the Scale has a growth span of several years from which an average age may be derived as a standard for purposes of scaling, the curve as a whole reflecting individual differences in development. The results from the sum of items passed by a given subject are then reduced to age scores according to the average performance of normative life-age groups. These average scores are indicated by separating the items into year groups at total scores. Age scores may be calculated from total scores by interpolation as indicated below. Sex differences in item difficulty and in average age scores are so small as to be negligible for practical purposes.

It has proved impracticable to present here the detailed instructions with sufficient completeness to provide for all contingencies.

The item definitions serve to indicate the central idea of each item, which is elaborated in detail by interview. This places on the examiner a definite responsibility for sensing the central theme of each item so that he may decide whether or not the particular manner in which that item is performed should or should not receive credit, or which type of credit.

The Scale is not a rating scale and scores are not to be based on mere opinions. The informant does not make the scoring judgment. This is done by the examiner after obtaining from the informant as much detail as practicable regarding the behavioristic facts which reveal the manner and extent of the subject's actual performance on each item. This is particularly important where lack of opportunity or other limiting circumstances seriously affect such performance. If opinions are submitted by the informant in lieu of factual information, the factual basis for such opinions should be reported. These requirements make it clear that the Scale cannot be used with precision except by duly qualified examiners who will devote at least as much care to mastering the technique as that required for administering the Binet Scale. Examiners should not be misled by the apparent simplicity or homeliness of the method. All details presented herewith have been carefully considered and these details may not be ignored if the Scale is to be used effectively.

The items of the Scale are to be scored on the basis of information obtained from someone intimately familiar with the person scored, such as the mother, the father, a close relative, guardian, attendant, or supervisor. The subject examined (the S) need not be present or observed, since the informant acts as proxy for the S. As will be noted later, the S may be used under certain conditions as his own informant.

In proceeding with the examination, information is first sought regarding the S's life age, schooling, general ability, occupation, special handicaps, and other orienting data. Other general information should also be sought bearing on the general social status of the S as indicated by father's usual occupation, general environment, and the like, to facilitate examining, avoid embarrassment, and allow for limiting circumstances in evaluating the information obtained.

The recorder, retaining the scoring sheet himself and not supplying one to the informant, begins by questioning the informant well below the anticipated final score in each serial group of items, as assumed from age and general presumption of the subject's ability.

The recorder completes one item at a time, but notes incidental information relative to other items. Kindred items of progressive difficulty as provided in the grouping of items are to be followed through as in serial Binet testing, thus "raking" the Scale throughout the effective range rather than following all items in the numerical sequence of the scoring sheet. The examiner will use his own judgment in adapting the order of items within groups and the groups as wholes according to circumstances.

In obtaining this information the recorder is expected to quiz the informant in a sympathetic rather than a belligerent manner, avoiding naive credulity as well as open skepticism, encouraging spontaneous description, and eliciting detailed facts as to the specific limits of the S's actual performance by supplementary questions appropriate to the issues involved. It is difficult in this condensed guide to elaborate the technique of interview. This will be done in the more complete manual to be published later. It is important to avoid asking whether the S can do so-and-so, but rather does he usually or habitually do so. These answers are then checked by detailed questioning until the examiner is able to score the item as a whole. It is also important to avoid leading questions and to follow up all general answers with detailed questions. Thus the examiner asks to what extent does the S feed himself, or how much does the S do for himself in dressing, or in what ways does the S help around the house, or what kind of work does the S perform. In this way the examiner may score several items at once in the same category on the basis of the degree of accomplishment in a series of related items. There is no substitute for finding out just what the S actually and habitually does in respect to each item.

Under favorable conditions the Scale may be administered with the subject of the examination acting as his own informant. This has been found practicable with normal children as young as five years of age, and with subnormal subjects with Binet mental age as low as five years. Results obtained in this way tend to be slightly higher on the average, but are in some cases lower, than those obtained from independent informants. Such results should be scrutinized carefully in relation to the S's rapport as indicated by cooperation, honesty, candor, and insight. Often the subject is a better informant than someone else. However, modesty, self-depreciation, undue optimism, lack of auto-criticism, and the like may render self-informing somewhat misleading. Some check on this may be had by reviewing a few items through an independent informant for ac-

curacy, or by checking a few items by observation or actual performance. (In the latter case the examiner would have to infer whether such performance is likely to be usual or habitual.)

In general we have found that actual misrepresentation of fact, either intentional or unintentional, by the S or independent informants does not present a genuine difficulty. A more serious hazard is the failure of the examiner to establish with sufficient detail the actual basis for passing judgment on each item. The interview method, the emphasis on actual and habitual performance, and the internal consistency and progression of items all serve as controls. The chief advantage of the use of independent informants is the assumed freedom from overstatement or understatement of fact. The reliability of the method under these conditions has been examined experimentally and statistically, and found satisfactory.

8 *The Assessment and Treatment of Children with Brain Injury*

ROBERT SUCZEK

THE PSYCHOLOGY AND EDUCATION of brain-injured children who have no motor disabilities has become a problem of great interest in the past few years. Research during the last decade indicates that in general such brain-injured children suffer more psychological disorganization than children with no brain injury or motor disabilities. Neurologists have found that in order for an individual to have adequate cerebral functioning the release of electrical energy from the brain must be regular and patterned, both physically and psychologically. When energy is released in large amounts, epileptic fits are produced. In a brain-injured child, it is

From *The Psychologist in the School,* compiled and edited by Eli M. Bower, 27:9 (Sacramento: California Department of Education, August 1958), 13–17. Reprinted with the permission of the Department and the author. Dr. Suczek is a clinical psychologist at the Kaiser Foundation Hospital, Oakland, California.

assumed that energy is released erratically and is reflected in subsequent hyperactivity or erratic behavior on the part of the individual. The less differentiated the brain functions are at the time of injury, the more diffuse the damage to the brain. The intensity of the handicap caused by brain injury is generally less when the injury occurs during childhood rather than after the individual has matured, for a child may develop some substitute brain functions as he matures. Wortis [1] recently questioned the use of the term "brain-injured," pointing out that brain pathology is characteristic of a wide variety of symptoms, disease entities, and mental retardation, but that only a very few children fit the clinical picture described as the "brain-injured child." He suggests that the behavior of brain-injured children is dependent on at least the anatomical equipment and configuration of the brain; the settled stereotype of learned behavior called personality or character; the actual situation at the point of observation; and the condition of the organism, *i.e.*, health, energy, endocrine influences.

In an attempt to clarify the confusion in the use of the term "brain-injured," Stevens and Birch have suggested the use of the term "Strauss syndrome" to describe the kind of child who has organic damage and subsequent related disorders in behavior and perception.[2] These related disorders are commonly exemplified by erratic and inappropriate behavior on mild provocation; increased motor activity disproportionate to the stimulus; distractibility under ordinary conditions; consistent faulty perception; consistent hyperactivity; or awkwardness and poor motor performance.

Three major characteristics have been noted of brain-injured children: (1) they have difficulty in developing a consistent pattern of behavior; (2) they develop severe or catastrophic anxieties; and (3) they have a greatly increased need for human support in all areas of behavior and self-growth. In the brain-injured child, touching, smelling, tasting, and other sensory activities are intensified, presumably as a result of the child's failure to integrate these sensations into experience. This *blocking of meaning* and relationships in the brain-injured child may cause increased anxiety. Often this

[1] Joseph Wortis, "A Note on the Concept of the Brain-Injured Child," *American Journal of Mental Deficiency*, LXI (July 1956), 204–206.

[2] G. D. Stevens and J. W. Birch, "A Proposal for Clarification of the Terminology Used to Describe Brain-Injured Children," *Exceptional Children*, XXXIII (May 1957), 346–349.

anxiety causes hyperactive and destructive behavior. Under such conditions, the child may perceive his body image in a distorted way, and also suffer from disturbed perception of "figure and ground" (an ability to perceive and differentiate background from foreground as they mentally influence each other). The results may become circular in that the difficulties in perception produce the anxiety, which in turn increases the perceptual difficulties. In addition, the phi-phenomenon (the movement that seems to occur when two lights are presented in a certain temporal and spatial order) seems to be lost to many brain-injured children. The children may see light as discrete and separate entities rather than as a moving pattern. It is this fact that apparently makes it possible to use flicker fusion tests to distinguish between brain-injured and non-brain-injured children.

Another characteristic of brain-injured children is the tendency to perseverate (to give the same response over and over again) despite the fact that the stimulus has changed. The children tend to respond to the same elements in a stimulus continuously until someone stops them. It has also been noted that brain-injured children have difficulty separating themselves from objects in the environment. The line of demarcation "between me and what is out there" becomes quite fuzzy for them. They see things one thing at a time and often cannot pull the gist out of a concept or a problem containing more than one element in it. In general, they have great difficulty abstracting the essence out of an experience.

Some investigators therefore suggest that brain-injured children become anxious because their drive to gain experience and understanding is blocked or disorganized. Some, like Bender,[3] suggest that extreme, unexplained anxiety is related to some disturbed physiological process, which is evident in the beginning of certain kinds of diseases such as diabetes. In any case, the anxiety of brain-injured children is diffuse and nonspecific. As a result of this anxiety, brain-injured children need great amounts of psychological support from adults and other children. In effect, they are dependent children who need a great deal of help in maintaining contact with reality and in being able to integrate it into their concept of self. To the brain-injured child, the external world is unstable, the self-

[3] Lauretta Bender, "Psychological Problems of Children with Organic Brain Disease," *American Journal of Orthopsychiatry*, XIX (July 1949), 404–415.

image is not quite clear, and the inner world is anxiety-ridden. The child is therefore forced to work much harder to integrate into himself any reality or experience that he can obtain from life.

The complexities in the diagnosis of brain injury are numerous and intricate. The following criteria are now being used in determining the nature, extent, and psychological resultant of brain injury:

1. *A developmental history of the child* that shows the possibility of brain damage by deprivation of oxygen either before or shortly after birth, by high fevers and other difficulties accompanying certain diseases in childhood such as meningitis, and by difficult and complicated deliveries at birth. Very often the attending physician is in the best position to note whether such conditions have occurred, or whether the possibilities of brain injury are present in the child's prenatal or postnatal history.

2. *Neurological signs in the child's behavior* that are evaluated most competently by a neurologist.

3. *An electroencephalogram,* which, it is well to note, has definite limitations in the diagnosis of brain injury. Some electroencephalographers report pathological findings in children with behavior disorders who do not belong in the brain-injured group. Electroencephalograms also fail to record brain injuries when the injuries are in the areas of the brain below the cortex. As Strauss states, "the electroencephalogram is, therefore, an aid in diagnosis when other symptoms make the picture of a brain injury probable, but it does not assist in the selection if other indications are missing." [4]

4. *A psychological evaluation* in which the intellectual pattern of the child can be noted and the psychological profile is found to be similar to other types of children with brain injury. The examiner also notes the disturbances in the perceptual and conceptual areas and other signs indicative of the brain-injured child.

5. *The elimination of all other possible major causes of the child's behavior,* such as emotional or situational factors.

The Bender Gestalt test [5] has been especially useful in the problem of differential diagnosis of brain injury. This test is aimed at measuring the response of an individual to visual "gestalten" and

[4] A. A. Strauss and L. E. Lehtinen, *Psychopathology and Education of the Brain Injured Child* (New York: Grune and Stratton, 1951), p. 112.

[5] Lauretta Bender, *A Visual-Motor Gestalt Test and Its Clinical Use* (New York: American Orthopsychiatric Association, 1938).

spatial relationships. The copying of certain types of designs can be shown to be related to the sequence of maturational development in children. For example, by age eleven most children can make all of the figures asked for in the Bender Gestalt test. In brain-injured children where the development of this maturational skill is interrupted, the resultant behavior pattern can be measured. The aspects of behavior measured by the Bender Gestalt test are as follows:

1. *Biological maturity*—this is measured by the accuracy the child shows in his visual perception and in his motor coordination and is scored by a qualitative evaluation of each drawn design.

2. *The ego maturity*—this is evaluated in terms of the global arrangement of all the figures on the sheet of paper. Is the organization of the figures planned, meaningful, and realistic? How is the space used? Are the figures cramped? Do they tend to run off on the edges?

3. *Social maturity*—how does the child relate to you in the examination? Is he overdependent? Is he self-critical? Does he tend to take the task readily?

Most studies show that brain-injured children are below the norm in accuracy of copying individual figures and often tend to simplify the figures. They also tend to be extremely meticulous and compulsive with certain figures and perseverate on others. When brain-injured children are asked to recall the figures they have drawn, their memory is extremely poor. When they do remember, they will remember only parts of the figures as they originally conceived them. Goodenough [6] has suggested that children with organic brain injury test about two years below their Stanford-Binet mental age when their Draw-a-Man test is scored. In the psychological testing of brain-injured children, the qualitative material seems to be of greater value than quantitative material in comparing the child to a normal child. Qualitative material often gives insight into how the child relates himself to the environment, his self-concept, and his major problems.

Parental reaction to brain-injured children takes different directions. Some parents tend to withdraw from the child and isolate him. This may be a subtle form of rejection. Some parents perceive the child as being sick, and the normal kind of parent-child relationships may be suspended. In cases such as the latter, the child

[6] Florence Goodenough, *The Measurement of Intelligence by Drawings* (New York: World Book, 1926).

is overprotected and catered to, and opportunities for the child to make contacts with the environment and to attempt developmental tasks are limited.)

Parents of brain-injured children need a clear interpretation of what is going on in the child and in the parent-child relationship. They need to avoid undercontrolling such children as well as overprotecting them.

Parents frequently become angry and frustrated when they are endeavoring to educate a brain-injured child. As a result, they develop feelings of guilt that cause them and others in the family to experience problems of mental health. Often it does not suffice to diagnose the child's difficulties and explain the results to the parents. One must also consider and work with the parents to improve their feelings toward the child. Group therapy for this purpose can be extremely useful and successful.

9 *Research on Pseudo-mental Retardation*

HAROLD F. BURKS

ONE OF THE MOST PERPLEXING PROBLEMS in modern education is to find ways of educating children who are failing academically. Psychologists realize that most of these children are not truly mentally retarded but they need special diagnosis, special understanding, and special techniques of instruction. Teachers, on occasion, do attempt to get some of them assigned to special classes for the mentally retarded and express distress when their efforts fail to produce the desired results. This distress, though, cannot be compared to the discomfiture engendered in the special class if the child put there demonstrates devious social habits along with in-

From *Diagnostic Problems in Mental Retardation,* compiled and edited by Eli M. Bower and J. H. Rothstein, 27:7 (Sacramento: California Department of Education, August 1958), 40–43. Reprinted with the permission of the California Department of Education and the author. Dr. Burks is director of guidance, Gallatin City School District, Downey, California.

telligence above the level at which individuals are legally classified as being mentally retarded. Because of unusual learning difficulties in specific areas, we might be justified in calling the children who experience these difficulties pseudo-mentally retarded. As in the fields of true mental retardation, a heterogeneity of symptoms can be noted and discussed in pseudo-mental retardation. Rather than attempting to discuss all aspects of this field I shall endeavor to confine my remarks to a small segment of it.

Let me attempt to describe the pseudo-mentally retarded child. He demonstrates severe academic deficiencies, particularly in reading. He can be shown to possess a general intelligence rating above that accepted as a criterion for placement in a class for the mentally retarded. He may or may not be a so-called behavior problem but he does commonly exhibit such symptoms as distractibility, impulsivity, and restlessness. He is often uncoordinated. The teachers call him immature. Usually the child demonstrating this syndrome is a boy.

It is my belief that the basic potential of the individual can be adversely affected in particular ways because of brain injury. At this time one cannot discuss brain injury in a scientific manner because this is not a specific medical concept. Suffice it to say that the effects of brain injury are detrimental, whether they have been caused by chemical, metabolic, or structural pathology. I will list the multiple signs that we have come to believe are characteristic of this syndrome. But first I would like to state my belief that these signs are evidenced as a result of conditions that basically affect the pattern-making attempts of the brain, and that they occur because of faulty physiological integration. Furthermore, the level at which this condition exists in the hierarchal structure of the brain tends to give rise to a constellation of pathological signs. My decision to continue my studies of levels of brain function rests upon the evidence of extensive research, which has validated the soundness of my position.

A half century of brain experimentation reveals to us that man's most recent acquisition in the nervous system—the cortex—serves as a general site of the uniquely human qualities, and that an impairment here is very likely to result in intellectual deficit. It is probable that individual ability to acquire, retain, correlate, and utilize knowledge, both inwardly conceived and outwardly expressed, is not entirely invested in the cortex. The traditional viewpoint is that the lower brain centers, including the brain stem and

the nerves associated with it, play a major role in regulating the autonomic functions such as temperature, pain, emotions, and primitive drives.

In the earlier studies in which I was involved, an attempt was made to study the relationship between a particular type of electroencephalograph tracing and the behavior characteristics of problem children in school. These children were most often the aggressive, acting-out type so familiar to educators, maybe nauseatingly familiar when we consider what teachers say about them. Teachers rated these children on their conduct, and an analysis of the EEG tracings indicated that the children showed poor concentration, impulsivity, aggressiveness, poor perception, and social awkwardness, and demonstrated these symptoms to a much greater degree than did a control group. One of the most intriguing facts to emerge, however, was that we could differentiate between the problem children who showed abnormal EEG tracings and those who showed normal tracings, on the basis of behavior ratings by teachers. This led to the formulation of a hypothesis that the brain disorders of the former group were chiefly centered in the cortex, and those of the latter group in the diencephalon (or older part of the brain). It is known that the EEG has restricted value in the diagnosis of subcortical pathology. In fact, the EEG will generally pick up only the surface characteristics of abnormalities. However, abnormalities from subcortical centers may filter through in a very limited number of instances. Therefore, in the presence of subcortical pathology the EEG tracing is likely to be normal.

The abnormal EEG or cortex group exhibited unusual difficulties in the perceptual, academic functions while the normal EEG group had more severe problems in the emotional social areas. There was a common tendency for the children of both groups to be poor readers.

Intelligence test profiles also reflected differences between the two groups. The abnormal EEG cortex group consistently showed more difficulties in the verbal subtests than they did in the performance subtests on such tests as the Wechsler Intelligence Scale for Children. The normal EEG group generally demonstrated a more even profile but did fall off in thought processes that required close attention and mental manipulation such as abstract reasoning. The group with the probable subcortical disfunction should demonstrate more difficulty in concentration because the area of attention focusing lies toward the brain stem. Teachers found the subcortical

pathology group the harder of the two groups to get along with because of the excessive, highly tense, erratic, and explosive conduct displayed. Therefore, in brain-injured children, normal EEG children usually have more severe reading problems than children with abnormal EEG. It is interesting to know that when a number of these children were given a certain type of medication and were later rerated on their behavior, those with apparent deep brain disfunctions improved more significantly than those with cortex pathology. It is believed that the reason for this is that the medication acts principally upon the diencephalic area of the organism.

In recent investigations made into the physiology of the brain the first concerned brain wave action. It is known that there is a relationship between the electrical rhythms of the brain and learning. This has been established principally by Walters [1] in England and Lindsley [2] at University of California, Los Angeles, and through some of the work that has been done at the Long Beach Veterans Hospital. It has been demonstrated that distinct changes do take place in these electric wave forms when perceptual stimuli are received over classical sensory pathways and when thought processes occur and knowledge is as stated earlier inwardly conceived and outwardly expressed. The current hypothesis is that the brain endeavors to become more alert or more sensitive so that a stimulus can be received rapidly and processed properly.

An amazingly cogent bit of tissue in the brain stem apparently plays an extremely important role in readying the brain for action. It has been labeled the reticular activating system and has excited keen interest among researchers. The more it is studied, the more is understood about the great influence it plays in integrating cerebral function. It is the switchboard of the brain. When it is out of action, signals are recorded in the cortex but go unnoticed by the individual. While he is under an anesthetic, an individual can receive stimuli (over the classical pathways) which will be recorded on the cortex and on the encephalogram, but the individual, as an organism, will not receive them. All the major sensory pathways send branches into the reticular activating system, and when suitable stimuli are perceived in this organ the brain may be wakened, or if awake, it can focus attention in general or specific ways. We

[1] William Grey Walters, *The Living Brain* (New York: Norton, 1953).

[2] Donald B. Lindsley, professor of psychology, University of California, Los Angeles; and professor of psychology (Psychiatry Section), School of Medicine, University of California, Los Angeles.

might think of the woman who is asleep and her baby cries. The reticular activating system sends out a general broadcast to the entire brain and wakens it; but, doors may slam, cars may go by, rain may fall, and the woman will not pay any attention to it. The husband may let the cry go by, but a faint whiff of smoke will awaken him. Evidently the reticular system can be educated. It must be to do this. It will awaken the individual, but it will also do other things. The center of consciousness can also be stimulated from the cortex networks. For instance, the learning sets which are conceived in the cerebral cortex can stimulate the reticular formation and keep it vigilant. For example, because of imminent danger, you decide that you are going to stay awake for a long period of time. The action will also affect the reticular system which will integrate incoming messages and outgoing ones with the learning conceived in the cortex.

Our understanding of the problems of the nervous, high-strung children to whom I referred earlier is extended when we know that the reticular activating system is also thought to be a screening organ which filters out excess stimuli entering the brain from the sense organs. When it is not carrying out this duty, we hypothesize that the cortex is being bombarded with electrical stimuli, so that focusing of attention is made extremely difficult. Another way of looking at it is that the child becomes overattentive. Only about one impulse out of a thousand is allowed to go into the brain through the reticular activating system, but when this system has an impairment in it the brain is not shielded properly and far too much electrical activity is allowed to enter, the cortex is then bombarded with stimuli, and the pseudo-mentally retarded child becomes over-attentive to his problems.

Many poor readers have great difficulty in retaining certain visual after effects which are cortical, not retinal, in nature. Brain-injured children and mentally retarded children have even more problems in this respect. Furthermore, when additional tasks are introduced which might divert their attention, we see in most cases that the visual after effects are reduced or wiped out. This is particularly true of poor readers. Thus, we may be coming closer to the time when it will be known that most reading difficulties are due to faulty pattern-making attempts of the brain, which in turn are based on an inability to focus attention.

10 *Interpretation and Report to Using Personnel*

HAROLD A. DELP

THE PURPOSE OF ALL INTERPRETATIONS and reports of diagnosis is to enable the user to understand the child and to help solve his problems. To do this, the interpretation must first be in terms that are comprehensible to the user. For mentally retarded children, the interpretation must make it possible for the user to understand the general and specific levels for school placement and to further the education to the maximum for each individual child. No report is satisfying its purpose if the interpretation involved does not add to the knowledge of the child and give material and specific suggestions for working with the child as contrasted with a simple description of the child and its problems.

Content

The content as well as the style of the interpretation makes for a major problem in psychological diagnosis. This is particularly true when working in the area of mentally retarded and attempting to satisfy the need of teachers, physicians, parents, and others who are required to produce results in the training and improvement of the child's everyday behavior. Several specific problems are pertinent to this content.

1. The analysis of the findings must be developed into an integrated picture of the total child as he actually functions and in terms of his potential. It is not sufficient simply to state that a child has taken a particular test and what the specific findings might have

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been without analyzing these into a coordinated description of the whole child. In addition to the description of the whole child as he is functioning at present the interpretation must make an attempt to describe the potential of the child and what appears to be the paramount description of the child for the future.

2. The interpretation must *not* extend beyond the established implication of the particular procedures used. Some examiners in their description will indicate limitations of the test in the particular case, and then will proceed to interpret the individual as though those limitations did not exist. Reports have been given in which it was stated that the child made a low score on a Binet because of a reading difficulty and a verbal handicap, but the examiner then proceeded to interpret the rest of the material assuming that the IQ was satisfactory.

3. The interpretation must explain the extent to which adaptation *had* to be made in the standardized test administration and, hence, the degree to which the results can be given in any statistical terms or for which comparisons can be made. This is a particularly critical point in interpretation. There are those examiners who will make exceptions because of handicaps or maladjustment on the part of the child and then proceed to catalogue the child in the statistical term given in the manual. On the other hand there are those individuals who will insist that the statistical evidence has no value and will proceed to make arbitrary variations in test administration without any particular need for doing so. It is assumed by most psychologists that tests should be administered in as nearly the normal described procedure as possible and that then the test has both its objective and subjective values in interpretation.

4. The emphasis on the mere use of IQ and/or MA in the diagnosis of the mentally retarded is seriously questioned, especially because of the wide variation among such individuals and within each individual. Again, it is the extreme point of view in either direction which is a disadvantage. Scores can be of great value if they are properly obtained and used. Some users, with all that has been written, are inclined to make use of the IQ as some miraculous score which gives all the answers merely by knowing the numerical value.

5. In the interpretation there is need to separate mental retardation as the primary problem from those common overlapping problems such as loss of hearing, aphasia, motor handicaps (cerebral palsy), emotional disturbances, and so forth. Adequate tests must have been used when these other handicaps are suspected, if the

score of the mental level is to have maximum value. It is rather absurd to administer a test to a child and to conclude with the interpretation that the score does not tell the whole information because the child was not able to hear or for other reasons to do the required material. In almost every case we do have available tests which delimit other handicaps and so allow the qualified examiner to produce a score more nearly descriptive of the mental level of each particular individual.

6. To report simply that the child is mentally retarded and even needs special placement is absurd in many cases. Teachers and others referring the child need to know the degree of retardation in total and in as many different specifics as possible. The examiner must determine and indicate the advantages and disadvantages of certain methods and techniques of training, whenever possible. So often the interpretation of such a diagnosis stops with the simple statement of the facts of the child's limitations.

7. In some cases the examiner may anticipate that the test score has been reduced because of other factors (such as physical, emotional, and so forth). It is *not* possible to know, and so it is very poor practice to predict in the interpretation a "true level." This is especially so for brain-injured children. High test points may be related to areas not as much damaged as other areas, rather than being predictions of a higher possible total as is assumed in some cases by some examiners. The critical point in the interpretation is the statement by the examiner in words that can describe his own feelings of doubt, or belief, without making the assumption that some other direction is necessarily the correct one.

8. Care should be taken *not* to make an issue of the numerical rating. While statistical comparison is extremely important in its proper place, many users such as physicians, social workers, teachers, and even some psychologists seek only the score and base all of their work with the child on a prior conception of a meaning of that score, regardless of other information given about the test. The interpretation must include the content which seeks to avoid this possible result.

9. Often the average score obtained on a battery is not adequate for the brain-injured. Peaks and valleys of performance may be of differential value in interpretation as to the special strengths and weaknesses of the individual and to the learning possibilities and methods. The average score may actually be very misleading in these areas of discussion. It is not infrequent on a test with a wide variety

of items that the individual who has an organic problem will score some items at almost normal or even above, while certain specific items will be failed almost completely. A simple fact that the average comes out with an IQ of 55 may be entirely meaningless in terms of any help given to the teacher or to other persons who are to work with the particular child. There are, however, those occasions when the score becomes extremely important in itself.

10. The interpretation must include explanation of all other patterns shown to occur and to have meaning for the child. As the various results of tests are laid out in front of the examiner he usually can see certain generalities, certain patterns of strengths and weaknesses, and the like which would have an advantage to the user if properly explained. References should be made to everyday tasks which might be involved with the behavior pattern shown, either to the advantage or disadvantage of the child and his learning.

11. The examiner must include in the interpretation those situations where he himself feels that the score is unreliable. At times the examiner may decide the test has been so poor that it is "no test" but merely a set of qualitative observations. Observations are always of definite value but they are not subject to the usual test quantifications or comparisons.

Recommendations

The only value of examinations and interpretations is to give basis for recommendations to be used to benefit the child. This is definitely true for the school psychologist in the diagnosis of mental retardation.

1. Recommendations *must* be practical and workable. They must be given in terms of the actual situation—the actual child, the school (its personnel and facilities), the family (its members and their feelings), and the community as well as its level of understanding and acceptance. If the recommendations are too idealistic or impossible to put into action in the real case, often nothing is accomplished for the child. If certain recommendations are highly desirable but doubtful of achievement, alternatives of these "best solutions" should be developed and recommended. The better the examiner can be acquainted with the actual situation in total, the more chance there is for giving maximum help to the child through the users of the report.

2. The need for and the type of placement appropriate for the particular case should be stated. This is a particular problem in school systems where two levels of special classes are operated.

3. A necessary recommendation includes present and potential levels of ability. This must be in specific as well as in general terms.

4. Recommendation should indicate methods and techniques which should be found most effective in the total education of the particular individual child. These must be given in line with findings of organic, personality, or other particular problems.

5. School adjustment of the curriculum should be recommended. Areas included are academic learning, social development, vocational-occupational training, and personality. This is in line with the fact that all retarded children will not profit from the identical curriculum regardless of whether their so-called mental levels are the same or not. Adjustments in the actual curriculum must be made for the particular child in terms of his own strengths and weaknesses and peculiar needs.

Reports

There is great confusion as to whether psychological reports and particularly the report of diagnosis of mental deficiency should be made written or oral to parents, schools, school personnel, and others. All of these considerations are possible and the particular situation, public school or private school, and the like, will determine which combination is actually put into force. The form and content of the report obviously differs for different users and under different circumstances.

Language of Report In the past few years several articles have been written in professional journals concerning the problems of professional writing and reporting. Several particularly valuable articles appeared in *Science,* which is a journal of the American Association for the Advancement of Science. A coined word has been used to express such poor writings ("gobbledygook"). Menninger, in his book *A Manual for Psychiatric Case Study,* criticizes psychiatrists for their reports. The same criticism applies to many psychologists. Much of the style of writing or talking is mainly for the purpose of impressing others, or because of the inability of the writer to make a simple explanation. Excessive and undiscriminating

use of technical terms and excessive and inappropriate use of qualifying expressions in reports lead to confusion rather than erudition from the user's point of view.

Too many psychologists attempt to use abstract language rather than to be specific in terms of the actual child under study. Most professional persons today agree that simple language seldom needs to reduce a report's effectiveness.

The report should distinguish between observation and inference. Too frequently statements are given as facts which are only opinions deduced from minor facts not stated. Statements should be made as facts only when they are actually known to be facts. The report has the primary function of coordinating *all* the data about the child from *all* sources—history, social data, educational, medical, and psychological—for the most complete integrated picture of the individual as a whole.

Form There are many organizations of reports of such psychological examinations. The particular form of a report will depend upon local needs and desires. However, a possible outline of a report on diagnosis, usable in most cases, is given below.

1. *Reason for referral.* In many cases the child will have been referred as a behavior problem, a reading problem, or some other problem, rather than accepted in advance as a case of probable retardation. On the other hand, some students are referred as problems of retardation and are later found not to have been so.

2. *Child's behavior during examination.* Cooperation, attitude toward a situation, level of comprehension, productivity, emotional status, special handicaps, and appreciation of his own problem are noted. Leave out spurious, colorful, and nonessential description.

3. *Test findings.* These should be discussed first in terms of each test and its meaning for the individual. Each area should then be discussed as to intelligence, personality, and so forth which should be summarized in terms of all evidence in these major areas. Statistical terms and quantities should be given where advantageous to users but should not be allowed to make up the major part of the findings for those individuals who are not confident of this type of data.

4. *Other findings.* These include informal tests and observations used by the examiner as well as the information accumulated from all other sources such as medical, social, and others. Findings from auxiliary agents referred to during examinations are given here.

5. *Coordinated estimate.* Disregarding individual tests and sources of information, this part should describe from the total diagnosis the whole child as a personality together with his problems and needs. This is the primary place where the child, and not the tests or procedures, is important. It is here where the major areas of difficulties, strengths, and weaknesses are described and discussed with their meanings for the child.

6. *Recommendations.* Again this is the most important part of any report as it tells the user where the child is, what is necessary to help the child to the maximum, and just where the user fits into the total situation of getting the best results for the child.

11 *The Case Conference*

RAY GRAHAM

ONE OF THE MOST IMPORTANT FEATURES of the psychological examination in the Illinois Program for the Mentally Handicapped is the case conference. This is an attempt to get all of the people who know a child to see that child from each other's point of view so that all aspects of the educable mentally handicapped individual's personality will be understood by those who have to work with him. At the same time, this conference provides the psychologist with case history material which is often very important in the making of a final diagnosis. This is also an important procedure from the standpoint of making recommendations to the school. As a result of the conference, both the school and the psychologist are assured that no impractical recommendations are made. Quite often the public schools have become dissatisfied with psychological service in general because of impractical recommendations.

The case conference serves still another purpose than just that

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of understanding the child and planning a program for him. It provides the school personnel with a type of in-service training which is very important to special education in general. It is at such conferences as these that some school teachers may learn to recognize that there is much more to a child than they see in their classrooms. Also, many of their stereotyped notions concerning the mental defective or other types of handicapped children are eliminated as a result of the better understanding which they obtain through the case conference. Most of the progressive superintendents in the State of Illinois have come to recognize the significance of the case conference in the handling of the educable mentally handicapped. Consequently, they now expect the psychologist to conduct such a conference following his examination. The case-conference procedure has become so important in the program for the mentally handicapped in Illinois that the State Department of Public Instruction insists that such conferences be held for every child certified for placement in this special class. It is also advisable for the psychologist to hold conferences on the children whom he finds to be ineligible for the special class. In this way the school personnel gets an opportunity to see the differences in the children who are approved from those who are not approved for the special class.

There is no definite time for the scheduling of these conferences. This is a matter to be worked out between the psychologist and the school personnel. Furthermore, the procedure for holding the case conference differs in various school systems. For example, arrangements for conferences might be made one way when the psychologist is not employed full time by the schools and in another way when he is a regular part of a school staff. In those instances in which the psychologist is employed full time by the public schools, the director of special education or someone else who has the equivalent authority arranges the case conference. Sometimes it might be the psychologist who is the most logical person to arrange for the conferences. On the other hand, the psychologist who is employed by the school merely to certify children for the program for the mentally handicapped never arranges the conferences himself. These conferences are usually arranged by the superintendent of schools, his assistant, or the director of special education. Occasionally it is the principal of the building in which the examinations are made who arranges the case conferences. The normal amount of time required for a case conference is approximately thirty min-

utes per child. Of course, there are times when as much as an hour or an hour and a half may be spent in discussing one case.

The people who attend these conferences are:

1. *The superintendent of schools, assistant superintendent of schools, or the director of special education.* It is important for someone with administrative authority to be present because very often a plan is worked out which requires approval by some member of the school administration.

2. *The teacher of the child.* This person usually can give the psychologist and the other people at the conference the most complete information concerning the educational progress of the pupil.

3. *The principal of the building in which the child is attending school.* Often the principal has observed the child in situations that are completely strange to the teacher. Also, the principal frequently has had contacts with the parents of the child, or with other people who are working with him.

4. *The special-class teacher to whom the child is likely to go if found eligible.* Certainly, it is important that this person be present at the conference because the special class teacher is the one who will have to work with the child and will need all the information that she can get in order that she may better understand the psychologist's report and at the same time be better prepared to handle the child the moment that he enters her room. Also, she is in the best position to determine how a given child will fit into her particular group.

5. *The principal of the building in which the special class is located.* As mentioned in a previous section, special education in Illinois is a part of and not apart from the regular school program; therefore, it is important for the principal of the building in which the special class is located to be in on the case conference of a child who is to enter the special class. The principal will be very instrumental in helping to integrate the child's special class program with the normal program in the school building. For example, it is the principal who can give the authority for placing a child from the special class in the art class, or the manual training class, with regular pupils.

6. *The school nurse.* The school nurse is the most important person in the school as far as being the connecting link between school and home is concerned. Very frequently she has visited the homes of the mentally handicapped children in an effort to care

for their physical needs. Thus, she becomes intimately acquainted with the background from which the child comes. Furthermore, the school nurse is usually the one who will see to it that necessary physical examinations are made so that the psychologist can make a more accurate diagnosis. Finally, the school nurse provides such information as the health history of the child and the results of vision and hearing tests.

7. *The visiting teacher,* or *school social worker.* This person is not found on the staffs of many schools in Illinois. However, when a visiting teacher is employed by the schools, she is a very important person to have at the conference because of the work that she can do in the home and the information about the child which she can provide.

A great many schools in Illinois that have programs for the mentally handicapped also have programs for the socially maladjusted. Frequently it is necessary to coordinate these two programs because the mentally handicapped child is also a socially maladjusted child, except in rare instances. Thus, the visiting counselor for the socially maladjusted may make a valuable contribution toward the working out of the psychologist's recommendations. Also, occasionally he is able to provide a great deal of information regarding the child's background.

8. *Other special school personnel.* Sometimes a child who is a candidate for placement in a special class for the mentally handicapped has been worked with by a speech correctionist. The speech correctionist should be present at the conference in order to round out the total picture of the child. In the case of a high school pupil, the dean of boys or the dean of girls may be able to make a valuable contribution and, therefore, should be present. The truant officer is another school staff member who may be able to assist the psychologist and the other school personnel in reaching a complete understanding about a child and his background.

9. *Outside social agencies.* It is not infrequent that a child who is a candidate for the class for the mentally handicapped is known to some local social agencies, such as the Juvenile Court, Aid for Dependent Children, or Family Welfare Association. In such instances, it is important to invite a worker from such an agency to the case conference. Such a worker can usually contribute valuable information about the child and his family, and at the same time the worker might be quite instrumental in carrying out a treatment program for the child, especially where work with the family and

community resources are involved. Furthermore, such a procedure helps to make a closer connection between the school and other social agencies in the community.

It is good policy to permit teachers, principals, and other school personnel who may not necessarily be concerned with the case to be present at the case conference. They can learn a great deal about the general philosophy of the Illinois Plan and the program for the mentally handicapped. Thus, a better understanding of special education throughout the school system may be effected by such a procedure.

The experience of the state psychologists with the case conference in public schools throughout Illinois has demonstrated that it is most important for the psychologist to enter the case conference without having made a definite decision concerning the eligibility of a child. Of course, the exception to this is the child who as a result of the psychological examination is obviously a child of normal intelligence. The psychologist calls upon various people at the conference to make their contribution to the understanding of the child. No particular order for calling upon these people has been established. The psychologist may call upon them to suit the particular case involved. After all who know the child have had an opportunity to make their individual contributions, the psychologist then summarizes and interprets his own findings, makes his diagnosis and his recommendations. These recommendations are discussed by the entire group so that all may have a part in planning for the child. In borderline cases in which it is difficult to decide whether a child should be considered eligible or ineligible for the special class program, the psychologist would be very wise to leave the decision up to the entire group. This helps to give them a feeling that they are definitely a part of this program and that their opinions are respected.

Some psychologists have entered a case conference with their report on the examination already written. This has proved to be very ineffective. Oftentimes the psychologist learns things at the case conference that had completely escaped him in his previous contacts with school personnel and the child. Consequently, it is necessary for him to rewrite his report. It is important to note that this is the rule rather than the exception.

The psychologist should bear in mind at all times that this case conference should be a democratic procedure. At no time should the conferences be completely dominated by the psychologist. If any-

one is to dominate the conference, it should be the school personnel. Last, but not least, the conference should not be scheduled at a time when it is necessary to hurry through the cases. This makes for a very ineffective conference, and the result is that everyone has wasted his time.

12 *Interdisciplinary Teamwork*

GEORGE TARJAN

ONE OF THE CLICHÉS OF OUR TIME pertaining to professional work advocates praise for the team in lieu of the individual. We often hear the cheer, "Rah, Rah, Team." I thought it worthwhile to look at the dictionary definition of "team." The first definition was, "two or more animals harnessed together; also animals with their harness and the vehicle they draw." Obviously this is not the team we are here to discuss in relationship to our work in mental retardation. The next definition of a team was, "a number of persons working or playing together as a unit, especially one side of a competitive game." The final definition, "a litter or brood of young, especially of ducks."

Though in principle all of us will agree that there are certain advantages in teamwork, we hear so many terms bandied about in connection with it that it would seem worthwhile to examine this concept as it relates to our endeavors. We hear that in a team there must be cooperation, coordination, equality, and hierarchy—all at the same time. Occasionally, we even hear that anything which can be done by more than one person ought not to be done by one individual alone; that nothing can be properly done without the use of a team; that everything is better accomplished if five people do the same thing. It takes a little longer, it is true; it is perhaps a little wasteful, but then "more egos are satisfied."

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Even the inner sanctum for the lone wolf or for the person who wants to work by himself has disappeared. This inner sanctum used to be a refuge in the world of research; a place for the seclusive, the introspective, or the lonely individual. In the past, people wrote papers alone. Nowadays a scientific paper, to be looked upon with favor, must have at least four, preferably six or eight, authors and a long list of acknowledgments and appreciations.

For the purpose of this presentation I would like to use the following definition of team: "A group of workers organized to act in a coordinated fashion toward the achievement of a specific goal." The first essential requirement is the existence of a specific, well-defined goal which is known to all members of the team. Only in this way can they work toward a common aim. They all should know what it is that they are expected to produce, whether it be a diagnosis, a program of treatment, an educational program, or a specific discovery.

A good team should also have a clear-cut leading philosophy which is compatible with its goal. It is essential that members recognize and accept this leading philosophy, particularly if the team is to operate on a routine, day-to-day basis. In a medical agency it seems desirable that the basic philosophy be that of medicine, in a school setting it should be that of education, and so on. Members of the team may well maintain the philosophies of their particular professions, and still have an understanding of, and belief in, the leading philosophy of the team as a whole.

It is necessary that a common language exist as a method of communication between team members. Though this seems to be a minor point, quite often it takes a substantial length of time before interdisciplinary teams, with individuals of varied backgrounds, begin to call the same things by identical names. The closer the individual philosophies of the team members, the less obtrusive the language barrier, though even among psychiatrists of different schools of thought communication difficulties may become a serious problem.

Each team must have an organizational structure which delineates roles, and defines as clearly as possible the independence of, and relationship of, team members. A goal-directed team can hardly exist without hierarchy. As in every organization with a defined hierarchy, it is desirable that the practical lines of communication coincide as much as possible with those which were originally set down on a theoretical basis.

Since a team will arrive at its goal through the various contributions of its members, it is important that the specific skills of the members not be lost. It is, therefore, important that each member conceptualize himself for what he is, for what he knows, and for what he has to contribute. Even if team members have a very broad knowledge, values would be lost if pediatricians on a team were to think of themselves as psychiatrists; social workers as psychologists, and so on. When roles become indistinct, the team may encounter absurdities in its operation. Undemocratic as it may seem, it is illogical to expect equal "voting rights" or contributions from all members, as, for example, on a strictly medical or educational question.

Accomplishments are the reason for a team's existence. It exists primarily to produce, not to satisfy the needs of its members. Still, it is a group subject to the intricacies of the personalities of each member, and to the forces of group interaction. All that applies to individual personality adjustment and is applicable to a group has its influence upon the team. As a group it has its unifying, cohesive forces and its negative, destructive forces.

Members of a good team must have a concern for each other's problems and for mutual problems. A positive step forward occurs in the function of the team when each of its members begins to measure his own success in terms of the group; when he begins to view the team's problems as his own. Positive forces increase as members begin to respect each other, first as individuals and later for the contributions which their respective professions can make.

Each team, as any group, develops its own leader. The team will be most successful when its assigned leader and its actual leader is one and the same person, when he represents the primary philosophy of the team, and when he and his philosophy are liked and respected by the members.

Were I asked to list in rank order the essentials necessary for a good team I would enumerate them as follows:

1. Mutual respect by the team members for each other as persons
2. Mutual respect for one another's profession
3. The presence of good leadership
4. A clear and accepted common primary philosophy
5. A clearly defined goal compatible with the team philosophy
6. Defined roles of the members, with identifiable contributions of their particular professions

7. Clear organizational structure in which the channels of theory and practice are not far apart
8. A system and a language of communication which is known and understood by all.

It is likely that even the best team will have its problems. Most of these come from difficulties within the individuals constituting the team; others, from the interaction of the individual. The smooth performance of any group can be seriously interrupted by an emotionally disturbed member whose constant concern is not with the success of the organization but what he considers to be his "constitutional rights." Always feeling hurt or insulted, always griping (at times with logic), he hampers progress and emphasizes extraneous issues. The person who conceives himself to be something other than what he is constitutes another problem. He may have wanted to become a teacher, though he is a physician. Now he feels that he knows more about education than the educators; he contributes little as a physician and hampers the work of the teacher by imagining himself an expert in that field.

Usually good teams survive these disturbances and they sequester hampering members. In a large organization where many teams operate, there is constant danger that all the good people will tend to gather on the good teams and all the others to join the rather ineffectual teams.

The most appropriate sphere of operation for a team is where a problem must be solved which, because of its complexity, requires the contributions of various professional disciplines. Mental retardation, in my opinion, is such a complex problem. We should, however, not forget that certain aspects of mental retardation can be better solved by individuals with specific professional competencies than by a team. For example, it is hard to conceive how, in the daily classroom setting, a teacher could be replaced by a team. Though other professionals have much to contribute to the totality of an educational program for the mentally retarded, a classroom environment may not be improved by the introduction of other disciplines into its routine operation.

As teamwork assumes an increasing role, we must be on the lookout not to let it become a substitute for the line of responsibility in the management of a large operational unit like a major hospital or a total school system. There is a tendency toward such development and I have often spoken of the so-called "newer con-

cepts of management" which unfortunately often replace methods of administration, which operate through leadership and know-how. Time does not permit going into detail, but some of the pseudo-teams one can identify in certain management hierarchies merely further management by committees, by walking delegates, by edicts, by analysis or by catalysis.

Let me return now to the role of the interdisciplinary team in the field of mental retardation. This team can make valuable contributions in the field of diagnosis, but it is important for it to know what purpose the diagnosis is to serve. Is it one of medical importance, or is it to be for educational classification, or for vocational placement? Under each of these conditions a different team with a different structure would serve best. The planning of a life-program for any retarded person can best be accomplished through the interdisciplinary team approach. The same is true in the field of treatment, including such areas as educational planning, community programing, prevention, and research.

Though I may at times have sounded critical, I have seen in my daily work significant contributions made by several teams and I would not forego this method of operation. I would plead, however, that we never view the team as an aggregation of people who are alike, but rather as a structure through which each individual can best make his unique contribution.

13 *Systems of Classification*

RICK HEBER

Medical Classification

THE SYSTEM OF CLASSIFICATION presented here represents an attempt to develop a scheme which is consistent with the concepts of modern medicine. For medical purposes, mental retarda-

From *A Manual on Terminology and Classification in Mental Retardation*, monograph supplement to the *American Journal of Mental Deficiency*, 64:2 (September 1959). Reprinted with the permission of the American Association on Mental Deficiency and the author. Dr. Heber is director of special education, University of Wisconsin.

tion is regarded as a manifestation of some underlying disease process or medical condition. This in no way negates the importance of mental retardation as a social concept since it is recognized that constructs and classifications are arbitrary language systems which vary according to their intended purpose.

Since mental retardation presents problems which are of concern to many areas of medical specialization no attempt was made to develop a classification which would be consistent with the specific nomenclature of any *one* specialty. An effort was made to develop a scheme which would be acceptable to personnel in all areas of specialization concerned with mental retardation, as well as to those persons whose professional activities are directed primarily or exclusively to the problems of mental retardation. In order to achieve as much consistency as possible with the American Medical Association's *Standard Nomenclature of Diseases and Operations*,[1] the present classification, in general, utilizes the major etiologic divisions as set forth in that manual. The etiologic groupings used in the classification presented in this manual are as follows:

Diseases due to infection
Diseases due to intoxication
Diseases due to trauma or physical agent
Diseases due to disorder of metabolism, growth, or nutrition
New growths
Diseases due to (unknown) prenatal influence
Diseases due to unknown or uncertain cause with the structural reaction (degenerative, infiltrative, inflammatory, proliferative, sclerotic, or reparative) manifest
Diseases due to uncertain (or presumed psychologic) cause with the functional reaction alone manifest.

Outline of the Medical Classification

Because of the considerable variation in diagnostic services available in institutions, clinics, and other facilities for the mentally retarded, both a simplified and an expanded version of the classification are presented. Basically, the expanded classification is identical with the simplified scheme but makes use of additional

[1] *Standard Nomenclature of Diseases and Operations*, 4th ed., edited by R. J. Plunkett and A. C. Hayden, American Medical Association (New York: McGraw-Hill, 1952).

digits which provide further specificity in classifying cases. A decision as to which form of the classification is to be used will depend upon the particular needs and interests of a facility and the availability of specialized diagnostic services.

Since a considerable percentage of cases will be classified under unknown etiological categories, supplementary information is of great importance. In addition to the etiological classification, therefore, a supplementary term listing is provided for each of the following: genetic components, impairments of special senses, secondary cranial anomalies, convulsive disorders, psychiatric impairments, and motor dysfunctions. Individuals are to be given an appropriate classification in each of these supplementary term categories.

Simplified Medical Classification

I. Mental Retardation Associated with Diseases and Conditions Due to Infection

- Encephalopathy, congenital, associated with prenatal infection
- Encephalopathy due to postnatal cerebral infection

II. Mental Retardation Associated with Diseases and Conditions Due to Intoxication

- Encephalopathy, congenital, associated with toxemia of pregnancy
- Encephalopathy, congenital, associated with other maternal intoxications
- Bilirubin encephalopathy (Kernicterus)
- Post-immunization encephalopathy
- Encephalopathy, other, due to intoxication

III. Mental Retardation Associated with Diseases and Conditions Due to Trauma or Physical Agent

- Encephalopathy due to prenatal injury
- Encephalopathy due to mechanical injury at birth
- Encephalopathy due to asphyxia at birth
- Encephalopathy due to postnatal injury

IV. Mental Retardation Associated with Diseases and Conditions Due to Disorder of Metabolism, Growth, or Nutrition

- Cerebral lipoidosis, infantile (Tay-Sach's disease)
- Encephalopathy associated with other disorders of lipoid metabolism
- Phenylketonuria
- Encephalopathy associated with other disorders of protein metabolism
- Galactosemia
- Encephalopathy associated with other disorders of carbohydrate metabolism

Arachnodactyly
Hypothyroidism
Gargoylism (Lipochondrodystrophy)
Encephalopathy, other, due to metabolic, growth, or nutritional disorder

V. Mental Retardation Associated with Diseases and Conditions Due to New Growths

Neurofibromatosis (Von Recklinghausen's disease)
Trigeminal cerebral angiomatosis (Sturge-Weber's-Dimitri's disease)
Tuberous sclerosis
Intracranial neoplasm, other

VI. Mental Retardation Associated with Diseases and Conditions Due to (Unknown) Prenatal Influence

Cerebral defect, congenital
Encephalopathy associated with primary cranial anomaly
Laurence-Moon-Biedl syndrome
Mongolism
Other, due to unknown prenatal influence

VII Mental Retardation Associated with Diseases and Conditions Due to Unknown or Uncertain Cause with the Structural Reactions Manifest

Encephalopathy associated with diffuse sclerosis of brain
Encephalopathy associated with cerebellar degeneration
Encephalopathy, other, due to unknown or uncertain cause with the structural reactions manifest

VIII Mental Retardation Due to Uncertain (or Presumed Psychologic) Cause with the Functional Reaction Alone Manifest

Cultural-familial mental retardation
Psychogenic mental retardation associated with environmental deprivation (specify nature of deprivation)
Psychogenic mental retardation associated with emotional disturbance (specify)
Mental retardation associated with psychotic (or major personality) disorder (specify as, *e.g.*, autism)
Mental retardation, other, due to uncertain cause with the functional reaction alone manifest

Simplified Supplementary Term Listing

(Appropriate supplementary terms should be added to the basic classification. In no case should a supplementary term be used in lieu of a primary diagnosis.)

With genetic component
With secondary cranial anomaly
With impairment of special senses
With convulsive disorder

With psychiatric impairment
With motor dysfunction

Measured Intelligence

The *Measured Intelligence* dimension is intended for the classification of the *current* intellectual functioning of the individual as indicated by performance on objective tests designed for that purpose. It is not intended to reflect any inference of potential or absolute level of intelligence. The classification of Measured Intelligence is based on the assumption that the abilities measured by intelligence tests are distributed in the general population according to the normal probability curve. The Measured Intelligence dimension is scaled into five levels in terms of Standard Deviation units which describe the distribution of scores in the general population [2] which could be expected for a particular test if the abilities measured by that test are normally distributed. The range of each of these levels in Standard Deviation units is given in Table 1.

The psychologist must assume the responsibility for selecting those tests which, in his opinion, will result in the most reliable and valid assessment of the general intellectual functioning of the individual. In cases where results from a single test do not adequately represent objectively assessed intellectual functioning, data from several tests may be utilized for purposes of classification. The performance of the individual obtained in Standard Deviation units for each test or part-test administered may be considered in classifying level of Measured Intelligence. In such instances the psychologist must use his best judgment in assigning weights to performances on each of the tests administered.

The cautions which must be observed in the use of widely distributed group tests in the assessment of Measured Intelligence deserves special mention. While such tests have been standardized on adequate samplings of special populations, their norms may be subject to serious sampling biases, particularly when used with the mentally retarded. Unless acceptable reliability and validity data

[2] For most current intelligence tests, in the process of standardization, an attempt has been made to utilize a sample which would be representative of the general population of the United States for the age groups involved. Though it is doubtful if this goal has been completely achieved for any test, for practical purposes it is usually profitable to treat the standardization data as though they were representative of the general population.

with respect to the mentally retarded have been reported for the test, it should not be considered an adequate tool for the classification of mental retardation.

Results from individually administered tests are frequently affected by examiner-testee rapport and by such intangible factors as the subject's ability to cooperate and the examiner's skills in facilitating cooperation. Factors which may affect scores on group tests are even more numerous and more obscure than are those on individual tests. It is recommended, therefore, that group test results suggestive of retardation be used only as screening devices and that they be checked by individual testing before far-reaching conclusions and dispositions concerning pupils are made.

TABLE 1

Standard Deviation Ranges Corresponding to Measured Intelligence Levels

Measured Intelligence •	*Range in Standard Deviation Units*
No retardation in Measured Intelligence	Equal to or greater than −1.00
Level V	−1.01 to −2.00
Level IV	−2.01 to −3.00
Level III	−3.01 to −4.00
Level II	−4.01 to −5.00
Level I	< −5.01

• Where use of descriptive terminology is advisable for purposes of interpretation to legal authorities, parents, etc., the following terms are suggested. Level V—Borderline retardation of Measured Intelligence; Level IV—Mild retardation of Measured Intelligence, Level III—Moderate retardation of Measured Intelligence; Level II—Severe retardation of Measured Intelligence; Level I—Profound retardation of Measured Intelligence.

Behavioral Classification

The psychological or behavioral classification of mental retardation traditionally has been comprised of three or four broad groupings defined in terms of intelligence test (IQ) scores. The heterogeneity of the behavioral characteristics of mentally retarded persons cannot, of course, be reflected in a unidimensional classification. Unfortunately, the development of a complex, multidimensional schema of classification is prohibited, at present, by a lack of

knowledge of the parameters of behavior important for predictive purposes, and by the lack of assessment techniques with adequate degrees of reliability and validity. Nevertheless, it is desirable that any revision of the present system of classification move in the direction of a more refined scheme which, at least to some degree, recognizes the true complexities and avoids gross oversimplifications of the concept of mental retardation. The purpose of the proposed classification is twofold. First, it is hoped that the classification presented will stimulate research related to the delineation of the important dimensions of behavior for classification and increase interest in the development of techniques for their reliable and valid assessment. Second, the classification should serve to delineate the major areas of behavioral evaluation of persons suspected of mental retardation and, through appropriate use of stringent criteria, should reduce error in the diagnosis and classification of mental retardation.

In accord with the concept of mental retardation as being characterized by subaverage intellectual functioning associated with deficiencies in adaptive behavior, the primary classification makes use of two dimensions: *Measured Intelligence* and *Adaptive Behavior.*

This two-dimensional classification is not intended to suggest that Adaptive Behavior and Measured Intelligence are completely independent dimensions. Intelligence test performances are, of course, quite adequate predictors of some aspects of behavior (*e.g.*, potential for academic achievement, verbalization, abstraction ability, etc.) which contribute to, and *in part* comprise, total or general adaptive behavior. Though intelligence test scores and level of adaptive behavior are related, there will be, nevertheless, a sufficient number of discrepancies in level of performance on the two dimensions to justify the dual classification. These discrepancies will be particularly common in adolescents and adults with mild degrees of retardation in Measured Intelligence. Such discrepancies whenever they do occur are of significance in educational, social, and vocational planning and prognosis.

Since the definition of mental retardation requires that the subaverage intellectual functioning be of such a nature and degree as to be manifest by impairment in one or more aspects (maturation, learning, social adjustment) of general adaptation to the environment, an individual must demonstrate deficiencies in both Adaptive Behavior and Measured Intelligence in order to meet the

criteria of mental retardation. Measured Intelligence cannot be used as the sole criterion of mental retardation since intelligence test performances do not always correspond to level of deficiency in total adaptation. Adaptive Behavior cannot be used as the sole criterion of mental retardation since deficiencies in adaptation are frequently a function of personal-social or sensory-motor factors independent of inadequacies in intellectual functioning per se.

In addition to the primary classification (Measured Intelligence and Adaptive Behavior) encompassing the integral behavioral aspects of mental retardation, a supplementary classification is provided for the classification of the frequent, but by no means essential, concomitants of mental retardation in the personal-social and sensory-motor-skills areas. The presence of personal-social and/or sensory-motor concomitants, which do not necessarily have any intrinsic or invariable association with mental retardation, may be related in some instances to the etiology of the retardation or to the *level* of deficiency in Adaptive Behavior and Measured Intelligence.

This classification is in no way intended to substitute for a total clinical evaluation. It does have implications for the necessary breadth and completeness of evaluation in instances where mental retardation is or may be involved. It provides a consistent and communicable system of classifying data that will be of value for administrative and treatment purposes. The classification can be used as a helpful guideline in setting an educational or other habilitative program for an individual though it is recognized that this must always be supplemented by consideration of all pertinent data. Consistent usage of this classification in records, and where feasible, in research and publication will facilitate better professional communication and permit the collection of potentially valuable but presently unobtainable statistical data. The definitions of categories and the procedures for classifying into levels on Adaptive Behavior, Measured Intelligence, and each of the supplementary categories are outlined in the sections that follow.

Adaptive Behavior

The dimension of *Adaptive Behavior* refers primarily to the effectiveness with which the individual copes with the natural and social demands of his environment. It has two major facets: (1) the

degree to which the individual is able to function and maintain himself independently, and (2) the degree to which he meets satisfactorily the culturally imposed demands of personal and social responsibility.

Adaptive Behavior is a composite of many aspects of behavior and a function of a wide range of specific abilities and disabilities. Behaviors which have been subsumed under the designation intellectual, affective, motivational, social, motor, etc., all contribute to and are a part of total adaptation to the environment. Since the behaviors sampled by current general intelligence tests contribute to total adaptation, level of function on the Measured Intelligence dimension will correlate with level of Adaptive Behavior. There will be, however, frequent individual discrepancies in levels of performance on two dimensions.

There will also be discrepancies in the levels of efficiency of the many separate aspects of behavior contributing to total adaptation. Though useful data would be obtainable from the separate classification of the various aspects of Adaptive Behavior, the lack of suitable measurement techniques prohibits the development of a complex multifaceted classification at this time.

Precise, objective measures of Adaptive Behavior, though extremely desirable, are for the most part presently unavailable. This is due to the fact that few efforts have been directed at developing measures of total adaptation as well as to the imprecision of the norms and standards to which Adaptive Behavior refers. These norms vary at successive ages from birth to adult life and are determined in part by developmental norms which reflect the decreasing dependence of the child and, in part, by the culturally and socially imposed standards of acceptable behavior. Since these standards vary with age, Adaptive Behavior is always evaluated in terms of the degree to which the individual meets the standards of personal independence and social responsibility expected of *his* chronological age group.

The Adaptive Behavior dimension is categorized in terms of four levels. These levels are scaled from mild (but apparent and significant) negative deviation from population norms in Adaptive Behavior at Level IV to complete lack of adaptation at the extreme lower limit of Level I. If an adequate standardized instrument were available for the measurement of Adaptive Behavior, the upper limit of Level IV could presumably be set, as with the Measured

Intelligence dimension, at greater than minus one Standard Deviation from the population mean.

The Vineland Social Maturity Scale is perhaps the best single measure of Adaptive Behavior currently available. The limits of the four levels of Adaptive Behavior as reflected in Standard Deviation units on the Vineland Social Maturity Scale can be set as indicated in Table 2.

TABLE 2

Standard Deviation Ranges Corresponding to Level of Adaptive Behavior

Adaptive Behavior	*Range in Standard Deviation Units*
No retardation of Adaptive Behavior	Equal to or greater than −1.00
Level IV (mild but apparent and significant negative deviation from norms and standards of Adaptive Behavior)	−1.01 to −2.25
Level III (moderate but definite negative deviation from norms and standards of Adaptive Behavior)	−2.26 to −3.50
Level II (severe negative deviation from norms and standards of Adaptive Behavior)	−3.51 to −4.75
Level I (profound negative deviation from norms and standards of Adaptive Behavior)	<−4.75

The same Standard Deviation ranges for levels can be utilized for other tests which may reflect aspects of behavior contributing to total adaptation. Though the Vineland Social Maturity Scale is considered to be a major tool in determining level of Adaptive Behavior, it should not be used as the sole determinant for all age levels. Particularly at the adolescent and adult ages, Vineland data must be supplemented by other pertinent test data, by clinical observation, and by utilization of all available sources of information regarding the person's everyday behavior. The diagnostician must weight all relevant test and nontest data in accord with its relation to total adaptation in arriving at the individual's level of Adaptive Behavior.

As noted above, the behaviors used to evaluate Adaptive Behavior will be different for various age levels. In the infant, matura-

tional processes such as those reflected in the emergence of certain sensory-motor skills are important. During the school ages academic performance is of importance while, for the adult, vocational and social effectiveness are paramount and primary indications of level of Adaptive Behavior. At all age levels the subjective judgments of the clinician must be supplemented and substantiated, whenever possible, through use of modifications of existing tests and through use of specific items extracted from various tests.

For example, at the preschool level, the Vineland Social Maturity Scale is fairly adequate as a measure of Adaptive Behavior. It may be supplemented by specific, selected items from the Gesell Developmental Schedules, the Cattell Infant Intelligence Scale, and the Kuhlmann Tests of Mental Development. Because of the importance of maturational processes in infancy, careful cognizance of developmental norms must be taken in the assessment of Adaptive Behavior at that age level.

At the school-age level there is a fairly standard set of expectancies for academic achievement which, in part, comprise and reflect adaptive behavior during this period. There are a number of standardized tests of academic achievement which may be used to assess this aspect of Adaptive Behavior. At the adult level there are fewer objective assessments available and the diagnostician must rely almost totally upon subjective judgments of vocational and social effectiveness, and clinical evaluations of strife and discord in family and community.

Table 3 has been offered by Sloan and Birch [3] to illustrate levels of Adaptive Behavior for three broad age groups.

Supplementary Classification

An individual's total behavior adaptation to the environment is influenced by intellectual, personal-social, and sensory-motor factors. As noted, it is inadequate intellectual functioning associated with impaired Adaptive Behavior which forms the essential basis of mental retardation. However, impairments in personal-social and sensory-motor skills frequently are concomitants of mental retardation. When specific deficiencies with respect to these aspects of behavior are present, they are important considerations in planning for education and habilitation and in prognosis. Con-

[3] *American Journal of Mental Deficiency*, 60:126 (October 1955), 262.

TABLE 3

Adaptive Behavioral Schedule

	Preschool Age (0–5) *Maturation and Development*	*School Age* (6–21) *Training and Education*	*Adult* (21) *Social and Vocational Adequacy*
Level I	Gross retardation; minimal capacity for functioning in sensory-motor areas; needs nursing care.	Some motor development present; cannot profit from training in self-help; needs total care.	Some motor and speech development; totally incapable of self-maintenance; needs complete care and supervision.
Level II	Poor motor development; speech is minimal; generally unable to profit from training in self-help, little or no communication skills.	Can talk or learn to communicate; can be trained in elemental health habits; cannot learn functional academic skills; profits from systematic habit training ("trainable").	Can contribute partially to self-support under complete supervision, can develop self-protection skills to a minimal useful level in controlled environment.
Level III	Can talk or learn to communicate; poor social awareness; fair motor development, may profit from self-help; can be managed with moderate supervision.	Can learn functional academic skills to approximately 4th-grade level by late teens if given special education ("educable").	Capable of self-maintenance in unskilled or semiskilled occupations, needs supervision and guidance when under mild social or economic stress.
Level IV	Can develop social and communication skills, minimal retardation in sensory-motor areas, rarely distinguished from normal until later age.	Can learn academic skills to approximately 6th-grade level by late teens. Cannot learn general high school subjects. Needs special education particularly at secondary school-age levels ("educable").	Capable of social and vocational adequacy with proper education and training. Frequently needs supervision and guidance under serious social or economic stress.

sequently, provision has been made for the supplementary classification of impairments in the personal-social and sensory-motor skills areas.

In the personal-social area, provision is made for the classification of level of impairment in *interpersonal relations,* level of impairment in *cultural conformity,* and level of impairment in *responsiveness.* In the sensory-motor area, provision is made for the classification of deficiencies in *motor skills, visual skills, auditory skills,* and *speech skills.* For each of the supplementary categories, an individual's behavior is to be classified as being in accord with the general expectations for his particular age level, or where it is not in accord with age expectations, it is to be categorized in one of three levels according to the degree of deficiency demonstrated.

Though it is highly desirable that precise criteria of impairment be established for each supplementary term category, suitable measurement techniques, for the most part, have not yet been developed. Therefore, the determination of impairment in personal-social and sensory-motor skills areas will be based, to a great extent, on subjective clinical evaluation of the degree to which the person's behaviors conform to the standards and norms for the individual's chronological age group. This clinical evaluation should be supplemented by whatever objective measurements are available.

Supplementary term categories are defined as follows:

Personal-social Factors

Impairment in interpersonal relations. This category is intended to reflect deficiencies in interpersonal skills. The individual with an impairment in interpersonal relations does not relate adequately to peers and/or authority figures and may demonstrate an inability to recognize the needs of other persons in interpersonal interactions.

Impairment in cultural conformity. Deficiencies in this category reflect one or more of the following: behavior which does not conform to social mores, behavior which does not meet standards of dependability, reliability, and trustworthiness; behavior which is persistently asocial, antisocial, and/or excessively hostile.

Impairment in responsiveness. Impaired or deficient responsiveness is characterized by an inability to delay gratification of needs and a lack of long-range goal striving or persistence with response only to short-term goals. Those individuals who respond

Systems of Classification of Mental Retardation

Name	System
Ireland	Congenital Acquired
Tredgold	Primary amentia (hereditary) Secondary amentia (environmental)
Doll	Grade (idiot–imbecile–moron) Form (hereditary–acquired) Type (clinical typology)
Kanner	Absolute feeble-mindedness (idiot–imbecile) Relative feeble-mindedness (moron) Apparent feeble-mindedness (pseudo-feeble-mindedness)
Binet	Idiot Imbecile Moron
Strauss	Endogenous (genetic disfunction) Exogenous (minor neurological symptoms)
Lewis	Subcultural (hereditary–environmental) Pathological (organic lesion or abnormality)
Kugelmass	Developmental (skull, facial, or body deviation) Metabolic (endocrine disorders) Neuromotor (convulsive disorders) Psychological (behavioral, sensory, and psychic defects)
Ackerman and Menninger	Functional (minor physical stigma) Structural (extreme physical stigma)

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only to biophysical stimuli of comfort or discomfort would be classified as one extreme of the dimension of behavioral responsivity. Individuals classified as the other extreme would be characterized by responsiveness to abstract or very symbolic rewards.

Sensory-motor Factors

Impairment in motor skills. This category is intended to reflect disabilities either in gross or fine motor coordination.

Impairment in auditory skills. This category is intended to reflect disabilities in responding meaningfully to auditory stimulation.

Impairment in visual skills. This category is intended to reflect disabilities in responding meaningfully to visual stimulation.

Impairment in speech skills. Deficiencies in this category reflect defects in vocalization such as a lisp, stuttering, stammering,

3

IMPLICATIONS OF MENTAL RETARDATION

THERE IS NO GREATER challenge in the realm of human engineering than learning to deal effectively with the mentally retarded. Unfortunately, high-speed calculators and digital computors have not yet been constructed or programmed to grind out answers to this problem. It is still a job for human beings in an enlightened society to solve. The preceding section on assessment, classification, and diagnosis of the mentally retarded points the way toward treatment, education, and training.

These inferences, then, call for an action program which can only be realized through a dynamic and bold plan to meet the needs of retarded individuals and their families. The key words, "cooperation," "coordination," and "communication," take on a new meaning within the framework of social, economic, community, medical, educational, and vocational areas. Throughout this volume, problems relating to mental retardation are presented in frank manner, and the various authorities in the field provide many approaches and solutions for dealing with retardation. While perfection can never be hoped for, as each piece of the puzzle is placed in its proper spot, the ever-present problems of mental retardation become easier to solve.

The readings in this section shed light on a variety of implications that mental retardation holds for the community at large. How great is the economic burden of mental retardation? What consequences does it have for the family and society? While serving as executive director of the National Association for Retarded Children, Salvatore G. DiMichael presented a proposal for legislative action

to a subcommittee of the U. S. House of Representatives. The first reading is an excerpt from his report, concerning the social and economic effects of mental retardation.

Law books tell us very little about the legal rights of the mentally retarded. Definitions and judicial opinions vary from state to state and even within the same state. Who is responsible for protecting the retarded child from neglect, for providing schooling and educational services, for setting up guardianships, and for seeing that the due processes of law are justly carried out in all cases brought before the courts? The World Health Organization of the United Nations has recognized this as an international problem. In a report prepared by a Joint Expert Committee, from which the second reading is taken, WHO deals with this question.

The role of the community in providing services for mental retardates is discussed in the third selection by Gunnar Dybwad.

Parents and teachers of the mentally retarded are guided by an assumed set of characteristics attributed to retardates. Recent research, however, has pointed up the inadequacies of many of these assumptions. The selection by Burton Blatt re-examines the characteristics of the mentally retarded in the light of findings culled from recent investigations.

But treatment is not enough; an effective program of prevention is imperative. Neither sterilization nor isolation have proved to be very effective. In the final article, Dr. George Tarjan, a leader in medical and psychiatric care for the retarded, discusses the problem of prevention on three levels and emphasizes that prevention is the concern of all professional people who work with mental retardates.

14 *Social and Economic Effects of Mental Retardation*

SALVATORE G. DIMICHAEL

IN OUR DEMOCRATIC REPUBLIC all of society shares in the obligation to provide a climate in which the individual can realize the full development of his capacities. While it can be demonstrated that the costs are greater than those for its normal counterpart, financial considerations should not be valid grounds for denying such care and training to a large segment of our nation's children.

Such considerations eventually prove fallacious, since a society which denies to any of its members the basic means of development through care and training will have to suffer the destructive social effects of wasted human resources and bear the infinitely greater costs of maintaining stunted and unproductive lives. However, some available statistics on society's current economic share in the mentally retarded are indices which give us some inkling of the extent of its effects:

1. There were 153,000 persons in public institutions for the mentally retarded and epileptic in 1953, according to statistics compiled by the U. S. Public Health Service. The average per capita cost per person was somewhat under $1000 a year, or $2.68 per person a day.[1]
2. A 1950–1951 survey by the U. S. Public Health Service found that $127,786,175 was the total operating cost of 91 public in-

From *Proposals on a Federal Program of Action in 1956–1957 for America's Mentally Retarded Children and Adults,* mimeographed (New York: National Association for Retarded Children, 1956), pp. 1–4. Reprinted with the permission of the author. Dr. DiMichael is the New York City regional representative of the U. S. Office of Vocational Rehabilitation.

[1] "Patients in Public Institutions for Mental Defectives and Epileptics," *Mental Health Statistics Current Reports* (1953).

stitutions for the mentally retarded. The amount does not include the costs of private institutional care.[2]

3. On the basis of the latter facts, we would estimate conservatively that $150,000,000 a year is spent for the retarded in public and private institutions.
4. The yearly per capita costs for institutional care and treatment do not cover the initial expenses of building an institution. For example, a new residential center being planned in Madison, Wisconsin, is expected to cost $7,300,000. It will have accommodations for about 700 patients. In other words, the average cost per person for building costs will be $10,000.[3]
5. The length of stay in the institutions is longer than for any other category of handicapped persons. Dr. Louis Dublin, statistician and vice president of the Metropolitan Life Insurance Company, states that, "Defectives, on the whole, spend more time in institutions than the seriously ill, although a smaller proportion of them are being cared for in institutions. . . . The average length of stay of defectives who died in New York State hospitals in 1947 was about ten years." [4]

   While the cost to society for maintaining a retarded child or adult in the community is considerably less than providing institutional care, the social and economic consequence of inadequate programs of training, treatment, and care for the retarded make their influence felt and result in still higher costs.
6. Mental retardation was the leading impairment in the group under 35 years of age among recipients of Aid to the Permanently and Totally Disabled. The medium amount of monthly assistance to the group in the study was $43.68. This fact was disclosed in a published study of the U. S. Bureau of Public Assistance.[5]
7. Mental deficiency (chiefly inability to meet minimum intelligence or educational standards) was one of the leading

[2] "Patients in Mental Institutions, 1950 and 1951," *Public Health Services Publication* (Washington, D. C.: Government Printing Office, 1954).

[3] Henry T. Harvey, "Mentally Retarded Up to Wise Public," Milwaukee *Sentinel*, November 13, 1955. [By 1960 the costs cited here had doubled and the average building costs per person had risen to $15,000.—ED. NOTE.]

[4] Louis I. Dublin, *The Facts of Life from Birth to Death* (New York: The Macmillan Company, 1951), p. 4, 326.

[5] Social Security Administration, *Characteristics of Recipients of Aid to the Permanently and Totally Disabled, Mid-1951* (Washington, D. C.: Department of Health, Education, and Welfare, April 1953).

causes of rejection for draftees in World War II. Dr. Dublin also notes that, "In general, the principal causes of rejection were much the same in the two wars." [6]

In its treatment of the subject of social costs of mental retardation, the report of the World Health Organization comments that "these are often concealed when healthy adults are simply removed from productive and useful work and forced by circumstances to spend many years looking after a child who never develops out of dependency on its mother." [7]

The economic inroads on family income cannot be accurately assessed, but they nevertheless are as real and as disrupting as the actual, necessary expenditures which retardation imposes—the cost of treating, rearing, and educating the retarded.

But we cannot afford to literally restrict ourselves to "gross" expenditures and costs. We must extend our analysis to the "net" gains of a positive program for the retarded, their families, the community, and society at large.

Emerging Public Recognition of Mental Retardation

The magnitude and profound social effects of mental retardation are beginning to make an impression upon public-minded citizens. There is also a small but growing recognition of the fact that "mentally retarded children can be helped." However, this twofold message of social importance and realistic hope is still far from the point of gaining the recognition it deserves.

The opening paragraph of the March 1955 report of the U. S. House of Representatives Committee on Appropriations dealing with the appropriations of the Department of Health, Education and Welfare dramatically keynoted the present state of affairs when it succinctly stated: "A great and growing problem in this country is the problem of the mentally retarded which has gone almost unnoticed by the leaders in education and medical research." [8]

The vastness of the problem has not escaped the attention of some professional leaders. The message of the House of Representa-

[6] Dublin, *op. cit.*, p. 296.

[7] Report of a Joint Expert Committee, *The Mentally Subnormal Child* (Geneva: World Health Organization, April 1954), p. 46.

[8] U. S. House of Representatives, 84th Congress, 1st Session, Departments of Labor and Health, Education and Welfare, and Related Agencies Appropriation Bill, 1956 (March 18, 1955), p. 6.

tives Appropriation Committee referred to above is reflected in a statement made by Dr. Grover F. Powers in May 1953, on the occasion of receiving the John Howland Memorial Medal in recognition of his outstanding leadership and achievements among American pediatricians. Dr. Powers stated:

Assuming two parents and two siblings for the family unit of each retarded child, there are thus between five and ten million persons blighted to a great or small degree by the direct impact on their lives of these unfortunate children. And then one must add to family sorrow, vast contingent sociological, economic, educational and legal disturbances, responsibilities and dislocations. . . . Only the problems of mental illness are commensurate in size with those of mental retardation in respect to total population. It seems to me, therefore, that the major importance to biologic and social science, to medicine, to economics, to public policy of retarded children is all too obvious.[9]

Other Effects of Mental Retardation upon Family and Community

Great as are the current costs of mental retardation to society, they cannot totally reflect the inroads made upon the health and total well-being of the retarded themselves, their families, and the indirect result upon the community. Many parents tell with deep feeling of their initial experiences in taking their retarded child from physician to physician, from clinic to clinic, before a team of trained professional workers cleared up their many doubts and questions and counseled them in a constructive, convincing fashion. Many parents spend considerable sums of money and deplete their financial resources in search of competent diagnosis, counseling, and treatment.

The toll upon mental health of the parents is equally severe in other ways. From the time the parents suspect something is wrong—that their child is not developing at a normal rate—to final acceptance of the condition, many sleepless nights and hundreds of inefficient days at the office or factory ensue. Many parents withdraw from active civic life. To some, unfortunately, the blow is so severe as to permanently disrupt family relations. Such blows to family

[9] Grover F. Powers, "John Howland Award Address," *Pediatrics,* 12 (August 1953), p. 220.

companionship and solidarity sometimes affect the other normal children in the family. The experience of being the parent of a retarded child sometimes is so disturbing that even religious faith has been taxed.

A number of books and articles on the experiences of parents of retarded children have appeared. Among the most widely known is the book of Pearl Buck entitled, *The Child Who Never Grew.* Also well known is *Angel Unaware* by Dale Evans Rogers. Autobiographies have appeared in *Life, Redbook Magazine, Adult Leadership, American Weekly, Saturday Evening Post, Parents Magazine, Coronet, Look,* to mention only a few that have appeared recently. A scientific account may be found in a study by Dr. Israel Zwerling on "Initial Counseling of Parents with Retarded Children." [10] It is clear from these writings that a problem which is heart-rending at best has been needlessly aggravated by the lack of appropriate services for the children and their parents and by the unwitting intolerance of an uninformed public.

The retarded child himself suffers in unfortunate ways from the lack of awareness on the part of the general public and the neglect of his welfare. At times he finds himself so overprotected by his baffled parents that he is prevented from developing his abilities; on the other hand, a few extremely harassed parents may subconsciously reject him and he may become fearful and deeply plagued by inferiority feelings. Oftentimes, the schools deny him the opportunity for training that would carry him through life as a productive citizen. In other instances, the school retains him in an indifferent way by merely tolerating his presence in regular classes where recurrent failure exaggerates his feelings of inability. And so, he may "spend time" in school and leave at the minimum age, inadequately prepared to function within the limits of his disability.

The local neighborhood and community also suffer because of neglecting the needs of the retarded, perhaps without realizing it. Many retarded persons who might have been taught to be contributing, self-supporting workers are now either sitting in institutions at the taxpayers' expense or staying on relief because of the lack of rehabilitation facilities. Others might have been trained to partial self-support and self-care but are never permitted to develop, under expert teachers, the limited but positive assets that might have been trained to take better care of themselves and their daily

[10] *Journal of Pediatrics* (April 1954).

needs except that they are usually diagnosed as helpless so that they now make greater, not fewer, demands on those who take care of them.

It is literally true that mental retardation, neglected as it now is, extracts a great price directly from the family and indirectly, but definitely, from all taxpayers. If all the above-mentioned major facts were known and understood, it is hardly possible that Americans would be willing to allow such conditions to continue.

15 *Legal Considerations of Mental Retardation*

WORLD HEALTH ORGANIZATION

TO ENABLE THE MENTALLY SUBNORMAL to be given the care they need, legislation is necessary. The details of this legislation will differ from country to country; they are not discussed here and are matters on which legal advice should be sought. But some general principles can be stated:

1. The main function of legislation relating to the subnormal is protective. It must protect the child and young person, the family, and the community. Children must be protected against cruelty, ill-treatment, and neglect, and must have provided for them the conditions which enable them to grow and mature and learn. Adolescents and adults must be protected against economic exploitation which may be difficult for them to withstand without help. Families must be helped to bear the additional burdens imposed by a subnormal child without unnecessary strain and expense. The community must be protected against antisocial actions carried out by those who may know no better.

2. Overprotection should be avoided; it can be almost as harmful as lack of special protection. Unless subject to review at fairly regular intervals, protective legislation can easily become self-

From *The Mentally Subnormal Child,* prepared by a Joint Expert Committee (Geneva: World Health Organization, 1954), pp. 39–40.

protective, guarding the rights of those with vested interests in one or other category of handicapped persons rather than the persons themselves. Self-protection of this sort is likely to arise where special legislation is passed to meet the needs of minority groups with little political influence.

3. It follows that legislation covering the needs of the mentally subnormal child should as far as possible be made within the framework of more-general legislation protecting the rights and providing for the needs of all children. For example, if parents do not look after their children, legislation covering parental neglect, school attendance, and so on should suffice; it may make little difference whether the child is normal or subnormal.

4. A necessary part of the machinery for dealing with the mentally subnormal in any comprehensive service is legislation imposing on the authorities an obligation to provide educational and welfare services for *all* children. Whereas at present legal machinery is sometimes used to relieve the education or local health authorities of the responsibility of providing services for the mentally subnormal, it would often be more appropriate if the law could be invoked to ensure that the authorities carried out obligations which, as regards other children, are accepted as statutory in every developed country. As a general principle, legislation which imposes statutory duties on the authorities is likely to lead to further advances in social welfare than is legislation which imposes penalties on individuals and families for failure to carry out responsibilities.

5. Part of the legislation for dealing with the subnormal should deal with what is called "guardianship" in some countries. In this context, a guardian is someone who has the legal responsibility for looking after a mentally subnormal child or adult and who can if necessary be paid for carrying out his duties toward his ward. Among the duties of a guardian are normally those of giving board and lodging to the person under his care, and the supervision of his leisure and his spending.

6. Other legislation should as a matter of course ensure that adequate supervision of institutions of all kinds caring for the subnormal is available.

7. Special legal considerations arise over the certification or commitment procedures in regard to those who are sent to institutions. In some countries there are complicated procedures requiring a judicial order before a child can even be admitted to a hospital for the subnormal. And once a child is admitted, the parents may

lose all control over him. This antiquated procedure is quite unnecessary in the case of children or of those who suffer from fairly severe subnormality. It is also highly offensive to many parents. Legislation permitting voluntary or temporary admission and withdrawal from hospital is required, with safeguards added to protect a child from an unscrupulous or grossly incompetent family.

8. A small number of mentally subnormal adolescents have to be detained in institutions for their own protection or for that of others. To protect the liberty of individual citizens, some legislation is required which makes such detention possible. Before recourse is had to this, however, the possibilities of voluntary admission or admission at the request of other members of the family or legal guardian should be fully explored. Legal compulsion should be resorted to as seldom as possible.

9. As mentioned earlier, a distinction should be drawn between the mentally subnormal and those whose emotional development is stunted or warped, but who have normal intellectual capacities. It is not in the interests of either of these categories that they should be housed together or detained under the same statutes, and separate legislation should be drawn up to meet the problems posed by the antisocial psychopath.

16 *The Role of Community Services*

GUNNAR DYBWAD

A WELL-ROUNDED PROGRAM for the mentally retarded requires a wide network of services and facilities because it must provide for the mildly as well as the severely retarded and for many different age groups over the life span. During the past ten years tremendous progress has been made in communities throughout the country through the establishment of specialized programs for the

From *Survey Papers, White House Conference on Children and Youth, 1960* (Washington, D. C.: 1960), pp. 265–268. Reprinted with the permission of the White House Conference and the author. Dr. Dybwad is executive director of the National Association for Retarded Children.

benefit of the retarded. Yet, considering the numbers of the potential users and considering that we are dealing with a lifetime problem these accomplishments are only a token effort.

Mental retardation clinics can serve as an example: Ten years ago there was no facility available to provide for a comprehensive evaluation of a retarded individual, and for guidance and counsel to his family. Today there are 82 such clinics, most of them initiated with funds provided for this purpose by Congress, 23 are located in hospitals, 17 in local and district health departments, 13 in special community centers for the retarded, 11 in medical schools, 8 in state health departments, 3 in private schools, and 7 in state institutions. The main focus of the work of all the clinics is on diagnostic studies, a secondary focus on parent guidance. The service is directed primarily at the preschool group and in 1958, 75 percent of the 7000 to 8000 cases seen by the clinics were under 9 years of age.

Because federal funds for the clinics come from the U. S. Children's Bureau to state health departments, a particular effort has been made to establish close working relationships with other aspects of public health programs such as well-baby clinics, premature baby programs, maternity and obstetrical care facilities. Through training institutes for professional workers, through clinical demonstrations, and participation in efforts to educate the public the clinics have performed a major educational task.

However, throughout the country last year they were able to serve only 7000 to 8000 children. This points up the unmet need for these services in communities throughout the country. Without the availability of specialized clinical services in the field of mental retardation it is not possible to build a comprehensive, coordinated, effective system of community services for the retarded. While it was wise strategy to begin with pediatrically oriented clinics for the young child, clinical facilities must also be available for the school-age child and the young adult since experience has shown that periodic re-evaluation is essential in view of the dynamic character of mental retardation which makes it impossible to assess with a single diagnosis—however comprehensive—the future of an individual's growth and development.

In this respect community planners will have to face important questions: To what extent will it remain necessary to have separate clinical facilities for the mentally retarded? Should broader gaged clinic facilities be developed for all handicapped children with appropriate specialized services? If so, what would be the respective

roles for pediatrics and psychiatry? Will it be necessary to include in such clinics more representation from the educational profession since clinic recommendations will have to relate themselves in many cases to a considerable extent to educational needs and existing educational facilities?

In planning clinical facilities for early diagnosis of mental retardation, case finding becomes an essential prerequisite. In terms of direct services this points to the contribution public health nurses and child welfare workers can make along with the physician and hospital personnel in those cases where indications of serious damage are noticeable. Another aspect of case finding might be the maintenance by official agencies of special registries such as those maintained by public health departments for crippled children. However, in most parts of the country public health nurses and child welfare workers have access only to a limited number of homes, nor do most families have the services of a pediatric specialist.

Another aspect of early diagnosis pertains to multiple handicapped children. In the past there has been a tendency to overlook the possibility of corrective physical therapy with the more retarded child and there are indeed still states which as a matter of law or regulation categorically exclude mentally retarded children from the crippled children's program. Once we begin to deny helping services to those who are deficient, who is to say which degree of deficiency shall justify such denials? Also, children with multiple handicaps are often left out as they do not fit properly into existing compartmentalized programs.

An immediate outgrowth of the increased diagnostic services has been the recognition of the importance of guidance for the parents of retarded children. One of the particularly aggravating factors in the problem of mental retardation has been the fact that even the diligently searching parent had great difficulty in getting helpful information regarding the retarded child's capacity and needs. During the past decade programs of parent education have been developing utilizing a variety of means such as lectures and film showings, parent discussion groups, and guidance pamphlets such as *The Mentally Retarded at Home* (U. S. Children's Bureau), *3 R's for the Retarded* (National Association for Retarded Children), and *Now They Are Grown* (Minnesota Department of Public Welfare). While these programs aim at giving the parent a general understanding of the meaning of mental retardation, the needs of the retarded child and the impact of the retarded child on the

family, there is also need for counseling services providing help to parents in coping with specific problems. Few such counseling services are now available to other than the parent of the preschool child and there is uncertainty as to under which auspices they should be developed in the years to come.

Guidance alone is obviously not enough, particularly for the parent of the severely retarded, often also physically disabled, child. The past several years have seen the development of pioneering programs in day care to provide relief to the family from the 24-hour care of the child and in nursery school programs to provide for the often isolated retarded child group contacts as well as group learning. Here again a variety of state agencies and private organizations have set up the demonstration projects and no agreement exists as to auspices, staffing, and financing.

Speaking quantitatively and qualitatively, no other service has as much to offer to the total group of mentally retarded as has the public school system. It is therefore encouraging that the last decade has seen spectacular progress in this area but also challenging for the decade ahead that special education facilities are as yet available for only one quarter of the retarded who can avail themselves of them.

A particular controversy developed a few years ago as to whether the trainable child was a proper responsibility of the public schools or whether his training should rather be entrusted to welfare or mental health departments. While divergent opinions are still being expressed, the fact that 37 states authorize such classes either by mandatory or permissive legislation or administrative regulation and interpretation speaks for itself. In some cities classes for the trainables are fully integrated and in the same school buildings serving all other elementary classes, while elsewhere segregation is seen as the more desirable policy.

One of the arguments made against public school programs for trainable children is that this group sooner or later will find their way into public institutions. A study by Saenger,[1] *The Adjustment of Severely Retarded Adults in the Community,* contains convincing documentation that this is a false assumption. Following up a large sampling of pupils who between 1929 and 1956 had attended New York City classes for children with IQs of between 40 and 50 he

[1] Gerhart Saenger, *The Adjustment of Severely Retarded Adults in the Community* (Albany: New York State Interdepartmental Health Resources Board, 1957).

showed that only 26 percent were subsequently institutionalized. Twenty-seven percent of those who resided in the community worked for pay at the time of the study, an additional 9 percent had worked for pay previously. Obviously, such individuals should have the benefit of specialized public school education.

A new development pertains to secondary schools for the retarded. In a few communities this is now being extended to the trainable group. During the next decade further attention must be given to test out and develop prevocational programs for these pupils. This is all the more urgent because of the encouraging developments of sheltered workshops, of which more than 100 offer specialized services for the mentally retarded.

The experience of these workshops indicates that a sizable group of the retardates eligible for public school services is capable of sustained productive work. This should result in re-examination of public school curricula to determine whether they are designed to develop this vocational potential. An even greater challenge must be faced in the community; sheltered workshops are dependent on production contracts from business and industry. Also, vocational training of the retarded for work in the community is useless unless the community, and in particular employer and employee groups, are receptive. It remains to be seen whether education of the public will create as favorable a climate for the young adult and adult retardate as now exists for the retarded child.

The success of vocational training centers and sheltered workshops will depend to a large measure on proper screening. Facilities must be developed for those individuals who can make a limited adjustment in the community but are incapable of sustained productive effort. They will require a simple type of activity center which in some measure is akin to the day care programs for the younger children.

General observations during the past year indicate a substantial lengthening of the lifespan of the mentally retarded who thus will in increasing numbers outlive their parents. This implies a need for some sort of simple residential facility, probably community based.

Finally, the presence of an ever-increasing number of retardates in the community highlights the need for the development of programs for spiritual guidance and for recreational activities.

17 *Some Persistently Recurring Assumptions Concerning the Mentally Subnormal*[1]

BURTON BLATT

In 1948, Goldstein published a penetrating paper dealing with causes, characteristics, and implications of mental deficiency.[2] This work received a great deal of attention, partly, it is supposed, because of its clear and readable style (a rare and commendable achievement today) and, more importantly, because it purported to separate fact from fiction, ". . . cite the fact, nail the lie; construe the implication; act." [3]

Goldstein's paper originally deserved its place of prominence as a recapitulation of existent practices and assumptions from which were derived a series of definitive statements concerning mental subnormality. However, evidence brought forth during the decade since the publication of his work and the disconcerting questions raised by research completed and suggestive of research yet to be done, limits the usefulness of his article to its gross impact in upgrading the understanding of the unsophisticated and the uncritical. Today, the student examines "Implications of Mental Deficiency" and is not sure what is fact and what is fiction, what is myth and what is reality.

From *The Training School Bulletin*, 57:2 (August 1960), 48–59. Reprinted with the permission of The Training School, Vineland, New Jersey, and the author. Dr. Blatt is a professor and chairman of the Special Education Department, Southern Connecticut State College.

[1] Because there is no consistent and universal nomenclature, the term "mentally subnormal," for the purposes of this paper, is used as an all-inclusive classification embracing all individuals functioning below normal intellectually.

[2] I. Goldstein, "Implications of Mental Deficiency," *Occupational Education*, 5 (1948), 149–172. (Mental deficiency is used here generically.) [Also reprinted in *American Journal of Mental Deficiency*, 53:2 (October, 1948), 207–226.]

[3] *Ibid.*, p. 149.

Because of the continuing tendency of many special educators and researchers to base decisions and actions on unwarranted assumptions, and considering the diligent research of those who have provided a few answers during the past years, it is desirable at this point to re-examine some of Goldstein's facts, determine their right to this label, and offer other possibilities for consideration. Unfortunately, much of Goldstein's position of ten years ago is, today, accorded almost universally unqualified acceptance by teachers, authors, other professionals, and institutions of higher learning. Therefore, the purposes of this paper seem clear: to reduce the rigidity of a profession that resists change; to provoke the creative to seek answers; and to instill a healthy unrest in all who work with the mentally subnormal.

Fact or Fiction?

"Mental deficiency is basically a physical or constitutional defect. Abnormal, incomplete, or arrested growth of certain cells results in the crippled arm, the crippled leg. Similarly, although not always as outwardly apparent as in the instance of the crippled leg, deficiencies in brain structure or defects of somatic organization result in mental deficiency. Mental retardation is thus a symptom of some constitutional disturbance or defect." [4]

Analysis A review of pertinent literature leads one to the unmistakable conclusion that children, variously called mentally retarded, subcultural, "familial," nonorganic, aclinical, or garden-variety, do not, as a group, upon the most thorough neurological and psychological examinations, exhibit ". . . deficiencies in brain structure or defects of somatic organization." Sarason and Gladwin sum up the neurological consensus by stating that the mentally retarded, who constitute the bulk of those in public school special classes and the majority of "high-grade" institutionalized children, presumably do not exhibit any central nervous system pathology.[5] They call attention to the need to differentiate this group, called mentally retarded, from the mentally deficient who have demon-

[4] *Ibid.*, p. 150.

[5] S. B. Sarason, and T. Gladwin, *Psychological and Cultural Problems in Mental Subnormality: A Review of Research*, Genetic Psychology Monographs, Vol. 57 (1958), 17.

strable central nervous system disorders and who probably will never achieve a normal social and intellectual status.

Therefore, in the absence of any evidence to the contrary and until that time when such evidence is forthcoming, mentally retarded children who exhibit no central-nervous-system pathology should be assumed free of constitutional disturbances that in some way act to produce inferior intellectual development. It appears to this writer, from the standpoints of educational programming and research, that an uncritical adherence to a traditionally all-inclusive concept of mental retardation, which rules out the possibility that many of these children have intact central nervous systems and have capacities for at least typical development, is a dubious practice for the following reasons:

1. Such a viewpoint is unduly restrictive to the researcher in that its emphasis on the apparent irremediability and constitutionality of this condition detracts from potentially promising investigations into the role of cultural and psychological variables in mental subnormality.
2. It establishes unwarranted limitations on what might be attempted and accomplished educationally with mentally subnormal individuals to improve their intellectual, social, and psychological functioning.
3. It relegates to public school special classes for the mentally subnormal thousands of children for whom such "educational" placement may not be indicated in the light of our professional understanding and knowledge, or justified on the basis of a "diagnosis" of mental retardation. This "diagnosis" and placement largely determines the future course of the lives of these children.
4. It engenders in the teacher a predeterministic mental set which discourages experimentation and hope in the classroom.
5. A positive position does not assume that, in the absence of *demonstrable* central-nervous-system disorder, the possibility of organicity is ruled out. Rather, it recognizes that neurological procedures and criteria are not now completely valid or reliable and this positive position is taken in the interests of research and experimentation.

Implication If this large group of children, described above, does not *exhibit* central nervous systems that are different from the typical group, the question to be asked is, "Why are these children

mentally subnormal?" It must be determined whether these children are subnormal as a result of functional rather than constitutional causes. It should be noted that the evidence available, albeit scanty, points to the conclusion that a great number of those children, presently classified as mentally retarded, cannot be so classified using Goldstein's definition.

Fact or Fiction?

"Mental deficiency exists from birth or early age . . .",[6] ". . . is incurable and irremediable." [7]

Analysis As long ago as 1952, Kirk cautiously generalized that nurture may be an important underestimated factor in the causation of mental subnormality—not all mental retardation exists from birth or an early age.[8] In trying to locate preschool children with IQs between 45 and 80 for an experimental study, Kirk contacted schools for the names of siblings of known school-age retardates, social agencies, clinics, pediatricians, and public health department officials. His search was relatively unsuccessful. He found a few children ". . . referred by doctors were grossly deficient, with retardation usually of organic nature, but a large percentage of children from all of these sources was found to be of average intelligence. . . ." [9] Since it is generally agreed that high-grade mental retardates are frequently found in subcultural environments and, as a result of Kirk's lack of success in finding such children at preschool ages, there is a suggestion:

> . . . that many children later placed in special classes or institutions are not mentally retarded in terms of intelligence test scores at the ages of three, four, or five. Some children, whose older brothers and sisters were in special classes, tested approximately normal at the preschool ages. This raises the question as to whether children from low cultural levels who are approximately normal at an early age may later become mentally retarded because of their cultural environment or other unknown variables.[10]

[6] Goldstein, *op. cit.*, p. 151.
[7] *Ibid.*, p. 150.
[8] S. A. Kirk, "Experiments in the Early Training of the Mentally Retarded," *American Journal of Mental Deficiency*, 56 (1952), 692–700.
[9] *Ibid.*, p. 697.
[10] *Ibid.*, p. 698.

Implication Kirk's experiments with the early education of the mentally subnormal once again raises the controversy of nature vs. nurture in the development of intelligence. In a recent (1958) publication, describing the results of a five-year experiment analyzing the effects of preschool education on 81 young mentally retarded children, Kirk outlines both the nativist and environmentalist points of view.[11] The nativist's position is clear: intelligence is mainly a factor of central-nervous-system maturation from conception on; children grow evenly at their own rates; early stimulation will not increase potential; mentally subnormal children cannot be made "normal," regardless of any kind of training or education now known; when such changes in intelligence do occur, they are more than likely due to errors of original diagnosis; mental subnormality is incurable and irremediable.

The position of the environmentalists is less clear-cut but, from this viewpoint, more promising: within broad limitations, the development of children is significantly affected by the kinds of early rearing they have experienced; to explain all changes in intelligence as being due to erroneous original diagnosis is only to beg these intriguing questions. Why are researchers unable to locate preschool educable mentally handicapped children? What are the conditions that promote increments in intelligence among certain children?

A review of Kirk's findings raises the following questions in the mind of the serious student:

1. What is the significance of the acceleration in rates of growth of 30 (in a total sample of 43) children who received preschool education?
2. Why did the study disclose that it was much more difficult to displace the rates of growth of organic children than nonorganic children? (However, one may argue that the apparent irreversible defect of the organic child may be due to the educator's inability to adequately compensate for this defect. A dramatic example of the use of compensatory educational techniques can be found in a study of the education of Helen Keller.)
3. Why was it generally found that the greater the changes made in the environment, the greater were the changes in the rates of growth?

[11] S. A. Kirk, *Early Education of the Mentally Retarded* (Urbana, Ill.: University of Illinois Press, 1958).

It is interesting to note that: "familial" educable children do not usually exhibit mental subnormality during the preschool years (The Columbia University Research Project on the Effect of Group Training on Four and Five Year Old Children Who Are Mentally Retarded has unofficially reported similar findings); "familial" educable adults marry, find jobs, solve problems on a typical level, and maintain themselves independently and indistinguishably in the community [12]; it appears that only when this individual is of school age is he diagnosed and does he function as mentally subnormal; it appears almost as if the schools predestine the child to mental subnormalcy. Therefore, it would seem logical to designate the nature-nurture issue an open one and to find answers to the following problems:

1. What is the relationship of cultural and psychological variables to early rearing practices and their effects on intellectual growth and development?
2. What are the factors comprising this general ability we call intelligence and how can they be more adequately measured?
3. What is the relationship, if any, between test problem-solving behavior and nontest problem-solving behavior? Do different racial, religious, and cultural groups score differently on conventional tests of intelligence because of actual differences in innate intelligence or because of the ways children are brought up to solve problems?
4. What is the relationship between motivation and status goals? Is academic achievement a status goal of all who go to school?

Fact or Fiction?

Mental retardation ". . . results in the inability of the individual to profit from ordinary schooling . . ." [13] and ". . . by providing him with a different educational program suited to his needs, we can make him more capable of facing the world which lies ahead of him." [14]

Analysis No one, who has worked with mentally retarded children in school, would question the validity of Goldstein's remarks.

[12] Sarason and Gladwin, *op. cit.*, pp. 13–50.
[13] Goldstein, *op. cit.*, p. 151.
[14] *Ibid.*, p. 165.

However, one may question the implication that there is substantial evidence as to what the proper program should be. From his article, one can conclude that retarded children in special classes are receiving a great deal more purposeful education than retarded children in regular classes.

In a rare moment of candidness, a distinguished special educator recently remarked, during a meeting in which this writer participated, that special education isn't special nor can it, in many instances, be considered education. Studies find that, in so far as measurable abilities are concerned, mentally handicapped children in special classes are very similar in development to those in regular grades.[15] In fact, the earlier studies of Bennett and Pertsch found that retarded children in special classes did poorly in physical, personality, and academic areas as compared with retarded children in regular classes. Later studies by Blatt and Cassidy found few significant differences between those children in the regular classes and those in special classes. Notwithstanding the many obvious and valid criticisms of studies comparing special vs. regular class membership, it has yet to be demonstrated that the special class offers a better school experience for retarded children than does regular class placement.[16]

Certainly, there is little evidence to support the belief that special class provisions, even the best available today, are the millennium; nor can we even say that the best of our special classes are "good enough."

Implication Disturbing as it may be to those who have conscientiously developed curricula for the mentally handicapped, and while providing convenient rationalizations for the "do-nothings"

[15] A. Bennett, *A Comparative Study of Sub-normal Children in the Elementary Grades,* published doctoral thesis (New York: Teachers College, Columbia University, 1932); B. Blatt, *The Physical, Personality, Academic Status of Children Who Are Mentally Retarded Attending Special Classes as Compared with Children Who Are Mentally Retarded Attending Regular Classes,* unpublished doctoral thesis (University Park, Pa.: Pennsylvania State University, 1956), published in the *American Journal of Mental Deficiency,* 62 (1958), 810–818; V. M. Cassidy and J. E. Stanton, *An Investigation of Factors Involved in the Educational Placement of Mentally Retarded Children* (Columbus: The Ohio State University, 1959); C. F. Pertsch, *A Comparative Study of the Progress of Sub-normal Pupils in the Grades and in Special Classes,* published doctoral dissertation (New York: Teachers College, Columbia University, 1936).

[16] Blatt, *op. cit.,* pp. 11–14. P. A. Cowen, "Special Class vs. Grade Groups for Sub-normal Pupils," *School and Society,* 48 (1938), 27–28.

who reject responsibility by saying either we do not know enough to plan or each teacher should plan according to the individuals in her class, there is little evidence to support the widespread notion that, by placing mentally retarded children in conventional special classes, society is meeting their educational needs. There is no doubt that this group of children, regardless of etiology or permanence of condition, requires special provisions in school. There is doubt, at least among some educators and psychologists, as to what should constitute the program of special education and who can benefit from it. In this regard, some intriguing questions to be asked are:

1. How many children are placed in special classes after careful differential diagnosis? How many are placed after the simple administration of Binet and WISC tests? Does the administration of these tests constitute a differential diagnosis?
2. Using more than the limited evaluations to be derived from the IQ, how many children in special classes do not belong there? Do we have a moral obligation to these children regarding diagnosis, placement, and the ultimate effects of these on their lives?
3. What are the best ways to teach mentally subnormal children to read, to understand numbers, to understand themselves? What is different about the methods, materials and content in special classes commonly found today?
4. What is really meant by the statements:
    a. "She is not a good student but she may make a good teacher."
    b. "This person isn't a skilled teacher but she has a good attitude. She will not do any harm to children."
    c. "We can't measure the differences, but these children in the special class are receiving a finer education than if they were to remain in the regular grades."

Do these statements indicate that we don't know how to evaluate special education because we, as yet, do not know what special education should be?

The implication here is evident. What is needed is an infusion of bold, creative thinking into the field. Experimentation with new and unorthodox methods and materials must be encouraged. A more discerning study of the mountain of research in education, special education, psychology, anthropology, and sociology must be made in order to separate the valuable from the non-essential. We must

reject many of our present curriculum practices because they have been so eminently unsuccessful. When Goldstein describes the retarded as ". . . incapable of logical thought, unable to make generalizations or work with abstractions," and therefore, ". . . response must be habituated. He must be taught specific responses to specific situations," is he merely perpetuating the retardation with the supposed educational treatment? [17] Is there the possibility that, for some children, the retardation is due to an early rearing emphasizing habituation? Can some retarded children profit from programs involving creative thought processes rather than from the continuation of "straight-jacketed" stereotyped curricula which reflect the same kind of thinking?

Fact or Fiction?

"The general consensus at the present time seems to be that 40 to 50% of mental deficiency are of an hereditary nature. . . ." [18]

Analysis The recent work of Sarason and Gladwin has pointed up the meagerness of the evidence offered by those adherents of hereditarian theories of mental subnormality.[19] Their investigations have convinced them:

> . . . that an hereditary determinant of mental capacity must not be assumed to exist unless proven. Furthermore, proof should be sought in terms of our present knowledge of human genetics and of the nature of human intellect, rather than, as is commonly done through the administration of routine intelligence tests to a variety of "racial" and other groups. We do not propose to *deny* that heredity is a factor, particularly in mental deficiency, but rather that we should leave it out of one accounting until it is supported by more than speculation and bias.[20]

Implication Every day, recommendations are being made in regard to sterilization, prohibition of marriage, court placement of children, and counseling of adults—all based on the assumption that mental subnormality has a genetic basis. Should such crucial decisions be made without more evidence? What are the genetic factors, if any, in the causation of mental subnormality?

[17] Goldstein, *op. cit.*, p. 152.
[18] *Ibid.*
[19] Sarason and Gladwin, *op. cit.*, pp. 63–78.
[20] *Ibid.*, p. 63.

Fact or Fiction?

"He (the mentally retarded) is more liable to illness and physical defects and generally lacks the physical stamina of the normal child." [21]

Analysis Blatt reviewed a great many studies:

. . . concerning the physical status of children who are mentally retarded. Although there was disagreement among researchers, the consensus seems to indicate that there is a positive relationship between intelligence and various indices of physique. However, this relationship is not invariable and appears to be too minor to be useful for predictive or educational purposes. This relationship does not appear to be linear in character and it may be more significant in the more severly retarded group.[22]

The mentally retarded are not necessarily "limited in physical prowess." [23] Especially among the group called "familial," there are many who far surpass the norm in every aspect of physical ability. Mentally retarded children do not have to be malnourished. They do not have to be poor athletes. They are weak for the same reasons that typical children are weak; they are strong for the same reasons. Because a significant percentage of these children reside in substandard environments and because a significant percentage have central-nervous-system impairment, some retarded children are physically limited. The bulk of those in the "higher grade" category are not.

Implication Mentally retarded children do not necessarily have to be physically limited. To assume that these children are so limited because of mental inability is to use a handy but poor excuse to remain inactive when rehabilitation may be indicated. We do not explain malnourishment in a gifted child by quoting his high

[21] Goldstein, *op. cit.*, p. 152.
[22] Blatt, *op. cit.*, pp. 50–51.
[23] Goldstein, *op. cit.*, p. 155. (Studies of characteristics of the mentally retarded, using this term generically, often become meaningless because of differences in abilities among the various subgroups considered retarded. Particularly in the area of physical status, it should be emphasized that there are very significant differences between organic and nonorganic children and between higher grade and lower grade children.)

IQ; evidence dictates that we do no less for the subnormal. Although, as a group, mentally retarded children both in special and regular classes surpass their academic expectancy as measured against their mental age, it is ironical that special class teachers continue to feel their greatest anxiety in reconciling actual reading and arithmetic achievement of children with what teachers expect and hope for.[24] Fewer teachers have anxious moments rationalizing physical education and health programs for these children regardless of what is being accomplished and what can be accomplished.

Fact or Fiction?

"Early studies (circa 1900), purporting to show that as high as 85% of delinquents and criminals in the studies were mentally deficient, have been challenged. Today the figure is believed to be closer to 50%." [25]

Analysis In a recent review of the literature, Blatt found numerous studies, with few exceptions written at least 15 years ago, reporting high relationships between delinquency and intelligence.[26] More recent research reports low relationships, "j" shaped in character, and suggest the following factors that influence these relationships and affect their validities:

1. There appears to be a multiplicity of causes of criminality and delinquency. Lower IQ, per se, does not play an important role in the causation of such behavior unless this factor combines with other causes (as Goldstein points out) such as: poor homes, mental disease, alcoholism, and marital strife among adults and school failures, poor neighborhoods, unrealistic education, and community rejection toward children.
2. Some delinquents receive low IQ scores on tests because of their subcultural environment rather than as a result of constitutional defect.
3. There are selective factors operating with respect to the intelligence level of delinquents in institutions. One institution may not admit the subnormal while another may care for this type of child exclusively.

[24] Blatt, *op. cit.*, pp. 45–50, 98.
[25] Goldstein, *op. cit.*, p. 154.
[26] Blatt, *op. cit.*, pp. 39–45.

4. Brighter delinquents may escape detection and apprehension.
5. On the basis of a more promising prognosis, the mentally able delinquent may receive a suspended sentence while the subnormal child, committing the same act, may be placed in an institution.

In summary, ". . . it appears that the retarded are more frequently represented among delinquent populations than typical groups but this representation may not be as significant as once was believed. It is probable that the relationship between intelligence and delinquency is "j" shaped in character. The group known as 'borderline normal' may comprise the most significant population among delinquents." [27]

Implication Mentally subnormal children do not have to become delinquents; nor can we explain delinquency as a manifestation of the subnormality. It is not surprising that some of these children become delinquents; it is amazing that more do not. Society must recognize the need for psychiatric and social services, realistic education, and vocational counseling for all its citizens. More importantly, we must cease looking with derision at those in a different cultural milieu.

Conclusions

1. That large group of mentally subnormal children, presently classified as "familial" mentally retarded, should be assumed free of constitutional deficiencies or genetic aberrations that may result in inferior intellectual development.

2. A great many mentally subnormal children, presently classified as mentally retarded, cannot be so classified using the conventional definition that requires constitutional defect.

3. There is impressive evidence that numerous children, presently classified as mentally subnormal, acquire this subnormality sometime after birth or early age.

4. There is impressive evidence that numerous mentally subnormal children and adults, originally classified as mentally retarded, can not be so classified on later evaluations.

5. There is impressive evidence that the role of cultural and

[27] *Ibid.*, p. 811 (of *A.J.M.D.* Article, see footnote 15, reference 2).

psychological variables in the causation of mental subnormality has been greatly underestimated.

6. There is little evidence to support the widespread practice of placing educable mentally retarded children in *conventional* special classes rather than in the regular grades or in some other, *as yet unknown,* more suitable classes.

7. There is a dearth of evidence supporting hereditary theories of mental subnormality.

8. As a group, educable mentally retarded children, are not significantly different in physical attributes from typical children.

9. There are low relationships, "j" shaped in character, between delinquency and intelligence.

10. Many present assumptions concerning the mentally subnormal are unsubstantiated, are reinforced with prejudice, and flourish in an atmosphere of rigid and stereotyped thinking.

18 *Prevention—A Program Goal in Mental Deficiency*

GEORGE TARJAN

A PREVENTIVE PROGRAM FOR A DISEASE is most successful when the entity is clearly defined; when we know how to identify the afflicted; when we understand the causation; and when we are able to delineate the factors which influence the natural history of the condition.

The first major problem we encounter is the lack of an adequate and universally accepted definition of mental deficiency. We use a variety of names, such as mental deficiency, mental retardation, or mental subnormality. Some consider these terms synony-

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mous; others attach a different meaning to each. When asked for a precise definition we cannot overcome even this first hurdle.

We know that mental deficiency is not a singular entity; it represents a group of complex processes. Some twenty years ago the British Medical Research Council stated: "In few parts of medical science are there so many environmental and hereditary factors at work, each demanding isolation and close consideration, as are involved in mental defect. The many aspects which mental defect may assume, each requiring definition before investigation can be fruitful, have also in themselves constituted a fundamental obstacle to research. This apparent lack of definition of the problems to be faced, and the further practical difficulty that the methods of study of mental disorder are limited and can be used only on man himself, have frightened away many investigators from this field of inquiry." [1]

All of us generally conceptualize something that is reasonably alike. We know that mental deficiency involves many causes, degrees of severity, and manifestations. It is always characterized by a significantly impaired ability of the individual to adapt to the ordinary demands of his usual environment; it is present at birth or manifests itself during developmental years; an impaired ability to solve newly encountered problems is one of the cardinal signs; and the clinical picture often includes a variety of primary symptoms and concomitant and superimposed handicaps. An infinite number of interactions between the afflicted person, his family, and his total environment further modify the basic symptomatology.

This descriptive definition may not be better than those which others have proposed. We will probably find that no single definition can describe all the mental deficiencies, and that several will be needed for the different entities. Though we should strive for a perfect definition, our present lack of success should not stop us from applying current knowledge toward a preventive program. It has been found that preventive work can begin before all facts are known. The understanding of the relationship between even a singular causative, or aggravating, factor and a resultant symptom can be put to good preventive use through public health techniques.

Our difficulties do not end with the problem of definition. No one knows how frequently mental deficiency occurs. Only a few

[1] Preface by the Medical Research Council in L. S. Penrose, *A Clinical and Genetic Study of 1280 Cases of Mental Defect*, Special Report Series No. 229 (London: His Majesty's Stationery Office, 1938).

large-scale epidemiological studies have been conducted and they were hampered by a lack of uniform criteria. Incidence and prevalence rates depend on a variety of biological and cultural factors. Mental deficiency, in our culture, involves about 3 percent of the people, making it one of our greatest health and manpower problems. During their life, at one time or another, this proportion of our population is suspected or identified as being mentally deficient. The overwhelming number are identified during a stress period of their lives; when this phase passes they are frequently reabsorbed into the general population.

Epidemiological data show that mental deficiency is more common among males, and that in our civilization it is more often found in the culturally, socially, and economically deprived groups. Age has a significant bearing on the frequency rates of diagnosis; one investigation found that "suspected or referred" mental deficiency is nearly twenty times as common in adolescents between the ages of ten and fourteen than it is in children under five.[2]

A primary causative agent—be it a trauma, a virus, a gene, any other noxa, or a simple combination of these—has been identified in only a few types of mental deficiencies. In most forms we can neither ascertain all the etiological factors, nor quantify their importance. As Penrose stated: "The etiology of mental deficiency is multiple and the facile classification of patients into primary and secondary, or endogenous and exogenous, cases would have only led to a fictitious simplification of the real problems." [3]

Causation is so complex that there is a tendency toward artificial oversimplification. Many speak about an "organic group" and a "functional group," as if the two were completely distinct. What is called organic and what is called functional often depends not on facts, but on the meaning attached to these terms. The limitations of our examining tools complicate a scientific approach and necessitate some artificial groupings. We should remember, however, that where there is life and function, somatic or mental, there is energy consumption. Energy in the living organism is always the result of chemical changes, and at this point "organic" and "functional" merge.

For practical purposes the mentally deficient population may be divided into two major categories. The general distribution of

[2] Technical Report of the Mental Health Research Unit, New York State Department of Mental Hygiene, 1954–1955.

[3] Penrose, *op. cit.*

intelligence, influenced by an almost infinite number of factors, follows a Gaussian line. Individuals with mental deficiency fall at one end of this distribution curve. In most of them the observed impairment—usually of a mild degree—is the result of an interaction of forces which are similar or identical in nature to those which produce normality or superiority in other humans. The difference is quantitative rather than qualitative. The interactions among several genes, social, cultural, and other environmental factors contribute to the manifestations in an as yet obscure way. There is no clear line of demarcation between mental adequacy and mental deficiency. As the British Research Council stated: "Intelligence, like stature, is graded, and the distribution of intelligence throughout the community is continuous. Any study of mental defect must accordingly take into account the gradations of mental ability which are found both among the patients themselves and their relatives." [4] Over 75 percent of the "identified" instances of mental deficiency fall into this more or less "physiological" category.

There is an additional number of mentally deficient persons who represent a second group and comprise approximately .4 percent of the births in our population—.1 percent with an extreme degree of defect, and .3 percent with a less severe impairment. Their abnormality is likely to be the result of fewer and more specific injurious agents. Etiological research may prove fruitful more rapidly in this group.

Our knowledge of factors which influence the manifest symptomatology—beneficially or adversely—is also in a primitive state. Mental deficiency—being a chronic condition with onset during the developmental years—is affected by every stimulus which acts upon the deficient child, and by everyone with whom the child comes into contact. We may not be able to cure many types of mental deficiencies, but we must recognize the fact that all our interventions will have either a positive or a negative effect. If ill-treated, the mentally deficient person is likely to have his condition aggravated by superimposed disabilities.

A practical program of prevention requires action at three essential levels. When we know how to prevent the occurrence of a pathological condition, we must exert every influence toward this primary goal. Secondly, when we cannot prevent the onset, we should try to terminate, shorten, or mitigate the abnormality through early diagnosis and energetic treatment. In mental defi-

[4] Preface in *ibid.*

ciency, our efforts may be profitably directed toward the treatment of concomitant handicaps, even though we cannot influence the basic defect itself. Finally, when we are unable to prevent or successfully treat a disease we should at least so organize our interventions that they are most supportive of improvements and minimize the chances for the development of secondary disabilities.

Primary Prevention

Primary prevention is most successful when our knowledge of etiology is complete. In a few types of mental deficiencies we have already reached such a degree of understanding, and in some of them we are utilizing this knowledge in prevention. Defects caused by blood group incompatibilities, endemic cretinism, or syphilis are good examples. We also learned about the effects of prenatal infections, such as German measles or toxoplasmosis, and we appreciate the importance of prenatal maternal health and nutrition. For these, however, practical preventive programs are not yet in full use.

Several genetically-determined mental deficiencies have been identified; *e.g.*, phenylketonuria, galactosemia, the familial amauroses, and gargoylism,[5] and intensified research will uncover others. Today patients with these diseases represent the "genetic terminus" of a detrimental characteristic, and their deaths—unless balanced by mutations—serve to slowly decrease the frequency of the particular gene in the population. We have no methods, as yet, for improving a human being's genetic potentialities, but we are learning more about the treatment of some of these conditions. When treatment becomes a common reality, hopefully the patients will live to adulthood, with normal mentality. They will seek to reproduce and thereby contribute to an increased frequency of the trait in the population. It should be noted, however, that their contribution toward increasing the frequency, either of the particular disease or the trait, will be rather small.

We are also acquiring means for the identification of the heterozygotes—carriers of the detrimental traits—in at least some of these diseases. When the heterozygous state becomes simple to diagnose,

[5] S. W. Wright, G. Tarjan, R. W. Lippman, and T. L. Perry, "Etiologic Factors in Mental Deficiency," *American Journal of Diseases of Children*, 95 (May 1958), 541–562.

there will be expanding programs of identification, with widespread genetic counseling. Though it may prove difficult to prevent matings between heterozygotes, fewer children will be born with the manifest illness—*i.e.*, the homozygous form.

It is certainly important to study the afflicted person; it is equally important to study the heterozygote and to investigate the effect of the gene in half-dosage upon psychological and somatic vulnerability. The possible involvement of many genes, and the fact that the carriers of the traits outnumber several hundred times the homozygotes—the individuals with the disease itself—further emphasizes the need for research in this direction. This area of research has far greater potentialities in leading toward a better understanding, and hence the ultimate prevention of these diseases, than would any consideration of prohibition of matings on a eugenic basis.

There is an increase in our exposure to mutagens and higher mutation rates may result, producing an increase in the frequency of mental deficiency. We must, therefore, also urgently study the mutagenic agents and their effects and establish programs to protect humanity from them.

The role of heredity in the milder forms of mental deficiency is not sufficiently understood to form a scientific basis for genetic counseling. The dilemma of nature versus nurture is still very much with us.

Anoxia, trauma, and prematurity are perinatal factors which have been identified as injurious to the newborn. A broader application of our current knowledge to obstetrical practices could produce advances in prevention. There is a possibility, however, that a decrease in reproductive wastage and perinatal mortality may increase the number of surviving mentally defective children. We have already encountered some new types of mental deficiencies which resulted from advances in medical life-saving techniques. Children with tuberculous meningitis often survive, but the sequelae may include a mental defect. The total impairment of mental function which sometimes follows cardiac resuscitation in children is another example of a new iatrogenic disease. Only after further improvement of our treatment methods will we be able to say that life and mentality have been equally saved.

Several agents which attack the child postpartum have also been isolated; the effects of the encephalitides or physical trauma are unquestioned, and the role which protein deprivation plays is

also quite well established. Still we do far too little in preventing important infections; accidents remain a common cause of disabilities of children; and kwashiorkor occurs all too frequently in some parts of the world.

Biological structure is but a matrix for the development of mentality. Continuous and proper stimulation from the earliest age, and repeated experiences in problem solving are as necessary for mental growth as is a healthy structural endowment with normal cells, enzymes, nutrients, and other chemicals. Motivation for trials and tolerance for failure are the psychological building blocks from which our intellectual pyramid is constructed. Our knowledge about these factors is essentially empirical, and few of our postulates have been subjected to adequate scientific scrutiny.

We acknowledge the importance of a positive early relationship between the child and his parents. We assign a crucial role to the mother by stating that only an emotionally healthy mother can be sufficiently warm and permissive to give the best early climate for the mental growth of a child. We know that the child must learn to view himself as an independent being, and that to achieve an adult level of mental health he must acquire certain ethical and cultural values. We appreciate the importance of interpersonal, social, and cultural factors upon the development of intelligence,[6] and with increasing frequency we use such diagnostic terms as "psychogenic," "functional," or "subcultural" mental deficiency.

In preventive work, however, we are not utilizing these concepts; they have not become an integral part of our health or educational planning either for children or for potential, expectant, or new mothers. With these principles in mind, we must review our maternal and child health programs, our day-care and nursery programs, our adoption procedures, and our foster placement programs.

The defective child, if he is to grow mentally to the maximum of his capacity, needs the same emotional climate as his normal contemporary. His problems are more complicated because the birth of a defective child produces turmoil and conflict, even in the most stable family setting. The prevention of family emotional pathology would represent a major step in a preventive program. Important observations have already been made, but controlled experimentations and quantifications have been difficult and rare. Very little, even of an empirical nature, has found its way into the professional

[6] L. Eisenberg, "Emotional Determinants of Mental Deficiency," *A.M.A. Archives of Neurology and Psychiatry*, 80 (July 1958), 114–124.

literature.[7] Concern that published information may antagonize the parents—the necessary subjects of such investigations—may have been a reason for our tardiness.

Secondary Prevention

Early diagnosis and treatment are the basic components of secondary prevention. Diagnostic resources specializing in mental deficiency are so rare that for practical purposes they are nonexistent. Diagnostic procedures are not initiated unless the child is under regular observation, or unless parents suspect retarded growth and development.

Diagnosis, in this context, means more than the determination of the abnormality; it includes the "working through" of the implications and the planning for necessary treatment. In most instances the physician knows what is wrong with the child, but communication breaks down between him and the family. The parents often blame the doctor for his lack of skill in communication, and the doctor similarly projects his difficulties onto the "unreadiness" of the parents.

Promising methods of early treatment have been developed for a few types of mental deficiencies, such as phenylketonuria, galactosemia, and some cranial anomalies. Intellectual impairment could likely be prevented if diagnosis were made soon enough. The lack of early case finding will for years produce patients whose severe defects may have been prevented by timely interventions.

Diagnostic and treatment resources for the emotional components and complications of mental deficiency are also rare. Children are frequently exposed to a stress phase of life before their deficiencies are identified; emotional complications result before special programs are utilized or treatment is initiated. Our approach to the education of the mildly deficient child exemplifies this problem; we come to his aid only after repeated failures.

Puberty, marriage, parenthood, military life, job finding, and work adjustment are other common stress phases for both the normal and the mentally deficient person. Better orientation of service personnel toward the unique problems of mental deficiency would diminish complications. Unfortunately, agencies have neither the

[7] K. S. Holt, "The Home Care of Severely Retarded Children," *Pediatrics* 22 (October 1958), 744–755.

specially trained workers, nor the necessary consultants. Not infrequently the doors of psychiatric practitioners and clinics are also closed to this vulnerable segment of our population.

Mental deficiency is often complicated by such handicaps as cerebral palsy, epilepsy, and sensory defects. Therapeutic endeavors aimed toward these conditions could beneficially influence the total adjustment of the patient. However, treatment facilities and modalities available to the average individual are usually denied the mentally defective person. Even in our public institutions elective surgery and corrective procedures are rarely utilized. The productivity and happiness of many patients could be increased if all specialties were involved in a total treatment program. Responsible people still frequently express the nihilistic attitude that complications are undeserving of treatment as long as the primary condition itself is incurable.

Tertiary Prevention

It is the aim of tertiary prevention in mental deficiency to examine every therapeutic intervention and eliminate those aspects which are likely to produce added disabilities, and reinforce those which are generally supportive of maturation. The mentally defective child is exposed to a variety of influences during his lifetime; some of these have therapeutic aims, others are part of ordinary life experiences. He is capable of growth and the majority can reach semi- or full-independence. We should support his maturation in all our actions. More reliance ought to be placed on the healthy aspects of the defective individual's personality, and his environment should be as similar as possible to that of normal members of our society. Unfortunately, quite often he is forced into a different mode of living, which in itself is conducive to further impairment.

A review of our educational, health, welfare, and other programs shows that we have made little progress in tertiary prevention. We strongly advocate the maintenance of family ties, but we recommend separation for the defective child without much concern. In many places we find the deficient infant excluded from health programs; later, nursery schools do not provide for him, and he is denied ordinary educational resources without the benefit of special programs. Whenever education is his primary need, would it not be better if his schooling were incorporated into our usual

programs? He is in need of a special curriculum and special teaching techniques, but not of segregated facilities.

We have rehabilitative, job finding, and welfare programs for almost all people, but the deficient person is frequently excluded. Is he not entitled to the same benefits as any other needy child, unemployed adult, or aged individual? Recreational, church, and other community programs make no special provisions for him and he is forgotten as soon as he is unable to participate in the usual activities. While at home, health resources are also often denied him. Should we not make every effort to support him or render him special services at home, in his own community, among his family members and friends? Should we not recommend his separation only under exceptional circumstances, for a minimal length of time, and with a special goal in mind?

All too often he is forced to leave his family and community and live in an artificial environment. We may find him in an oversized, understaffed, and poorly programmed public institution, there to become dependent and immobilized, and there to remain longer than necessary. His health, educational, social, psychological, and rehabilitative needs must be served from a pittance. Value is placed on his conformity and his initiative to return to the competitive outside world is suppressed. Therapeutic skills are denied him and his chances of acquiring secondary disabilities increase as the direct result of this new mode of living. He may remain institutionalized until he develops contractures, not only in his muscular system, but in his mind and spirit as well.

We must re-examine our institutions in light of the principles of tertiary prevention. Do they have a clearly stated goal and philosophy? Are their programs complete? Do they offer all methods of treatment which make early discharge possible? What is done to support the individuality and the aspirations of each patient? Is he returned to his community as soon as possible, or are there some who are retained because no other resources are available? Is the institution sufficiently staffed with trained people? Is there a program of professional training? Does the staff seek new knowledge through research? Are the skills of the staff available to the mentally deficient person whether he is in residence or in the community?

We should strive to eliminate our large institutions and replace them with smaller community facilities. Unfortunately, there is no realistic way to accomplish this goal in the near future. We have

neither the financial resources nor sufficient trained personnel. We must at least, therefore, improve the programs of our present-day institutions so that our patients will find themselves in places where their condition is more likely to improve than to deteriorate.

Summary

In closing, may I underscore a few points. The present imperfection of our knowledge should not delay the initiation of preventive programs. We have already identified, on an experimental or empirical basis, sufficient facts which can be put to good preventive use. The main responsibility for primary and secondary prevention rests with the medical profession, but all of us who shelter, train, educate, treat, or otherwise come into contact with a mentally deficient person have an obligation in tertiary prevention. We exert an influence on our patients, students, or clients which is either beneficial or detrimental; if detrimental, it produces further disabilities. Whether we are physicians, administrators, educators, psychologists, or social workers we have an important role in a total program of prevention. We must assume our individual responsibilities and our association must become a leader in the preventive approach to mental deficiency.

4

LEARNING THEORY AND MENTAL RETARDATION

THE INTRIGUING QUESTION of "how mentally retarded individuals learn" has been in the minds of all teachers since the moment that Itard first tried to educate the Wild Boy of Aveyron in 1799.[1] Educators, psychologists, and parents have searched for an answer. The special-class teacher is often rocked back on her heels when a retarded child apparently "learns" something that she did not think he was capable of. Or did the teacher reach this child by applying a theoretical concept of learning which was successful without her being aware of it? The psychologist, in a clinic or experimental situation, often observes such changes in learning behavior. Yet why learning occurs and how this information can be abstracted into a theoretical concept still eludes us.

Definitions of learning are as numerous and controversial as those of mental retardation. Melton[2] simply states that "learning is a change in behavior which is correlated with experience or training" and that, further, "learning occurs when a person must react to a situation for which his previously acquired modes of response are inadequate, and it is therefore essentially a process of adjustment to satisfy a need or a motive." Learning involves a great many factors such as motivation, adaptive and organizational ability, and practice.

Research in learning theory with mentally retarded children

[1] J. M. Itard, *The Wild Boy of Aveyron* (New York: Appleton-Century-Crofts, 1932).

[2] A. W. Melton, "Learning" in W. S. Monroe (ed.), *Encyclopedia of Educational Research* (New York: The Macmillan Company, 1941).

and its educational implications has been long overdue. Cantor,[3] an intrepid worker in this field, feels that two things augur well for this research, (1) funds supporting psychological research in mental retardation are increasingly becoming available, and (2) psychologists are becoming more and more intrigued with the possibilities of applying standard experimental techniques to subjects other than rats or college sophomores. He recognizes, as many others do, that because of the tremendous growth of special classes, laboratory psychologists are being besieged with questions on how to solve the day-to-day problems involved in teaching the retarded child. College and university graduate schools, such as George Peabody, Syracuse, and Illinois, have launched a variety of experimental studies in learning theory. In addition, a few institutions, such as the Columbus, Ohio, State School, the Wayne State Training School in Michigan, and The Training School at Vineland, New Jersey, are investigating many related topics. In time, many answers to the unsolved questions of how and why retarded children learn will be answered, and it is hoped that they will be translated in readily understandable language for general use in teaching.

The three articles in this section specifically refer to the application of learning theory to the mentally retarded. The first article, by Marion W. McPherson, is a comprehensive review of studies dealing with learning and mental retardation. An intriguing subject for both educators and psychologists is the relationship between sensory stimulation and specific responses. From the early work of Itard to contemporary studies by Kirk, there has been frequent reference to this subject. In his article, Oliver P. Kolstoe carefully analyzes this concept of learning as it relates to specific teaching situations.

Hebb's theories of learning seriously question the concept of dividing mentally retarded individuals into separate etiological groups, such as organic and familial. E. Paul Benoit has long advocated the application of Hebb's theory, based on a neuropsychological concept, to the study of the learning process as it relates to mental retardation.

For a review of other studies on learning theory, the reader is referred to the article by Dunn and Capobianco (pp. 548–573).

[3] Gordon N. Cantor, "Basic Research in Learning with Mentally Retarded Children and its Educational Implications," in Vincent J. Glennon (ed.), *Frontiers of Elementary Education*, IV (Syracuse, N. Y.: Syracuse University Press, 1957), pp. 88–96.

19 *Learning and Mental Deficiency*

MARION WHITE MCPHERSON

In 1948 the author reviewed the research on the learning of mentally deficient subjects.[1] The purpose of the present paper is to amend that review to the current date. In both papers the concept of learning is limited to quantified modifications of behavior accompanying repetitive stimulation. The concept of mental deficiency is confined to individuals who obtained subnormal ratings (IQ 75 or below) on standardized intelligence tests or whose behavior implied that they would have achieved such scores had a formal test been administered. The first survey indicated that the relationship between these two variables represented an area of limited information and that the learning of mental defectives is not consistently inferior to that of individuals who achieve normal intellectual ratings. This conclusion is in agreement with Woodrow's statement that, "The ability to learn cannot be identified with the ability known as intelligence."[2] Woodrow believes that this lack of identity has been slighted and comments: "Statements identifying learning ability with intelligence are found so frequently that a careless reader might form the opinion that such identification is beyond dispute and the evidence in support of it is so well known that there is no need to present it."[3]

Of the studies that have appeared since 1948, two have been concerned with conditioning. Fuller[4] conditioned an 18-year-old

From the *American Journal of Mental Deficiency*, 62:5 (March 1958), 870–877. Reprinted with the permission of the American Association on Mental Deficiency and the author. Dr. McPherson is a consulting psychologist in Kalamazoo, Michigan.

[1] Marion White McPherson, "A Survey of Experimental Studies of Learning in Individuals Who Achieve Subnormal Ratings on Standardized Psychometric Measures," *American Journal of Mental Deficiency*, 52 (1948), 232–254.

[2] H. Woodrow, "The Ability to Learn," *Psychological Review*, 53 (1946), p. 148.

[3] *Ibid.*, p. 149.

[4] P. R. Fuller, "Operant Conditioning of a Vegetative Human Organism," *American Journal of Psychology*, 62 (1949), 587–590.

vegetative idiot to raise his right arm, using a sugar-milk solution as the reinforcing stimulus. The author reports that both a differentiated CR and extinction were effected, but fails to include systematically quantified data concerning the number of trials and the amount of reinforcement. He describes the extinction curve as similar to what is considered a "typical" curve following continuous reinforcement during operant conditioning.

Melhado [5] furthered an interest in the relationship between conceptual or voluntary responses and involuntary ones by observing the generalization of visual discrimination and the conditioning and differentiation of the iridic reflex in six intellectually adequate adults and 28 mental defectives (S-B IQ 8–67; CA 4–54; 13 males, 15 females). Contraction of the iridic reflex was conditioned to pressure on a point immediately above the ankle in a series of 180 trials in all normals but in only 18 mental defectives. Differentiation was checked by stimulating five different points on the leg, starting 7–8 cm above the ankle and extending to the knee. A spread of effect to all five points we evidenced in each group of Ss, but there was a marked reduction in the frequency with which differentiation was achieved as the intellectual level decreased.

In the generalization study, the same Ss were required to learn in a maximum of 50 trials to select the larger or smaller form in three pairs of geometric designs and then in 30 trials to choose the reverse. The normals were requested to locate an "object" behind panels containing the stimuli. A piece of candy was offered to the mental defectives after each correct solution. Melhado reported that normals and morons solved the problem and generalized it, the former in fewer trials than the latter. Only one imbecile S was able to generalize and the idiots did not discern even the manner in which the candy was to be located. Melhado combines the two sections of his research with the notation that the Ss who were the most efficient in generalizing also demonstrated the most precise differentiation. He interprets this as evidence that "generalization occurs when irradiation of stimuli are integrated efficiently by the organism." [6]

Size discrimination was also investigated by Stevenson and Iscoe [7] in a study of the characteristics of transposition in "pre-

[5] J. J. Melhado, *Irradiation and Generalization in Aments,* unpublished master's thesis (Durham, N. H.: University of New Hampshire, 1949).

[6] *Ibid.,* p. 67.

[7] H. W. Stevenson and I. Iscoe, "Transposition in the Feebleminded," *Journal of Experimental Psychology,* 49 (1955), 11–15.

verbal" Ss. They explored the discrimination between squares of two sizes in the case of 44 mental defectives divided into three groups (mean MA 7.0 to 7.8, unidentified test; mean CA 18.1 to 23.9) so as to permit the observation of responses to three sets of test stimuli varying in size from the training stimuli. Candy was used as a reward. The Ss learned to make the size discrimination in a mean of 41.9 trials, S.D. 49.8. The relatively slow rate of this learning is emphasized by contrasting the results with those reported in an unpublished study in which normal children (mean MA and CA 7.8) working on the same task required a mean of 28.6 trials, S.D. 25.6. Transposition was demonstrated in both the initial and the five test trials, but the evidence concerning the predicted decrease of transposition with increased differences between the test and training stimuli was inconclusive.

Form discrimination has been of concern in learning experiments. Tizard and Loos,[8] in exploring the employability of imbeciles, observed their learning during eight trials on each of the four formboards of the Minnesota Spatial Relations Test. The Ss were six male imbeciles (mean S-B IQ 34.1; mean CA 20.4). All time curves descended and Tizard and Loos comment that since all Ss showed "rapid improvement" and "considerable transfer of training," initial performance is an inadequate guide to practice gains. Retests were made one month after the final practice and the mean scores on these tests were "only slightly worse" than the terminal scores of the original series. The authors do not systematically describe any motivating techniques, but their discussion makes it apparent that personal encouragement and direct suggestions were given.

In order to investigate Hull's hypothesis regarding the effect of the magnitude of a reward, Cantor and Hottel[9] compared the learning of form discrimination by 20 male Ss (Mdn. S-B IQ or "equivalent based on the Wechsler" 36; CA not specified) with that of 24 male Ss (Mdn. IQ on above tests 56.6; CA not specified). Half of the Ss in each group was given one peanut for a correct choice and the remaining half, four peanuts. The task, the discrimination between a triangle and its inverted image, was presented for 48 trials which, for computational purposes, were divided

[8] J. Tizard and F. M. Loos, "The Learning of a Spatial Relations Test by Adult Imbeciles," *American Journal of Mental Deficiency,* 59 (1954), 85–90.

[9] G. N. Cantor and J. V. Hottel, "Discrimination Learning in Mental Defectives as a Function of Magnitude of Food Reward and Intelligence Level," *American Journal of Mental Deficiency,* 60 (1955), 380–384.

into eight equal blocks. The data were treated by an analysis of variance of the effects of IQ, amount of reward, trial blocks, and experimenters. Statistically significant results revealed that the higher IQ group made on the average 33.96 correct choices, S.D. 18.01, and the lower IQ group scored a mean of 27.10, S.D. 8.28. Learning curves for the two groups differed in shape and the lower IQ group started at a level superior to the higher group but soon began to lose their efficiency and by the seventh block of trials was functioning practically at the level of chance success. The role of interpersonal factors is suggested by the fact that the higher-reward group was inferior to the lower-reward group when working with one of the two experimenters but not so when working with the other.

Pascal *et al.*,[10] as part of a study in delayed reaction, investigated the effect of practice in increasing the delay interval among 27 male mental defectives (S-B or Merrill-Palmer MA from 2–1 to 7–1; CA 5–11 to 31–10). The Ss, required to respond to a five-choice situation, were rewarded after each trial with a piece of chocolate and verbal instructions were kept to a minimum. The authors report a rho of —.44 between the number of trials and maximum delay interval. This finding and some auxiliary observations on individual learners led them to conclude that "for our population there is little effect of practice on the capacity to delay." [11]

Investigations of learning have also included verbal materials. Mitchell [12] used them in a search for differentiation between pseudo- and "true" feeble-minded Ss. He utilized a recorded list of nine nonsense syllables, presented a maximum of 20 times, followed by a ten-minute-delay interval, one recall opportunity, and the presentation of the original series in its reversed order. A transfer score was computed in terms of the difference between the number of syllables recalled on the original and reversed scales. The Ss were motivated by soliciting their assistance in solving a problem of the experimenter. The author observed 63 female mental defectives classified etiologically into three groups: "true" or control (bio-

[10] G. R. Pascal and M. Zax, "Double Alternation Performance as a Measure of Educability in Cerebral Palsied Children," *American Journal of Mental Deficiency*, 56 (1951), 152–160.

[11] *Ibid.*, p. 157.

[12] W. C. Mitchell, Jr., *Learning in Undifferentiated and Familial Female Mental Defectives: A Study to Differentiate the* Bona Fide *Mental Defective from the So-called Pseudo-defective*, Microfilm Publication No. 4146 (Ann Arbor, Mich.: University of Michigan, 1952).

pathological) familial, or undifferentiated. The Ss were equated for Stanford-Binet IQ (50–75) and for CA (15–40). Learning was a slow process and the curves erratic. The coefficients of correlation between learning score and test intelligence and between transfer score and test intelligence, respectively, were found to be: .530, P.E. .062 and .359, P.E. .075. Both of these were smaller than the coefficient of .785, P.E. .033 between learning scores on the original and reversed orders. The undifferentiated and familial groups were expected to show the most facile learning and thereby reveal their pseudo-defective status. Obtained differences among the groups were slight, but the undifferentiated group tended toward the most efficient learning and had the lowest recall scores.

McCullough *et al.*[13] investigated the learning by mental defectives of eight series of common words, varying in length from two to nine words (Series II through Series IX), and presented by means of a tape recorder. Motivating techniques were those used in "ordinary test procedure where rapport is considered satisfactory." The Ss were divided into one group of 36 (mean S-B MA 6.1; 16 males, 20 females) and into a second of 36 (mean S-B MA 9.1; 19 males, 17 females) with comparable CAs (means 30.4 and 30.9). The oldest and youngest of the Ss were identified and two groups of 24 members each were formed (mean S-B MA 7.5 and 7.6; mean CA 16.0 and 48.2). Practice was given for five trials on each series and scored in terms of the number of correct reproductions. Series III and IV were found to be very easy and analysis of serial effects was in terms of scores on Series V through IX. The number of correct responses on the first trial of Series V through IX was identified as a grasp or one-trial learning score. A score for each series equal to the total number of correct reproductions minus five times the score on Trial 1 was termed a gain or repetitive learning score. The results indicated that, with the exception of Series IV, the plot of mean score and series was essentially rectilinear. The authors interpret this as evidence that increased opportunity to learn does not enhance acquisition. The higher MA group excelled the lower on total score, on grasp, and on gain, but not on the ratio of grasp to gain. The older and younger groups were equal in initial score and the younger group surpassed the older in gain.

[13] T. L. McCulloch, J. Reswick, and K. Roy, "Studies of Word Learning in Mental Defectives. I. Effects of Mental Level and Age," *American Journal of Mental Deficiency*, 60 (1955), 140–143.

In a second paper, McCullough *et al.*[14] determined the relationship of scores on this memorizing task to digit repetition, Stanford-Binet, M, MA and the mean MA derived from the WISC Verbal Scale. They found that in a group of 100 mental defectives (S-B MAs normally distributed around a mean of 8.4, S.D. 1.3; mean CA 24.8; 52 males, 48 females) the grasp and total scores correlated more highly with digit repetition, with Binet, and with Wechsler scores than did the gain or repetitive learning scores. The coefficients ranged from .18 to .54 and the authors interpreted them to indicate that predictions of gain from intelligent test scores are especially precarious. A zero order coefficient of correlation between grasp and gain was found. Reliability coefficients between scores from two sets of two series were found to be .76 for total score, .41 for grasp, and .46 for gain.

Sloan and Berg [15] cross-validated the word-learning procedures of McCullough *et al.* by repeating them with a sample of mental defectives selected from a different institution. These Ss were 17 males and 15 females comparable to the younger group in the initial research (mean S-B MA 8.2; mean CA 17.7). These investigators found essentially the same results as McCullough *et al.* They obtained a similar plot of mean scores and series and interpreted this in terms of pro- and retroactive inhibition. They agreed on the absence of a relationship between grasp and gain scores. They likewise found low correlations between MA and gain but did report a coefficient of .62 between Stanford-Binet, M, MA and total score. They obtained a comparable reliability coefficient for total scores, but their reliability measures for grasp and gain scores were only .28 and .13, respectively.

In an effort to compensate for the lack of coordinated research in learning and mental deficiency, Sloan and Berg extended their study to an investigation of maze learning. They gave the same Ss a ten choice-point stylus maze for ten trials. Score was in terms of increase in speed from trial to trial and instructions emphasized rapidity of response. The results revealed a learning cure "quite

[14] McCulloch, Reswick, and Serena Weissmann, "Studies of Word Learning in Mental Defectives. II. Relation to Scores on Digit Repetition, the Stanford-Binet, M, and the WISC Verbal Scale," *American Journal of Mental Deficiency,* 60 (1955), 140–143.

[15] W. Sloan and I. A. Berg, "A Comparison of Two Types of Learning in Mental Defectives," *American Journal of Mental Deficiency,* 61 (1957), 556–566.

typical" for this type of task. It showed more variability for the first trial than for the others and stabilization of both improvement and deviation scores at the fifth trial. In view of this trend they suggest that in future investigations five trials may be adequate. Although they correlated three measures of maze performance with Binet MA, they could discern no significant relationship between the two measures and obtained coefficients ranging from —.165 to .084. A comparison of the word and maze learning scores indicated that, although group curves for the two tasks were similar, correlations of individual scores were low.

Motor responses have also been observed. Brace [16] computed the correlation between IQ and scores on standardized athletic tests and between IQ and accuracy scores on 30 trials of repetitive ball bouncing on a tennis racket, throwing a soft ball at a target from 30 feet, and kicking a soccer ball at a target. He had mentally deficient girls (mean IQ 52.98, unidentified test; CA 13–7 to 18–8) perform these tasks. The author does not discuss the motivating devices. The Pearson coefficients between learning scores and IQ ranged from —.115 to .515. Various partial coefficients were calculated, but no relationships adequate for confident prediction between IQ and learning, either for total score or percentage of gain, were discovered. The author makes the interesting notation that his coefficients are higher than the literature reports on those derived from female chronological peers of normal intellectual efficiency.

Berger [17] explored, as a possible etiologically differentiating device, the number of trials necessary to inhibit the blank reflex when a glass directly in front of the S's open eye was struck. Observations were made on 20 normal 13-year-olds and 61 mentally deficient boys divided into organic, familial, and psychogenic groups (mean IQ 59.8 to 61.8, unidentified test; mean CA 14.4 to 14.6). All Ss were "challenged" to see how long they could refrain from blinking. There was a reliable difference between the median of 2 trials required for partial inhibition and that of 10.5 for total inhibition in the normal group and the medians ranging from 4.0 to 118.5 required by the mental defectives. The only significant difference among the various groups of mental defectives was in the organics' reduced efficiency in partial inhibition.

[16] D. K. Brace, "Motor Learning of Feeble-minded Girls," *Research Quarterly of the American Association of Health*, 19 (1948), 269–275.

[17] A. Berger, "Inhibition of the Eyelid Reflex in Three Etiologic Groups of Mentally Retarded Boys as Compared with Normals," *Training School Bulletin*, 51 (1954), 146–152.

In order to determine if the frequent derivation of experimental results from college students has limited their value, Boldt [18] measured the effect of effort of response, distribution of practice, and stage of practice in both college students (30 males, 30 females) and to mental defectives (W-B Verbal IQ "not under 45"; CA 15–30; 30 males, 30 females). All Ss were presented with ten blocks in a single row and asked to turn them for 30 trials. The motivating techniques were not reported. Scoring was in terms of the time necessary to complete the task. Effort of response was varied by using 1-, 6-, and 11-oz blocks. Distributed practice was effected by a 30-second rest period between trials. Boldt does not give detailed statistical results but reports having treated the data by chi square and analysis of variance. He concludes that mental defectives performed at a lower rate at nearly all stages of practice, but showed greater initial improvement than the college students. There was no variation in results with different block weights. Among the college Ss, sex differences were not significant. The male mental defectives performed less adequately initially with massed practice and with distributed practice were superior to females at all stages.

Gordon *et al.*[19] designed an experiment to determine the responses of 40 male imbeciles (mean S-B IQ 36.43; mean CA 25.0) to such varying types of motivation as group cooperation and individual goals. The Ss were required to place nails into holes in a zinc plate and scoring was in terms of the number of placements for each 60-minute trial. Although the experimental design emphasized the effect of these incentives on output, the authors refer as follows to the learning aspects: ". . . the data suggested that few of the patients had achieved the maximum score of which they were capable by the end of the experiment. The learning curve of nearly all subjects, when examined singly, still showed an upward trend. It was completely unanticipated that imbecile subjects would continue to show improvement in performance over the entire range of 42 one hour trials." [20] After six weeks three retention trials were run. These revealed that 33 Ss obtained mean scores above those on the 11–30th trials and 19 exceeded or were within 10 points of their mean scores for trials 39–42.

[18] R. F. Boldt, "Motor Learning in College Students and Mental Defectives," *Proceedings of the Iowa Academy of Science*, 60 (1953), 500–505.

[19] S. Gordon, N. O'Connor, and J. Tizard, "Some Effects of Incentives on the Performance of Imbeciles on a Repetitive Task," *American Journal of Mental Deficiency*, 60 (1955), 371–377.

[20] *Ibid.*, p. 375.

The above studies point to the need of more extensive and more adequately integrated experimental investigations. Those appearing to date are so heterogeneous that an inventory of the relationship between learning and mental deficiency is severely impeded. The various studies encompass diverse motivating techniques, emphasize various aspects of learning, utilize different methods of sampling and measuring acquisition, include Ss with variations in intellectual efficiency, and incorporate etiologically heterogeneous conditions, the latter variability being recognized in only a minority of the investigations. Only two papers [21] appear to be specific outgrowths of previous investigations. The anticipated variations in and confusions about the results occur. Classifying and comparing the results of studies comparable in any one aspect of their designs does not reduce these confusions.

Much of the disagreement arises in the conclusions about the amount and rate of learning that can be predicted from the adequacy of intelligence test performance. Only one study [22] failed to find learning in mental defectives. The papers of Fuller, Tizard and Loos, and Gordon *et al.* describe learning in grossly defective individuals. Studies which compare Ss at various levels of intellectual deficiency [23] tend to agree that lower psychometric scores are accompanied by less learning skill. Cantor and Hottel amend this general observation with the notation that those Ss who had lower MAs had initially higher accuracy scores than the Ss with higher MAs. Investigations which include both intellectually normal and defective individuals [24] generally conclude that the latter require more trials or more time than the former. Boldt concurs with this but found that intellectually less adequate Ss showed more initial improvement than college students.

Some consistency occurs among those papers which report coefficients of correlation between intelligence test scores and learning scores.[25] There is a tendency to report a reduced relationship between these two variables. Although the actual coefficients vary from —.165 to .62 their distribution is negatively skewed. McCul-

[21] McCulloch, Reswick, and Weissmann, *op. cit.*, and Sloan and Berg, *op. cit.*

[22] Pascal, Stolurow, Zabarenk, and Chambers, *op. cit.*

[23] Cantor and Hottel, *op. cit.;* McCulloch, Reswick, and Roy, *op. cit.;* and Melhado, *op. cit.*

[24] Berger, *op. cit.;* Boldt, *op. cit.;* Melhado, *op. cit.;* and Stevenson and Iscoe, *op. cit.*

[25] Brace, *op. cit.;* McCulloch, Reswick, and Weissmann, *op. cit.;* Mitchell, *op. cit.;* and Sloan and Berg, *op. cit.*

lough *et al.* and Sloan and Berg found that MA predicted learning less precisely than it did initial scores.

The evidence concerning the behavioral consistency among different phases of the learning process again indicates variability, in this instance in the learners as well as in divergent research reports. Tizard and Loos comment that initial score is a misleading index of learning time. McCullough *et al.* and Sloan and Berg concur on a zero order coefficient of correlation between grasp and gain scores. Such divergency is not reported by Mitchell who found that scores in the learning of nonsense syllables in an initial and a reversed order showed more agreement than those between test intelligence and learning and transfer and test intelligence. Melhado likewise found that the same Ss demonstrated learning facility in both conditioning and in size discrimination. These indications of consistency in learning in two series were not borne out by the comparison of individual scores of maze and nonsense syllable learning made by Sloan and Berg.

Another aspect of learner inconsistency is seen in comments about irregularity in learning curves and in deviations from mean scores. Stevenson and Iscoe report a standard deviation in excess of a mean score but do not interpret this variance, even though it was not found in a comparable study of normals. Boldt, Cantor and Hottel, and Mitchell report deviations in direction or acceleration of the curves. In order to complete the contradictions in results that have permeated this compilation of the literature, one must add Fuller and Sloan and Berg's notation that the learning curves which they obtained from mental defectives were "typical" of learning curves in general.

Neither the discrepant results nor the reports of a reduced relationship between intellectual level and learning have eliminated proposals to use learning as a diagnostic criterion. Peinado [26] computes a "regularity index of learning" as an aid to differential diagnosis between the "really weak minded" and the pseudo- mental defective. This index is based on the number of errors and the number of trials required to pick up four stacked squares (15 cm per side), each equipped with eight movable as well as one stationary pivot. These squares must be raised by grasping and touching only the stationary pivot. The author omits details concerning

[26] Altable J. Peinado, "The Role of Psychometry in the Differential Diagnosis of Some Forms of Pseudo-feeblemindedness," *Nervous Child*, 7 (1948), 407–415.

the number of Ss and their clinical status which he purports to distinguish by this technique, but does give mean scores diagnostic of such categories as "medium mental deficiency" and "extreme mental deficiency."

Pascal and Zax[27] suggest the use of a learning score on a double alternation problem as a "standardized test of intellectual capacity" for cerebral palsied children, Ss whose motor and verbal disabilities prohibit the effective use of conventional psychometric procedures. Their references to an earlier study of the senior author in which the same apparatus was used to measure delayed reaction and in which a negative relationship between practice and capacity to delay was found are confined to descriptions of the apparatus. They justify their proposed substitution on the basis of relatively high coefficients of correlation between scores on the double alternation problem and staff ratings of behavioral competency and on the absence of a significant relation between CA and double alternation score.

Between 1948 and the present writing, 14 studies, a number larger than that of the original review which went back to 1904, met the dual criteria of repetitive stimulation and conventional psychometric indications of mental deficiency. This impression of increased interest in an experimental approach to learning and mental deficiency is negated somewhat by the realization that four of these papers have utilized mental defectives because of their usefulness for learning data and theory per se, rather than because of an interest in this type of learner. Whatever the sequel of the current pre-eminence of "theory," the immediate state of knowledge about an integral contributor to learning, in this case, the learner, remains informal.

Summary

The present paper is a review of experimental studies of learning in individuals who achieve subnormal psychometric ratings. The review reveals a diversity of methodology and of results. Some papers highlight a slow, arduous learning process among mental defectives whereas others point to more skill in acquisition than is ordi-

[27] G. R. Pascal and M. Zax, "Double Alternation Performance as a Measure of Educability in Cerebral Palsied Children," *American Journal of Mental Deficiency*, 59 (1955), 658–665.

narily assumed. There is evidence that intellectual level is not an adequate predictor of the learning of mental defectives and that their learning per se is variable.

20 *Sensory Stimulation versus Specific Responses*

OLIVER P. KOLSTOE

MANY MODERN WRITERS credit Itard with developing the first systematic approach to the teaching of mentally handicapped children some time around the year 1799 with Victor, the wild boy of Aveyron. Itard himself described his work in great detail, and let the world know that he embraced a philosophy of sensationalism upon which he based his methods of instruction. There seems to be little doubt as to the effectiveness of his methods in trying to teach Victor to be less "animal-like" in his behavior and more "human." And while Itard viewed his own effort as a dismal failure, later writers, notably Seguin, have hailed him as a pioneer, a great teacher, and have pointed to the inadequacy of the raw material with which he was presented as a reason for his feelings of failure.

If we accept that Itard embraced the general philosophical position he says he did, it would be reasonable to suppose that Itard perhaps agreed with the notion that the final intellectual level at which any individual might function was largely a product of the environmental influences which shaped those functions during the development of the person. One could speculate that Itard believed geniuses were made, not born, and that the difference between a child becoming mentally handicapped, a normal person, or a genius depended not on his hereditary endowments but rather on the kind of environmental stimuli to which he was exposed during his life-

From *Exceptional Children*, 23:1 (October 1956), 2–4. Reprinted with the permission of the Council for Exceptional Children and the author. Dr. Kolstoe is chairman of the Department of Special Education at Southern Illinois University.

time. To carry this a step further, one could sensibly arrive at the position that Itard believed Victor to be "animal-like" in his behavior because the environmental stimuli to which Victor had been exposed during his early growth period had been "animal-like." From the methods used, Itard must have believed it possible to "cure" feeble-mindedness or mental handicap by the simple expediency of replacing the animal associations with "human" experiences as Itard was able to discern these in the culture in which he lived. This logical supposition can be given added strength on the evidence that his sense training methods were essentially those which aimed at providing "civilized" stimuli for Victor. For example, Itard attempted to teach the sense discrimination of hot and cold to Victor, presumably not to make him aware of hotness and coldness as such, but rather to make him sufficiently aware of temperature changes that he might dress in an appropriate manner and thus appear more human and less like an animal. It would be appropriate to surmise that Itard felt he had failed with Victor because he believed idiocy to be curable, and Victor was not cured. Improvement was not enough to satisfy Itard. Presumably, he could be happy with little less than complete cure.

The Methodology—Sensory Stimulation

Seguin, publishing his book, *Idiocy: Its Treatment by the Physiological Method,* in 1866, gives credit to Itard for interesting him in the treatment of idiots. A sensationist, as Itard was, Seguin better identified his position by postulating a theory of mental deficiency which was related to the defects in the central or peripheral nervous system of an individual. He explained idiocy on the basis of neurophysiological defects which would not allow the sensations to reach the brain. In either case, his method of treatment was the same. That is, he first tried to make as efficient a machine as possible, by physical education and muscle training presumably to increase the efficiency of sensation transmission. Secondly, he seemed to believe that if the sense receptors were bombarded with strong enough stimuli, that these would somehow get through the defective parts of either the peripheral or the central nervous system and reach the brain. If these sensations were repeated often enough, enough of them would get through to the brain to form more adequate associations in this manner ultimately, the idiocy condition

would be "cured." For this he used a system of sense training not unlike Itard had employed.

This well-written work of Seguin is a clear recognition of an organic basis for mental handicap. To be sure, it is not precise, and the emphasis is on inadequate receptor-connector chains, still the condition is considered organically caused.

The Result—Improvement

Maria Deteressa Montessori's activities would lead one to believe she must have embraced somewhat the same philosophical precept as Itard and Seguin when she developed her auto-education techniques to train each sense separately. One cannot deny the effectiveness and efficiency of the Montessori system, but it would be difficult to see how such a system could spring from other than a fairly optimistic philosophy that the human organism achieves a level of intellectual functioning closely related to the stimuli provided in the environment of the child during his development. The difference, then, between the mentally handicapped, the normal, and the genius would have to have been thought of in terms of the quantity and intensity of the stimuli provided in the environment of the child in his developing period.

It is quite well assumed that Itard worked with what today would be considered a rather low grade of mental deficient. Yet he made "some" progress with Victor. Seguin used "idiocy" as a generic term. That is, in the frame of reference within which he lived in the France of the later 1800s, Seguin seemed to use the term idiocy as meaning almost any degree of mental handicap. It is possible that his better results may have been because he worked more with what present-day specialists recognize as mentally retarded than with the mental deficient. This guess is supported by the evidence that Montessori found her methods to be quite useful with bright and gifted children as well as with the mentally retarded. Thus all three of these creative people demonstrated that progress in the intellectual functioning of mentally handicapped children could be made. Seguin and Montessori showed rather well that the higher grade the children, the better the progress. The goal was cure, the methodology—sensory stimulation, and the result was improvement. This is reasonable evidence that a highly stimulating environment appeared to result in generally improved intellectual functioning.

The work of Skeels and Dye on the effects of early environmental stimulation of infants gives added evidence of the possibility of improving intellectual functioning thru early stimulation. In 1950 Kirk started a training experiment with young (ages three-five) mentally retarded (IQ 50–80) children. In a forthcoming publication, Kirk is reporting finding spurts in mental growth, seemingly as a result of the stimulation surrounding the youngsters. The work of Nancy Bayley serves to reinforce these suggestions with the effect that two conclusions seem warranted:

1. Systematic environmental stimulation seems to have "some" effect in improving intellectual functioning.

2. The effect seems to be greater with young, high grade mentally retarded. It would seem that the expectation of "cure" attributed to Itard and Seguin is unrealistic, but that improvement as a result of systematic stimulation is a distinct possibility.

The Development of Specific Responses

As early as 1896, John Dewey began to make his genius known in educational philosophies. His emphasis on the necessity of the learner taking an active part in the education process led many followers to develop methods of instruction which allowed the child to "learn by doing." The later work of Duncan in England placed emphasis on teaching the skills of housewifery and handiwork. Ingram's program presented in her 1935 edition of *Education of the Slow Learning Child* placed major emphasis on engaging the learner in activities. The occupational education curriculum developed by Hungerford in New York likewise emphasized the activity of the learner. Thus the philosophy of Dewey seems to be reflected in the curricula for mentally handicapped children of Duncan, Ingram, and Hungerford.

This activity approach certainly has resulted in improving the effectiveness of these youngsters. Yet the emphasis is just the opposite of that of Itard and Seguin. While Itard and Seguin were concerned with the systematic presentation of stimuli, present-day workers like Ingram and Hungerford seem to be concentrating on the systematic development of specific responses. This appears to be a radical switch from stimuli to response.

Both approaches seem to produce more effective behavior. Yet certain limitations seem inherent in either the stimuli or response

emphasis when used exclusively. It would appear, for example, that those who advocate the intensifying of instructional procedures order to try to teach mentally handicapped children enough to enable them to keep up with their age peers are acting as though the method is based on an optimistic faith in the possibility of cure.

It would seem that a school system in which educable mentally handicapped children follow the regular class routines of the other children for most of the day, but are pulled out for specialized instruction during part of the school day is operating "as if" this extra stimulation given to the children will do something to increase the associations in the "mind" and increase the level of mental functioning. One could well wonder to what extent this type of reasoning enters into the operation of a remedial program consciously, yet it seems inescapable that some such philosophical position would lead, by one logical extension, to a remediation program.

On the other hand, in view of the fact that trauma, cultural deprivation, and emotional disturbance have a generally depressant effect on intellectual functions, the positive results of Itard, Seguin, and Montessori give a clue for action. That is to say, if there is a lesson to be learned from past workers in this area, it is that since we do not know all the effects environment has on changing intellectual functioning, then in all fairness to each child maximum stimulating must be systematically pursued in the special class curriculum. On the other hand, most of the graduates of the special classes probably will not become "normal" under this treatment. Indeed, some will scarcely profit.

Sense Training and Behavior Practice

It would seem, then, that the emphasizing of specific response skills is also necessary. Unfortunately, some limitations are inherent in this type of programming also. For example, in a program which deals primarily with unit work, often children who are quite limited in ability seldom do much more than what they can do. A child who can do little more than paint may find himself painting in every unit. Thus no systematic attempt is made to improve his performance in other areas. Reading, likewise, is apt to suffer. Although a very exceptional teacher may be able to weave a systematic reading program into a unit plan, it is difficult. Since reading is a necessary tool as well as a method of instruction, it would follow that

both systematic instruction in "learning to read" per se and practice in "reading to learn" need emphasis. This combined sense training and behavior practice approach would indicate a curriculum which maintains a careful balance between general education and specific training for occupation.

In the area of general education a systematic approach to the academic subjects would need to be planned for and carried out. This would be aimed at careful attention to the basic skills including sense training, formal instruction in reading, writing, arithmetic, and spelling, and would recognize that this training could result in an increase in the child's level of general intellectual functioning as well as insure maximum skill in his use of the basic tool subjects. It would include teaching the child to think, to solve problems, to manage his own affairs, to write, read, and function efficiently in the quantitative areas. It would call for a systematic, step-by-step, developmental approach.

The unit method of instruction provides excellent opportunities for the practice of transferring basic skills to behavior areas. Problems in social behavior, occupational information, applying for jobs, conduct on the job, demands of specific jobs, and employee-employer and employee-employee relationships demand the learning of specific response behaviors.

This balance between the two approaches gives one the assurance that everything possible is being done to upgrade the mental efficiency of the youngsters, and everything is being done to give them the behavior skills required of them in the work-a-day world. Neither approach seems to be able to do both these tasks alone. Nor are the approaches equally effective at the same time. It would appear that up until the age of about 10 or so, the major curricular emphasis should be on the systematic presentation of stimuli in a sense-training program. This emphasis should gradually change until youngsters at a junior high school level are involved in a response emphasis program. In this program general education provides the child the opportunity of increasing his intellectual efficiency up to the limits imposed by nature, and specific behavior training insures the development of patterns of behavior of a socially acceptable nature. Although the stimuli approach is aimed at vertical development and the response approach at horizontal, the combination seems to be necessary for the total development of mentally handicapped youngsters in special classes.

21 *Application of Hebb's Theory to Understanding the Learning Disability of Children with Mental Retardation*

E. PAUL BENOIT

IN DECEMBER 1958, the author joined in a meeting of the American Association for the Advancement of Science at Washington, D. C. The aim of participants was to present data in support of specific hypotheses or theories. However, it was the frank purpose of this paper merely to define Hebb's [1] neuropsychological theory of behavior and its implications for understanding learning in mentally retarded children.

Current theorizing in the field of learning supposes that learning is effected essentially in the nervous system, and that it is furthered or impeded as a function of qualitative and quantitative changes in the neural apparatus. While basic research in neurology has come up with many discoveries about the structural and functional characteristics of neural tissue, psychologists have tended to deal with learning without availing themselves of this information. Among others, Hull [2] has explicitly been content to regard the central nervous system pretty much as a mere little black box in which stimulus-response connections are built up.

Hebb's view of learning is distinguishable from that of his predecessor's in a number of major ways, but perhaps the most out-

From *The Training School Bulletin*, 57:1 (May 1960), 18–23. Reprinted with the permission of The Training School, Vineland, New Jersey, and the author. Dr. Benoit is coordinator of research, The Partridge Schools, Springfield, Virginia.

[1] D. O. Hebb, *The Organization of Behavior* (New York: Wiley, 1949).

[2] C. L. Hull, *Principles of Behavior* (New York: Appleton-Century-Crofts, 1943).

standing point of difference in the eyes of the behavioral engineer is that he takes into account the nature of the central nervous system. Since human beings learn with a mechanism that has a number of known features, he assumes that a more meticulous respect of these is likely to facilitate learning, in much the same way as pen manufacturers produce more efficient pens by considering the contours of the hand.

Still another point of difference is Hebb's broader view of the phenomenon of learning. Hull was concerned with the formation of associations between stimuli and responses. Hebb's formulation goes back formally to the initial processes of perception and attention, and the derived process of memory; and he visualizes these phases as points where learning can be promoted.

These two areas of emphasis are decidedly not treated as crucial in speculations on learning as such. Today, Osgood [3] and Jenkins,[4] among others, do not go much beyond describing learning in terms of the development of a mediational process which represents and accounts for observable responses. Staying on this plane, they are able to bring out a large number of useful operational laws of associative learning.

However, these two peculiarities of Hebb's behavioral theory —concern for neurology and perceptual foundation—are of marked relevance to learning in the mentally retarded. For this group, it is imperative that we explore every possible way of maximizing functionality.

Brief Outline of Hebb's Theory

Hebb begins with the concept of cell-assembly, which he sets forth as the basic mechanism of sensory and motoric response, and the neurological counterpart of psychological experience. He assumes that the impinging of a stimulus on a sense organ activates a chain of cells, distributed mostly in the upper portions of the central nervous system; he reasons similarly regarding motoric impulses. Repetition is viewed as strengthening intercellular bonds

[3] C. E. Osgood, *Theory and Method in Experimental Psychology* (New York: Oxford University Press, 1953).

[4] J. J. Jenkins, "Associative Clustering during Recall," *Journal of Abnormal Social Psychology,* 47 (1952), 818–821.

through the enlargement and multiplication of synaptic knobs by some kind of neurobiotaxis, very likely at a rate and to a limit that jointly suggest a typical biological exponential curve. This type of growth derives some support from the evidence that postulates a structural change to account for the facts of memory.

The cell-assembly concept leads one to infer that its formation requires an optimal extension and intensity of stimulation on the receptor surface and also optimal excitation in the correlated structures in the neural centers. Already both the nature and the origin of cell assemblies recommend adaptations that are likely to enhance perceptual efficiency and stabilize attention.

Once constituted, cell assemblies become the essential building blocks in associative learning of progressive degrees of complexity. At this point, the primitive perceptual structures cooperate to generate integrators. Such an organizational structure develops when two or more stimulations repeatedly occur in close temporal proximity; the firing of the perceptual structures tends to foster the development of a higher-order structure, so that the occurrence of one perceptual act may cause the transmission of excitation through synaptic bridges into the associative structure, and through it deliver facilitation to the other subordinate perceptions, even in the absence of the appropriate stimuli.

The superordinate structure is postulated as consisting of the interconnecting neuronal elements and new cells recruited along the way; it may also include neural elements common to the subordinate structures, as the basis for the perception of partial identities.

The formation of organizational structures is assumed to proceed progressively, as new percepts or more involved perceptual complexes are acquired.

At this point, one may suppose that gradual rise in integration is not independent of the condition of the central nervous system, but that an upper limit is set by the total mass of healthy neural tissue.

It may further be noted that both subordinate and superordinate structures extend into both the sensory and motor segments of the central nervous system, so that motoric elements lend facilitation to related sensory structures, and vice versa.

Hebb's formulation, presented in rough summary, is hopefully intended to account for all the facts of learning. Hebb himself has

attempted to show its fertility by applying it to various departments of behavior. More recently, it was extended by Bousfield [5] to explain many facts pertaining to clustering in verbal behavior.

Application to Learning in the Mentally Retarded

Hebb's theory is highly pertinent to the mentally retarded, because of its concern for making the most of impaired neurology. Crowbars vary in strength, but efficiency can be increased by adjusting the fulcrum point to best advantage. Hebb's thought is significant because it subsumes established rules of thumb, and calls attention to further manipulations in the learning situation.

Anyone familiar with the original work of the two great pioneers in the teaching of retarded children, Seguin [6] and Itard,[7] knows that they furthered their success with the children by using larger materials, *e.g.*, alphabet, pencils, tools. As was noted above, Hebb's theory assumes that spread of stimulation at the sensory surface is associated with a more abundant excitation in the higher centers of the nervous system, and that perceptual structures arise more readily; superordinate structures emerge more easily because there is then a greater number of points at which interfacilitation can take place. Optimal maxima have yet to be determined experimentally.

This general principle suggests several adjustments regarding teaching content. Initial training obviously should be thing-oriented, because of the opportunity thereby provided for fuller cortical participation. If thing-percepts are well established, it is then easier to link them with words; these are clearly more difficult to recognize than things, because of their more constricted configurations as stimuli. The matter of optimal mobilization of the cortex in this area presents a problem of prohibitive proportions. One can, for example, helpfully enlarge the stimulus field in a few ways, *e.g.*, by exaggerating slowness and distinctiveness in the adult's speech, by sharp inter-word contrasts (negatively, by avoidance of confusing homonyms). Finally, the theory cautions against the careless in-

[5] W. A. Bousfield, "The Occurrence of Clustering in the Recall of Randomly Arranged Associates," *Journal of General Psychology*, 49 (1953), 229–240.

[6] E. Seguin, *Traitement moral, hygiene, et education des idiots* (Paris, 1866).

[7] J. M. Itard, *The Wild Boy of Aveyron*, trans. by G. and M. Humphrey (New York: Appleton-Century-Crofts, 1932).

clusion of reading in the children's curriculum. After they have managed to succeed in the difficult task of extending their knowledge by associating a large number of auditory symbols with familiar objects, it may not be wise to launch into the deeper waters of symbolism by trying to teach too many associations between written and oral symbols. The written word is two steps away from the object; learning here operates on the level of markedly circumscribed stimulus patterns, and involves the association of auditory and visual percepts, with the latter group having far less opportunity for reinforcement than the former.

Closely related to the above principle regarding spread of stimulation is the frequently underscored advantage deriving from the multiplication of sensory modalities or dimensions in a given perception. Thus, emphasizing distinctiveness of both design and color has been shown to aid the learning of the alphabet. The use of audio-visual aids is recommended on the same basis at every level of learning. Further propping can be provided by enlisting the autonomic nervous system, viz., by arousing desires in line with the teaching aims.

Several decades ago, Grace Fernald [8] demonstrated that the slow learners picked up speed in learning to recognize words by tracing the letters with finger or stylus. Hebb's system leads one to infer as much: by engaging more cortex, viz., by including the motoric portion of the brain, more opportunity is provided for interfacilitation. The same logic applies to do-it-yourself practices, the follow-through of projects, the carrying out of instructions, even the vocal recitation of thought sequences.

The need of motoric support makes one wonder to what extent the children's handicap might be accentuated by the curtailment of opportunities for self-help in cases of overservice on the part of protective adults. Many experimental studies have shown that stimulation privation diminishes response capacity even into adulthood in animals.

Some twenty years ago, Alfred Strauss [9] dealt with the problem of distraction in organically impaired children by insisting on the artificial simplification of the stimulus situation. According to Hebb, attention is controlled through the delivery of facilitation from one

[8] Grace M. Fernald, *Remedial Techniques in Basic School Subjects* (New York: McGraw-Hill, 1943).

[9] A. A. Strauss, and L. E. Lehtinen, *Psychopathology and Education of the Brain-injured Child* (New York: Grune and Stratton, 1947).

organizational structure to another. Accordingly, the successful induction of new learning may require the eliminating or minimizing of irrelevant stimuli, until interstructure facilitation has been developed enough to permit the easy channeling of in-coming stimulation to the appropriate organizational structures. Hence, the need of simplicity in the learning situation is a function of the level of habit strength and the integration level. Without regard for adaptation of this sort, there is likely to be mass activation of structures and diffuse thinking.

The theory strongly emphasizes the importance of progression in the teaching of new material. Each task must be broken down in terms of acquired elements in the child's frame of reference; else a double task is faced, and progress must be all the slower. Much efficiency is lost in teaching because of lack of sensitivity to units that are appropriate for the individual. Steps must presumably be short, if they are to get the learner anywhere. Undoubtedly much research is needed into the nature of sequentiality in the evolution of behavioral patterns, and into modes of meaningful analysis.

This consideration regarding rate of growth raises two further questions about developmental ceiling and also about early learning. The difficulty of establishing perceptual structures obviously applies throughout the lifetime of the individual; there is reason to stress the early learning, because there is a tendency to underestimate its significance. Every effort must be made to expose the children to all such experiences as may be likely to be within the scope of their readiness, so as to reinforce as many perceptual and organizational structures as possible. Otherwise behavior becomes permanently constrained within the limits of primitive habits. Slow learning necessarily entails the reinforcement of a scanty set of perceptual structures, both subordinate and superordinate. This condition is presumably behind such characteristics as rigidity and stimulus bound behavior. These psychological manacles must be directly counteracted by the proper organization of the learning situation. Perception must be guided with relatively more explicitness.

Drill is recognized as inherently more necessary for the retarded than for the normal by and large. It may well be that a given degree of response strength in organizational structures may call for a high degree of total reinforcement. This deduction leads to the corollary that the limit of complexity in integration is perforce not high in the retarded. It is therefore imperative to stress learning that is within the limits of possibility rather than to try at all costs to rise to higher

levels. He who saws boards with many strokes and hammers nails with many blows had better not attempt to build a castle.

Since the level of integration rises so slowly because of the great need of practice, it stands to reason that proper selection be made of materials. There is no point to building a base broader than the height of a tower calls for.

This principle applies to the motoric sphere no less than to the sensory. The retarded are likely to fail in precision activities, in complex sequences; they do better on tasks involving large objects, molar muscle systems, and hence lower level integrations. They should be oriented to such areas of social service in which interpersonal interaction is primary, and the degree of refinement in perception and muscular function is relatively low.

Finally, to cite one more of many points of application, Hebb observes that new associations are built up independently of awareness. The essential condition is the relatively synchronous perception of related elements. Accordingly, incidental learning has a real place for retarded children, especially in situations in which there are problems of distractibility and disinhibition. After a certain amount of repetition at this phase, attention is likely to operate at the conscious level.

Summary of Implications

There is much curiosity regarding the relevance of Hebb's concepts of cell assembly and organizational structures. While they do not appear to contradict known neurological facts, they do involve an embarrassingly large number of postulates that cannot readily be verified. Hence one cannot but wonder about justification for utilizing them. We are entitled to say that the proof of the pudding is in the eating. If Hebb's system of assumptions leads to a useful set of organized hypotheses, we should pursue the line of thought and not be inhibited by excessive concern for operational neatness. The theory has the advantage of taking many procedures, many of which might even be in common use, and of subsuming them under a single set of postulates. Should the hypotheses derived from the theoretical framework be supported by experimental evidence, the likelihood is great that insights would gain in depth. Besides, if one may be allowed a morbid analogy, it is better to look at a skeleton than at a clumsy sack of odd bones—which is pretty much

the status of currently educational thinking on the mentally retarded.

The research ideas proposed above suggest an important deviation from current practice. As a rule, basic research in learning is done on highly molecular phases and by means of exceedingly primitive tasks. This approach has not startled the world with its fruitfulness. Perhaps controlled observation in everyday life can enlighten us more than the artificial problem boxes, mazes, and other apparatus of the psychological laboratory.

5

SCHOOL PROGRAMS FOR THE EDUCABLE MENTALLY RETARDED

THE TERM "EDUCABLE MENTALLY RETARDED" was first introduced in state educational codes to differentiate special legal provisions developed for this group from those designed for the "trainable mentally retarded." This fine line of demarcation can be drawn in legal terminology, although in practice the line is not always clear cut. Most state education codes define educable mentally retarded children as those who are incapable of coping with a normal-class program: children who have been individually assessed and found to be mentally retarded, but who are still capable of profiting from a special education program designed to make them economically useful and socially adjusted. Few state codes stipulate specific IQ ranges for determining eligibility, but most school districts use an IQ range of 50 to 75 as a major criterion, whether this practice is sound or not. The IQ range is ordinarily stretched upward or downward a few points, depending upon many administrative factors.

The question of whether or not special classes for the educable mentally retarded are needed has been constantly debated since their earliest inception in the public schools. Today several studies evaluating special-class versus regular-class placement are underway. G. Orville Johnson [1] states quite conclusively that educable retarded children tend to be isolates and are rejected when placed in

[1] "A Study of the Social Position of Mentally Handicapped Children in Regular Grades," *American Journal of Mental Deficiency*, 55:2 (July 1950), 60–89.

a regular class. Willie Kate Baldwin,[2] in a similar study, found essentially the same results. Samuel A. Kirk[3] points out that mentally retarded children require special education because they exhibit wide differences from the "normal child" in their growth patterns as well as in their educational, social, and vocational needs.

The most pressing problem is the need for additional special classes for educable retarded pupils. In many school systems, these services are accepted as necessary and valuable, but probably no more than one fourth of the children who should be in these classes has been so placed. Shortages of school facilities and teachers, coupled with an exploding population growth and in many cases only token financial support from state and local systems, are the main hurdles. Although special-class enrollment has increased in the last thirty years, the growth has not been great enough to solve the need. In 1922 the U. S. Office of Education reported that 52,000 were in special classes; an estimate for 1960 places this figure around 200,000. In terms of population growth, the increase is insignificant.

On the more positive side, great improvement has been made in the quality of services offered. Teachers are being trained by new methods and in professional laboratories, and as a result are achieving a higher degree of success in their work. Special psychological and supervisory services are available in many areas. Programs for the educable mentally retarded have been extended through the junior and senior high school years, and occupational and work-training activities are becoming standard procedure. Preschool classes are being experimented with, parent education groups are being formed, and in general, more guidance services are available. Nor is the outlook bleak in rural areas. Where once such programs were unknown, states like New York, Wisconsin, California, and Texas have begun to work out suitable plans for rural children through county offices.

Both mandatory and permissive legislation providing for financial aid, teacher-certification standards, diagnostic programs, and many other services have increased since the end of World War II. By 1959, 48 states and the District of Columbia had enacted legislation dealing with the educable mentally retarded. Moreover, 37 states have either permissive or mandatory administrative regula-

[2] "The Social Position of the Educable Mentally Retarded Child in the Regular Class," *Exceptional Children*, 25:3 (November 1958), 106–108, 111.

[3] "What Is Special about Special Education?" *Exceptional Children*, 19:4 (January 1953), 138–142.

tions for the trainable retarded child. Laws alone do not create programs, but they are the first step in the right direction.

Most educators now recognize that teaching retarded children demands a developmental rather than a remedial approach. One area that needs exploration might be described as "diagnostic teaching." Under this theory, the psychoeducational characteristics of a mentally retarded individual are carefully determined and used as clues in the educational procedure. A form of this method is now being experimented with by Dr. Lise Gellner, a neurologist, at the Julian Levinson Research Foundation in Chicago. Dr. Gellner's work has been expanded upon by Ruth Patterson and her associates [4] at the Columbus (Ohio) State School.

This section broadly discusses school programs for the educable mentally retarded. Two supplementary tables prepared by the editor summarize (1) organizational plans for special classes and (2) concepts of curriculum and methods for teaching the retarded. A bibliography at the end of the section lists available curriculum studies for educable, trainable, institutionalized, and brain-injured children.

The first article, by Dr. Helen M. Wallace, is the summary of a nation-wide survey of administrative and clinical services provided for the retarded in 106 communities. The survey covered such subjects as educational placement, the screening of children for special classes, the role of re-evaluation techniques, and the administrative aspects of program development.

The philosophies of homogeneous and heterogeneous grouping are discussed in an excerpt from a report prepared by J. Wayne Wrightstone and his associates for the New York City Board of Education.

In the third article, Godfrey D. Stevens examines statements of the goals of educating the mentally retarded found in the literature. He finds that many such goals are vaguely or ambiguously phrased and need to be restated in terms of life situations.

Curricula for the educable mentally retarded must be based, of course, on estimates of their learning potential, or educability. In their article Herbert Goldstein and Dorothy M. Seigle discuss, with considerable perception, the characteristics of retarded children in relationship to school programs—the influence and use of intelligence quotient scores and mental-age estimates, and the importance

[4] Ruth M. Patterson (ed.) *et al., Teaching Devices for Children with Impaired Learning* (Columbus, Ohio: Parents Volunteer Association, 104 Westgate Ave., 1958).

of such learning disabilities as short attention span, oversimplification, and retarded language development.

A more specific approach to the development of curricula for the mentally retarded is discussed in the article by Elise H. Martens. Dr. Martens pioneered in the development of an eclectic approach for special-class programs, the unit of experience. Such a unit is based on the assumption that the child is a whole being, with a life experience to which every activity of the day contributes. Although primarily centered on the social studies, the unit method is flexible; it lends itself to the integration of various subject matters and can be adjusted to varying intellectual levels. Dr. Martens' article discusses, in specific detail, the development of curricula for different age groups and different subject matters.

The final article, by H. L. Heilman, deals with planning a classroom and equipment for retarded children; it is an excellent and detailed guide for schools planning such facilities.

22 *School Services for Mentally Retarded Children in Urban Areas*

HELEN M. WALLACE

IN A DEMOCRATIC SOCIETY equal opportunity for education and training should be made available for all individuals of any community, including those who may have a handicap, so that each may reach his potentiality. Historically, among the various types of handicapped children, much more opportunity has been provided for certain groups—the partially sighted, the blind, the deaf, and those with an orthopedic disability of mild and moderate degree—than for other groups such as the mentally retarded. Community responsibility for the education and training of the mentally retarded has been gradually assumed only within the last decade,

From the *American Journal of Mental Deficiency*, 64:4 (January 1960), 679–688. Reprinted with the permission of the American Association on Mental Deficiency and the author. Dr. Wallace is Chief of Professional Training, U. S. Children's Bureau.

and primarily only for those who have a mild degree of retardation. Furthermore, it is of some significance that the planning and provision of school services for handicapped children have been carried out by educational authorities alone, with too little consideration of the health care of children and with too little participation by health personnel. That the omission of the health aspects of the care of handicapped children has led to their incomplete evaluation, their inaccurate diagnosis, and their inappropriate school placement has been substantiated by studies [1] carried out in one urban community. It therefore seemed timely to look at the status of school services for all types of handicapped children, including the mentally retarded, currently provided by public school systems in the larger urban communities of our country.

Method of Study

During the winter of 1958 a questionnaire was sent to the health officers and superintendents of schools of each of the 106 cities of our country having a population of 100,000 or more according to the 1950 census. The questionnaire contained items regarding the types and numbers of handicapped children cared for in the public school system; the age of admission; the kinds of school facilities provided; the presence of established criteria for special educational placement, and the agency responsible for their establishment; the method of review of applications for special educational placement, personnel engaged in such review, frequency of review; organization of special education within the public school system; method of financing and costs of education of handicapped children; and the provision of transportation and attendant service during transportation of handicapped children to and from school.

Previous papers [2] have reported on the general information regarding all types of handicapped children, regarding children with

[1] Helen M. Wallace, J. Wayne Wrightstone, and Elena Gall, "Special Classes for Handicapped Children," *American Journal of Public Health,* 44 (August 1954), 1045–1058; and Wallace, Robert S. Siffert, George Deaver, and Eufelia Pingitore, "The Homebound Child," *Journal of the American Medical Association,* 158 (May 21, 1955), 158–160.

[2] Wallace and Helen Starr, "School Services for Handicapped Children in Urban Areas," *American Journal of Public Health,* in press; Wallace, *School Services for Orthopedically Handicapped Children in Urban Areas,* in press; and Wallace, *School Services in Urban Areas for Children with Rheumatic Fever or Heart Disease,* in press.

orthopedic, neuromuscular, and neurological conditions, and regarding children with rheumatic fever or heart disease.

This paper will summarize the information regarding children with mental retardation provided on the questionnaires.

Study Findings

According to the 1950 census, the 106 cities had a combined total population of 44,311,716 or 29.4 percent of the total of our country, and a combined school enrollment of children aged 5 through 17 years of 7,192,100 or 28.4 percent of the total of our

TABLE I

Chronological Age of Admission of Mentally Retarded Children to Public Schools

Age	*No. of school systems*
9 years	4
8 years	10
7 years	13
6 years	32
5¾ years	2
5⅔ years	1
5½ years	3
5 years	16
4½ years	3
4 years	1
Age not stated	13
Total	98

country. Ninety-eight of the 106 cities responded (92 percent of the cities). These ninety-eight respondent cities had a combined total population of 41,686,921 (94%) and a combined school enrollment of children aged 5 through 17 years of 6,840,105 (95%).[3] All ninety-eight respondent urban communities provide some school services for children who are mentally retarded.

Age of Admission to School The age of admission to school has considerable importance. Sixty-nine of the 98 respondent communities (70.4%) have the policy of admitting mentally retarded

[3] The cooperation of the Health Departments and Boards of Education in providing the information is gratefully acknowledged.

children to school at the chronological age of six years or over. Four communities admit such children under the age of five years (Table I).

It is of some interest that 46 of the school systems admit deaf children under the age of five years, 31 admit the hard of hearing, 30 admit the orthopedic group, 17 admit children who are blind or who have speech problems, 13 admit cleft palate, 11 admit the partially sighted, 9 admit children who have rheumatic fever or heart disease, 6 epilepsy, and only 4 school systems admit the emotionally disturbed or the mentally retarded. On the other hand 65 school systems delay the admission of mentally retarded children

TABLE II

Minimum IQ Level Required for Admission of Children with Mental Retardation to School Services

IQ level	*No. of school systems*	
75	1	48 (49.0%)
60	1	
50	46	
48	2	41 (41.8%)
45	1	
40	5	
35	8	
30	16	
25	9	
20	4	4 (4.1%)
Not stated	5	5 (5.1%)
Total	98	

beyond the chronological age of five years; 55 school systems do so for the partially sighted; 45 do so for children with rheumatic fever or heart disease; 41 do so for children with speech difficulty; 40 do so for the orthopedic, neuromuscular, or neurological group; 34 do so for children who have epilepsy or who are hard of hearing; 33 do so for children who are blind; 32 do so for children with cleft palate; 28 do so for children who are emotionally disturbed; and 14 school systems do so for children who are deaf.

With the increasing concern about school services for trainable children in more recent years, the questionnaire contained inquiry regarding the minimum IQ level of the child necessary for school admission. While there was considerable variation as to the lower

IQ limit accepted, 49 percent of the school systems accept educable children (in the IQ range of 50–75), 42 percent accept trainable children (in the IQ range of 25–50), and 4 percent of the school systems accept children with an IQ level as low as 20 (Table II). It is evident that most of the larger urban communities at present have limited these services to the educable group, and that only a very few communities have included the most severely retarded children.

Type of Educational Placement Provided The type of educational placement provided and, of course, the quality of the service within the individual placement constitute one of the important

TABLE III

Type of Education Placement Provided for Mentally Retarded Children

Type of placement	*No. of school systems*
Special day class alone	63
Special day class, special day school	13
Special day school alone	8
Special day class, special resid. school	2
Special day class, special day school, home instruction	1
Special day class, special day school, special resid. school	1
Special day class, special day school, home instr. hosp. and conv.	1
Home instruction alone	1
Not reported	8
Total	98

aspects of the care of handicapped children. To state it simply, the more services and the more comprehensive the services provided in an ambulatory school program (either special class or special day school), the less will be the need for a special residential school, home instruction, or instruction in a hospital or convalescent home.

The most frequent plan for the mentally retarded group is special day class. The second most frequent plan is a combination of special day class and special day school (Table III).

A question was asked concerning the numbers of known handicapped children in the various types of educational placement. This

question was not fully answered by all reporting communities. However, from the answers provided, it is evident that the largest number of mentally retarded children are in special day class. A smaller number of mentally retarded children are in regular class or in special day school (Table IV). Data on numbers of children are more complete for children in special day class, special day school, special residential school, and hospitals and convalescent homes under public auspices (exclusive of state institutions) than for children in regular classes and on home instruction.

TABLE IV

Number of Mentally Retarded Children Reported in Various Types of Placement

	School systems					
		Providing this placement		*Reporting no. of M.R. children*		
Type of placement	*Total no.*	*No.*	*Percent*	*No.*	*Percent*	*No. children reported*
Regular class	98			8		11,071
Special day class	98	81	82.6	73	90.1	69,017
Special day school	98	24	24.5	23	95.8	5,539
Special resid. school	98	3	3.1	3	100.0	22
Home instruction	98	3	3.1	2	66.7	10
Hosp. and conv. home	98	1	1.0	1	100.0	3

Method of Educational Placement for All Types of Handicapped Children Ninety-one of the 98 reporting public school systems (93%) stated that they had criteria established for the educational placement of all types of handicapped children. Of the other seven school systems, one each had established criteria for cerebral palsy, for the blind, and for mental retardation; four did not answer this question.

In almost half of the public school systems, responsibility for establishing the criteria for educational placement has been assumed by the local government, predominantly the local Board of Education. In 29 percent the responsibility has been assumed by the state government, predominantly the state Department of Education. The participation of the health department, either local or state, is very small. Where the individual disciplines were listed under local government, there is medical participation in less than half of the methods (Table V).

TABLE V

Agency Establishing Criteria for Educational Placement of All Types of Handicapped Children

Agency	*No.*
By state government—28 (28.5%)	
State Department of Education	27
State Department of Education and M.H. (for M.R.)	1
By state and local government—8	
State and local Boards of Education	8
By local government—46 (46.9%)	
Local Board of Education	25
Local Board of Education and Health Department	3
Miscellaneous—	18
With medical participation—7 *	
Without medical participation—11 †	
Not stated	16
Total	98

* Consists of 1 each of the following: psychologist, teachers, medical examiners; school clinic; educators and medical specialists; L.M.D., psychologist, principal, teacher; nurse, s. worker, school counselor; M.D., school psychologist, S.T., school medical supervisor; M.D., neurologist, therapist, T., Dir. of Spec. Ed.; psychologist, M.D., otologist, ophthalmologist.

† Consists of 1 each of the following: Cons. in Spec. Ed. and Prof. Adv. Comm.; School Board and Supervisors; Directors; individual evaluation and staff conference; Committee of Principals and Dir. of Spec. Ed.; Special Ed. Screening Committee; nurses, principals, supervisors, and State Dept. of Ed.; Supt. of School and Staff; Dir. of Schools and Classes of P.H. and supervisor of atypical classes; Case study and psychol. exam., M.D.; Supt., Dir. of Child Study, S.T.

In half of the public school systems, the Board of Education alone reviews the applications for special educational placement; in no instance is such review done by the Department of Health alone. In approximately one fifth of the school systems is the review carried on jointly by the two departments—education and health. In only three school systems was the recommendation of the practicing physician acted upon without any agency review (Table VI).

The number of professional personnel reviewing applications for educational placement ranged from one in one school system to twelve in another school system. The most frequent number of participants was six in eighteen school systems. It is gratifying that in most school systems more than one professional person is responsible for the review of applications (Table VII).

TABLE VI

Method of Review of All Applications for Educational Placement of All Types of Handicapped Children

Method of review	*No.*
A (separately by Board of Education)	49
B (separately by Department of Health)	0
C (jointly by Education and Health departments)	20
D (on recommendation of practicing physicians only)	3
A, B, C, D	1
A and D	5
A and B	2
A and C	2
Not checked	3
E (miscellaneous) *	13
Total	98

* Consists of 1 each of: A+ rec. by M.D., appr. by City and State Special Ed.; psychol. and/or med. examiner; D and E with Adm. and Dispos. Committee; M.D. recommends, H.D. reviews; C for blind, D for H.H.; D and E with school psychol.; E—S.W. coordinates eval. of h, psychol., and ed.; D and E with Dir. of Spec. Ed., M.D., psychol.; B for P.H.C., A for M.R.; C for P.H.C., A for M.R.; A except D for homebound; E with Dept. of Pupil Personnel, H.D., Schools; D+ principal, Director, psychol., teacher.

TABLE VII

Number of Participants in Review of Applications for All Types of Handicapped Children

No. of participants	*No. of school systems*
Twelve	1
Ten	3
Nine	3
Eight	12
Seven	15
Six	18
Five	15
Four	16
Three	9
Two	5
One	1
Total	98

The type of professional person participating in review of applications is of the utmost importance. In Table VIII, the most frequent types are the psychologist and the school administrator. The nurse and the teacher participate in about one half of the school systems, the social worker and the school counselor in about one third. There is limited participation by such personnel as the director of special education and the vocational counselor.

In all school systems, except 14, there was some type of medical participation in review of applications. It is surprising to find infrequent participation by certain medical specialists, for example, pediatrician, ophthalmologist, otologist, psychiatrist, neurologist and orthopedist (Table VIII).

It is considered essential that there be a careful review of all

TABLE VIII

Type of Personnel Participating in Review of Applications for All Types of Handicapped Children

Type of person	*No. schools*
Psychologist	87
Administrator	87
Nurse	57
Teacher	53
Social worker	34
School counselor	33
Director of special education	16
Vocational counselor	8
Medical participants	
Physician—type not specified	33
Orthopedist	19
Otologist	17
Family physician	16
Ophthalmologist	16
School physician	13
Pediatrician	12
Psychiatrist	9
Various medical specialists	8
Medical director	3
Neurologist	4
Cardiologist	3
Miscellaneous	4 *
Miscellaneous	4 †

* Composed 1 each of M.D. in Bd. of Ed. Clinics; plastic surgeon; epilepsy; health dept.

† Composed 1 each of Ass't Supt. of Schools; Speech therapist; Cons.

handicapped children, not only prior to educational placement, but also periodically during such placement and prior to withdrawal from such placement. The questionnaire asked for information on all three aspects. Ninety-six percent of the school systems indicated that they review all applications prior to placement, 87 percent do so periodically during placement, and 70 percent prior to withdrawal from placement (Table IX). Inquiry was also made regard-

TABLE IX

Plan for Review of Applications for, During and Withdrawal from Educational Placement for All Types of Handicapped Children

Prior to educational placement	
Yes	94 (96%)
No	2
Yes—for C.P.'s and homebound	1
No answer	1
Total	98
Periodically during placement	
Yes	83 (85%)
No	5
As needed	9
No answer	1
Total	98
Prior to withdrawal from placement	
Yes	68 (70%)
No	8
No answer	22
Total	98

ing the frequency of periodic review of the children during placement. Forty-five percent of the school systems review children in special day class at least once a year, 39 percent review children on home instruction at least once a year, 32 percent review children in regular class at least once a year, 31 percent review children in special day school at least once a year, 17 percent review children in hospitals and convalescent homes at least once a year, and 9 percent review children in special residential schools at least once a year. The stated range of frequency of review varied from once a week (in one special residential school and on home instruction) to a complete lack of review for children on home instruction in two school systems (Table X).

In approximately two thirds of the public school systems, there

TABLE X

Plan for Periodic Review of Handicapped Children During Placement for All Types of Handicapped Children

Frequency	*Regular class*	*Special day class*	*Special day school*	*Special resid. school*	*Home instr.*	*Hosp. conv. home*
Once a week	..	..	..	1	1	..
Once a month	..	..	..	1	2	..
Once every 6 weeks	..	.	..	..	1	..
Once every 2 months	..	1	..	..	.	..
Once every 3 months	..	1	..	..	1	1
Once every 4 months	.		1	..		
Twice a year	6	9	9	.	8	6
Once a year	25	33	20	7	25	10
Once every 2 years	2	7	1	..		1
Once every 2–3 years	.	2	1	..	1	..
Once every 3 years	1	2	2	..	.	
As rec. by L.M.D.	..	.	..	..	3	6
Left to staff institution				.		2
No definite plan	18	18	11	9	14	15
Frequency not stated	1	2	..	.	3	..
Prior to return to school	..	..	..	..	1	..
Not done at all	..	..	..	..	2	..
No information or not applicable	45	23	53	80	36	57
Totals	98	98	98	98	98	98

is a Department of Special Education with its own director. In approximately one fifth of the public school systems, special education is a part of another department of the school system.

Special Provision of Personnel for Educational Placement of Mentally Retarded Children Because it is recognized that "paper review" of children may not provide as complete a picture of the child, his progress, and his needs, as when the child and his family are personally seen, the questionnaire contained an inquiry regarding the provision of a team of personnel, either from the Board of Education or the Department of Health, who personally see and evaluate mentally retarded children. Forty-five communities (46%) stated that they do provide such a team, although in only 32 communities (33%) was more than one person provided on the team (Table XI). A psychologist, a teacher, and a physician (whose type was not stated) were most likely to be used. It is surprising to find that community facilities were used rarely, and that personnel such as

TABLE XI

Numbers of Personnel Provided for Personal Evaluation of Mentally Retarded Children

No. of personnel	*No. of school systems*
One	13
Two	15
Three	14
Four	1
Five	..
Six	1
Clinic	1
Total replying	45
Total providing more than one person	32
Nonrespondents	53

a social worker, public health nurse, the school physician, and certain medical specialists (pediatrician, ophthalmologist, otologist, and psychiatrist) were used relatively infrequently (Table XII). In 25

TABLE XII

Type of Personnel Engaged in Team Review of Mentally Retarded Children

Type of personnel	*No. of school systems*
Nonmedical	
Psychologist	39
Teacher	14
Administrator	7
Director spec. ed.	7
Nurse	5
Social worker	3
Speech therapist	1
Counselor	1
Medical	
Type not specified	12
Psychiatrist	2
School M.D.	1
Pediatrician	1
Medical director	1
Community facility used	
Clinic M.D.	1
Miscellaneous	
Director of school health	1

communities (25.5%), there was a team review of mentally retarded children without a physician being a member of the team.

Financial Aspects of Education of Handicapped Children The source of financing the education of handicapped children is predominantly a combination of local and state tax funds. A tremendous variation in the proportions of local-state participation in financing exists, the most frequent method being equal sharing of costs by local and state governments. The most frequent method allocation of funds used for the education of handicapped children was on a per-pupil basis; a per-teacher or a per-class basis are used less frequently (Table XIII).

TABLE XIII

Method of Allocation of Funds for Financing Education of All Types of Handicapped Children

Method	*No. of communication*
1 (per pupil)	32
2 (per teacher)	12
3 (per class)	15
1 and 2	6
1 and 3	7
2 and 3	4
1, 2, and 3	4
Per ADA *	1
2 and ADA *	1
No information	16
Total	98

* Average daily attendance.

The study questionnaire requested information concerning the cost of educating mentally retarded children in the various types of placement. This information was not readily available and was reported by only a small number of communities.

Provision of Transportation and Attendant Service during Transportation Of the 98 communities reporting, 56 (57.1%) provide transportation of mentally retarded children to and from school, and 42 (42.9%) do not. Twenty communities provide attendant service during transportation; this represents 20.4 percent of the

total number of school systems reporting, and 35.7 percent of the school systems providing transportation for mentally retarded children. In other words, 79.6 percent of the total school systems reporting do not provide attendant service for the mentally retarded group; 64.3 percent of the school systems providing transportation for mentally retarded children do not also provide attendant service.

Discussion The foregoing data may be summarized as follows: (1) All of the 98 reporting school systems provide some services for children with mental retardation; (2) children in the educable group are most likely to be covered; (3) mentally retarded children are more likely to be admitted to school at an age which is above the usual age of school admission, either for normal children or for children with physical handicaps; (4) mentally retarded children are more likely to be in special classes rather than in other types of educational placement provided by school systems; (5) less than one half of the reporting communities provide a "team" for personal evaluation of mentally retarded children and their families, and only one third provide a team composed of more than one professional person; (6) the psychologist is most likely to be involved in the "team" evaluation of mentally retarded children; other disciplines are much less frequently participating.

Some comments on these facts may be pertinent. There is fairly widespread agreement that children with mental retardation should not be evaluated only on the basis of information derived from an intelligence test. Rather, the child and his family must be studied from many points of view, in addition to psychometric testing—social, psychiatric, and health. This point cannot be emphasized too strongly for a number of reasons: (1) The child may have a sensory (hearing and vision) loss which, unless it is carefully evaluated, may lead to an erroneous diagnosis of mental retardation or of the degree of mental retardation; (2) the child may have a social or emotional problem which similarly may be a factor in leading to an erroneous conclusion; (3) the child may have an associated physical handicap or health problem which should be studied, and a plan of recommended treatment made; (4) some children with mental retardation may have an associated congenital malformation, *e.g.*, congenital heart disease or eye defects—as in the case of mental retardation resulting from German measles in the first trimester of the mother's pregnancy. It is for this reason that each child suspected of mental retardation should be seen and personally evalu-

ated by a team of professional personnel representing a number of disciplines. It would be hoped that each state or local community planning to establish classes for children with mental retardation would make provision for such a team prior to and during the special educational placement of these children, as well as prior to withdrawal from such placement. It is suggested that the following professional people be included in the evaluation team—pediatrician, public health nurse, social worker, psychologist, and teacher of special education; for youths 14 years and over, a vocational counselor should also be included. It is further suggested that each child suspected of mental retardation routinely have a careful hearing and vision evaluation.

It is suggested that, where state reimbursement to local communities for special education of mentally retarded children is provided or contemplated, such reimbursement include funds for the services of the team listed above. This would be in contrast to the present pattern wherein the reimbursement covers only the amount of funds necessary for the salary of the teacher and/or the psychologist.

The question should be raised whether the team evaluation might be provided by existing diagnostic, counseling, and treatment services for retarded children outside of the school system. While these community services might not be able to cope with the volume of children needing an evaluation, they might be able to provide services for some. Another possible source of comparable service is a university which has a medical school, and a training program for teachers of special education, psychologists, social workers, nurses, and therapists. Use of such services from a university might mean that knowledge about mental retardation would be more broadly disseminated to the professional disciplines earlier in their professional careers.

Because of the recent knowledge and interest in children with phenylketonuria, it is suggested that the ferric chloride urine screening test be performed on all children in classes for the mentally retarded and on all children applying for admission to such classes. The reason for this suggestion is that children who are currently in or who are applying for admission to such classes may be expected to have a higher frequency of phenylketonuria than children in the general population. Those children who show a positive reaction to the test should be referred for a careful diagnostic workup. Furthermore, a careful family history should be secured, and all siblings should likewise be tested.

Summary

This paper describes the results of a questionnaire sent to all 106 cities of the United States with a population of 100,000 and over, in regard to the status of school services for children with mental retardation. Wide variation exists in the range of services, policies and personnel provided. Suggestions are made so that these children may have the benefit of essential services in all urban areas.

23 *Some Philosophies of Education for the Mentally Retarded*

J. WAYNE WRIGHTSTONE, GEORGE FORLANO, J. RICHARD LEPKOWSKI, MARVIN SONTAG, and J. DAVID EDELSTEIN

EDUCATORS OF THE MENTALLY RETARDED generally favor a different developmental program rather than a remedial adaptation of a normal program for these pupils. Social and vocational competence, broadly conceived, are the major goals for such a program. It is generally accepted that these goals can be furthered only in special classes for the mentally handicapped, rather than within the regular grades. Kirk and Johnson, for example, include in their definition of the mentally handicapped child the qualification that he be one who is "unable to profit sufficiently from the curriculum of the public schools, but who can be educated to become socially adequate and occupationally competent, provided special educational facilities are furnished." By special educational facilities Kirk and Johnson mean special classes for the mentally handicapped.[1]

From *A Comparison of Educational Outcomes under Single-Track and Two-Track Plans for Educable Mentally Retarded Children*, mimeographed (Brooklyn: Board of Education of the City of New York, 1960), pp. 5–9. Reprinted with the permission of the Board of Education and the authors. Dr. Wrightstone is director of the Bureau of Educational Research of the Board.

[1] Samuel A. Kirk and G. Orville Johnson, *Educating the Retarded Child* (Cambridge, Mass.: Houghton Mifflin, 1951), p. 13.

Some educators have gone further and advocated narrower ranges of individual differences, where possible, for special classes for the mentally retarded. The reasons advanced are in many respects similar to those advanced for special developmental programs and special classes. For example, Ingram points out the desirability of limiting the overlap in learning ability, physical maturity and social maturity within classes of mentally handicapped.[2] One important advantage in reducing the range of age and social development within a class, Ingram believes, is the narrowing of the range of pupil interests and of probable responses to any given appeal.[3]

However, the idea that the 50–75 IQ group of retardates belong in special classes has been questioned by some educators. As is usually the case for the arguments advanced in favor of special or more homogeneous classes, the reasons for questioning or opposing such classes are also often quite general, and might very well be applied in some fashion to excessive homogeneity at any level of ability. Featherstone, in questioning the value of special, segregated groupings for slow-learners of 70–85 IQ, makes the following points: [4]

1. Many or most of the difficulties in instructing slow-learners in mixed groups derive from the attempt to apply an overly fixed curriculum.
2. All classes are heterogeneous. "Segregated slow groups are about as heterogeneous in ability and in every other way, and as hard to teach effectively as are mixed groups."
3. ". . . what kind of group offers the best possibilities for a particular individual is extremely difficult to say. Some children achieve good belongingness, security and status in families made up of very diverse ages and backgrounds; others do not."
4. The cohesiveness of a group is a function of its purpose—whether there exists "a problem, plan, activity or project in which all are involved in some measure, and to which all can make a contribution."
5. ". . . many teachers do not have as much skill as is needed to teach heterogeneous groups. . . ." This may be the fault of the teacher educating institutions, or of the school systems.

[2] Christine P. Ingram, *Education of the Slow-Learning Child* (New York: Ronald, 1953), p. 81.

[3] *Ibid.*, p. 85.

[4] The quotes in these points are taken from W. B. Featherstone, "Grouping in Relation to the Education of Slow-Learners," *Journal of Exceptional Children*, XIX (1948), 172–175.

6. Individuals of diverse backgrounds and talents should learn to live together. The schools should not "persist in emphasizing the difficulties that divide people rather than the likenesses that unite them."

Clearly some of Featherstone's cautions have application to the issue of homogeneous versus heterogeneous classes within the 50–75 IQ group in the public schools, as well as to special versus regular grade classes for the sections of mentally retarded pupils.

Even the value of relatively narrow ranges of chronological age within classes has been questioned by educators. This point of view is relevant to the present experiment, since the reorganization of classes in the two-track plan provides for narrower ranges of age, as well as of educability, as advocated by Ingram and others. Jeannette Veatch of New York University Elementary Education Department has suggested the following possible advantages for a general policy of including broader age levels within regular classes by foregoing yearly promotions: [5]

1. The children would be more cooperative and less segregative in character;
2. The richness of individual differences would stimulate the children's interests; and
3. The teacher would be released, by virtue of the circumstances, from the confines of a strict body of subject matter.

While the latter point would hardly apply to classes of mentally handicapped organized around broad core units of instruction, it is conceivable that overly homogeneous groups of retardates might decrease tolerance of individual differences and provide inadequate stimulation for pupil interests.

Recent Studies

Apparently there has been little research in recent years on homogeneity of class grouping within the mentally handicapped range. Even the value of special classes for the mentally handicapped is still a matter for investigation, and it is in this area that research most relevant to the present experiment has been conducted. Previous research on the value of special classes is relevant

[5] Jeannette Veatch, "Grouping in the Whole School," *Childhood Education*, V; XXX (1943), 2.

to the present study partly because special classes for the mentally handicapped are themselves relatively homogeneous groupings, and partly because the research methods were related in some respects to those of the present study. Two recent studies, concluded in 1956, are described below.

Ellenbogen conducted a study of mentally handicapped children in regular and special classes of the Chicago elementary public schools.[6] The special classes had smaller memberships, a specially designed curriculum, and teachers trained to work with the mentally handicapped. The pupils had been in the special classes for the previous two years. The pupils in regular classes followed a regular academic program. The two groups of pupils were matched on age, sex, IQ, and school district. The mean age was 13.46 for both groups, and the mean IQs were approximately 70.5. The IQs were the most recent obtained on the Revised Stanford-Binet Scales administered by qualified psychologists. Academic achievement in reading and arithmetic were measured by the Stanford Achievement Tests, with no more than five children tested at a time. The classroom teachers evaluated the pupils on school adjustment by means of ratings given during personal interviews. Pupils were interviewed on vocational aspirations, social adjustment, and attitude toward school.

The children in the regular classes were found to have significantly higher mean scores over children in the special classes in paragraph meaning, word meaning, arithmetic computation, and arithmetic reasoning. On the other hand, the children in special classes had significantly higher mean teacher ratings of school adjustment, more realistic vocational aspirations, and more after-school jobs. The attitudes toward school were similar in both groups. The significant differences were attributed to the effects of the different class placement. Ellenbogen's finding of higher teacher ratings of school adjustment for the pupils in special classes seems related to previous findings of Johnson,[7] and Johnson and Kirk,[8] that mentally

[6] Morton L. Ellenbogen, *A Comparative Study of Some Aspects of Academic and Social Adjustment of Two Groups of Mentally Retarded Children in Special Classes and in Regular Grades,* doctoral dissertation, Northwestern University, 1957 (Publication No. 23,562).

[7] Johnson, "A Study of the Social Position of Mentally Handicapped Children in the Regular Grades," *American Journal of Mental Deficiency,* 55 (July, 1950), 60–89.

[8] Johnson and Kirk, "Are Mentally Handicapped Children Segregated in the Regular Grades?" *Journal of Exceptional Children* (December 1950), 65–68, 87–88.

retarded children are isolated and rejected by other children in the regular grades.

A study by Blatt [9] on mentally handicapped elementary school children in Blair and Clearfield counties, Pennsylvania, compared 75 special-class pupils with 50 pupils in regular elementary classes. The groups were equated on age, sex, and IQ. The total of 125 children came from 19 different schools and 45 classrooms.

Although the heights and weights of the two groups did not differ significantly, 25 percent of the special-class children as compared to 10 percent of the children in regular classes were found to be more than 10 percent underweight. The special-class children had significantly more uncorrected or permanent physical defects. Thus, the two groups were not precisely matched on physical characteristics at the time of the investigation.

No significant differences were found between the two groups on days absent from school, strength of grip, vertical jump, motor ability (as measured by the Brace Scale of Motor Ability), scores on the California Test of Personality for personal and social adjustment, delinquencies and behavior records, numbers of hobbies and interests, or scores on the California Achievement Tests for reading, arithmetic, and language achievement.

Instances of Homogeneous Class Groupings

At the time of writing, the public school system of Kansas City, Missouri, had special classes for upper and lower classification of retardates.[10] Children were placed in classes for the deficient group, IQ approximately 50–65 (performance and other factors in agreement), or in classes for the ungraded group, IQ 65–80. Class sizes were limited to approximately 15 and 20 for the deficient and ungraded groups, respectively.

In addition to the new program of homogeneous classes which was evaluated by the study, New York City had for some time been selecting its more capable retardates from special-education classes

[9] Burton Blatt, *The Physical, Personality, and Academic Status of Children Who Are Mentally Retarded Attending Special Classes as Compared with Children Who Are Mentally Retarded Attending Regular Classes,* doctoral dissertation, Pennsylvania State University, 1956 (Publication No. 19,333).

[10] Based upon a personal communication from Nelle Dabney, director of Special Education, Public Schools, Kansas City, Missouri.

in the junior high schools and sending them to special classes in the high schools.

Elizabeth M. Kelly, director of Special Education of the Newark, New Jersey, public schools, has advocated a three-way division of older retardates in special classes. After a close observation of retardates in special classes for those between the ages of 12–6 and 14–5, a division is suggested into classes for high and low educable up to the age of 17–5. With the understanding that IQs are not to be used rigidly for classification purposes, and that intellectual and social functional ability should be given first consideration, IQ groupings of 50–64 and 65–79 are recommended. Kelly expresses the view that "it is just as important for those in this classification of the mentally retarded (IQ 65–79) to be unhampered educationally and emotionally as it is for normal and above normal boys and girls of the same chronological age group to be unimpeded scholastically by the dull normal and the mentally retarded." [11]

In addition to the division into groups corresponding roughly to the two IQ groups mentioned above, Kelly believes that perhaps the 50–64 group should be further divided into retardates of the endogenous and exogenous types, with different kinds of school organization and planning for these two groups. The outlook for the endogenous type is considered by Kelly to be better, since these retardates tend to be more stable emotionally. The exogenous type is "inclined to have narrow interests and in general adjustment to be rigid and conforming. This type of mentally retarded person is usually verbal and derives his greatest satisfaction from academic achievement. . . . A program with emphasis on the occupational approach is not only unsatisfactory for persons in this group, but it is frustrating." [12]

[11] Elizabeth Kelly, "Are We Providing Opportunities for the Older Mentally Retarded?" *Journal of Exceptional Children* (May 1955), 297–299, 309.
[12] *Ibid.*, 298.

24 An Analysis of the Objectives for the Education of Children with Retarded Mental Development

GODFREY D. STEVENS

THE PROBLEMS OF curriculum design and development have been coming into focus in recent years with the increased activity on the part of special educators to develop curriculum guides and courses of study for the mentally handicapped. Several large city school systems have either recently completed, or have underway, a study of the problems of curriculum development. Some states have started or are giving consideration to state-wide curriculum development projects and the production of study guides for teachers of the mentally retarded. This new interest in curriculum development should cause the educator to take a look at the purposes of education.

There are several reasons why it is necessary and desirable to examine the goals of education for the retarded. As stated above, the rapid growth of programs of education for the mentally retarded has been one source of pressure to restate the purposes of education and training. The increase in the quality and quantity of research in the various aspects of mental retardation has thrown new light on the problems and given them new dimension. Educators are becoming aware of a need for a more clearly defined goal-centered approach to learning as a basis for the development of clearly stated objectives.[1]

From the *American Journal of Mental Deficiency*, 63:2 (September 1958), 225–235. Reprinted with the permission of the American Association on Mental Deficiency and the author. Mr. Stevens is associate professor of education, Department of Special Education and Rehabilitation, University of Pittsburgh.

[1] Ralph W. Tyler, *Translating Youth Needs into Teaching Goals*, National Society for Study of Education Fifty-second Yearbook, Part I, ed. by Nelson B. Henry (Chicago: University of Chicago, 1953), pp. 215–229.

A cursory examination of the history of education for the retarded suggests that there have been limited and isolated attempts at developing goals which could serve as a basis for the design and development of a curriculum. Moreover, we may need to question the validity of the organization of concepts that have been set forth. This is not to say that the early workers concerned with this problem were superficial in their thinking. One gets the impression that they were preoccupied with program development and had little time for the development of the theoretical aspects of education for the mentally retarded.

For nearly fifty years educators have been preoccupied with problems of educational methodology and organization rather than with the content of the curriculum. In spite of this, educational programs have developed reasonably well since those responsible for the emerging programs had insight into the needs of children. By systematically focusing on the problems of curriculum with equal vigor and preoccupation it is likely that we can come to an early resolution of the problems by attacking them on a sound and fundamental theoretical basis. It is therefore timely that some attention be directed to a reappraisal of the purposes of education for the mentally retarded.

Another basis for re-examining statements of goals have their origins in the findings of follow-up studies. As evidence accumulates from such follow-up studies, modifications in educational programs need to be made to provide for the constantly shifting needs of children and youth. As these needs change, goals for education must be modified accordingly.

Statement of the Problem

It is the purpose of this discussion to examine numerous statements of goals in the education for the mentally retarded. These statements are frequently referred to as purposes, or objectives. An analysis of these statements may serve as a basis for modifications and re-statement of existing objectives which may serve as effective guidelines in the future development of educational programs for the mentally handicapped. In addition, such an analysis may provide the basis for the reduction of the inevitable semantic problems that inevitably attend the descriptions of abstractions of this sort.

A number of pertinent questions might be raised.

1. Are there inconsistencies in statements of objectives as set forth by competent workers concerned with the education of the retarded?
2. Are statements of goals consistent with recognized needs of the mentally retarded as presently delineated in the professional literature?
3. Are goals stated in terminology free of ambiguity; and do they permit ease of interpretation by other workers interested in the problems of educating the retarded?
4. Are the general goals sufficiently universal in that they will fit a wide variety of social conditions?
5. Are the goals consistent with existing social philosophies of American democracy?
6. Are the goals stated in terms of "specifics" rather than in broad generalities?
7. Are goals stated in terms of a curricular theory in singular frame of reference or do they appear as different aspects of the problem?

The Sources of Objectives

There are a number of sources from which goals for the education of the mentally handicapped can be developed.

1. *Students of education of the mentally handicapped who have considerable maturity and sophistication can develop statements of goals on the basis of their impressions and observations.* This procedure is likely to be attended with some risk since the biases of a single person may set into motion certain kinds of educational activities that ultimately prove to be undesirable. In recent years, however, this introspective approach has become a group process so that thinking of any individual can be checked against the experiences of others.

2. *Educational tradition is another source of data in the development of goals.* It has been a common practice in the past 25 years to restate the objectives as found in current literature. There are obvious risks inherent in this practice since no one can be certain that the earlier statements have any sound validity growing out of careful study of the nature and needs of the learner. It was not until 1938 when the Educational Policies Commission organized the goals

for all education which have come to influence the course of education for the mentally retarded.

3. *The nature of the learner is a source of data that will help the educator in the formulation of statements of goals.* It is in this that we have invested rather heavily in recent years, and a great deal is now known about the phenomenon of mental retardation and its implications for learning and ultimate total adjustment. It is obvious that there is much yet to be learned but certainly there is much knowledge available that can serve effectively as a basis for the design and development of educational experiences for the retarded.

4. *The study of contemporary social organization is a primary source of objectives.* The sociologist can throw much light on the needs of the individual in terms of the problems of group living that can well serve as the basis for the development of sound and desirable statements of goals. The research in this area in more recent years has been increased in tempo and the educator can look with some promise to the sociologist who will continue to focus on the social problems of the mentally defective.

5. *Contemporary school curriculum guides and programs.* The evaluation of contemporary school curricula may shed some light on the problems of goals. It is likely that teachers are carrying out many educational activities that may need to be stated as a specific goal. These flashes of insight that have been put into practice should be accumulated and evaluated and subsequently measured against existing philosophic positions set forth as statements of the purposes of education for the retarded. It is certain that many meaningful, purposeful experiences have long been a part of good curriculum practices that have not had their origins in the retrospection of the educational philosopher.

In summary, there are several sources from which the goals of education for the mentally retarded can be drawn. In reality, all of the above-mentioned sources will serve as a basis for the organization of goals.

Criteria for the Development of Statements of Goals

In view of the many problems associated with the development of goals for the mentally retarded it would seem that there is a need for suggesting certain criteria which would aid in the development of these statements. Some of them are as follows:

1. *Statements of goals or objectives should remain within a single contextual framework.* If statements tend to vacillate from one frame of reference to another, it is difficult to analyze them in such a way as to check their validity and to convert them to educational practice.

2. *Statements of needs should be fortified with evidence from scientific literature.* While there is a place for the sophisticated observer who has the capacity for philosophic retrospection, it is only by checking goals in terms of needs against studies of the mentally handicapped that we will be able to provide statements of goals that are realistically derived and consequently will stand the test of objectivity.

3. *Goals should be stated with accepted educational terminology to avoid difficulties in semantics and the communication of concepts to others concerned with the problem.* There is little doubt that much of the difficulty in the area of the theoretical aspects of education have their origins in the breakdown in communications growing out of semantic difficulties. Thus, the student of educational theory must make every effort to develop statements of educational goals in a language that permits ease of understanding and thereby enhancing communication of these very complex abstractions.

4. *Goals should be stated in terms of the interaction of the individual and his environment* since these are no longer abstractions but real problems. It is generally agreed that the kind of educational experience that is most likely to be satisfying to the learner is that which tends to give him skills in solving his every day problems of adjusting to a vacillating, kaleidoscopic world. Thus, if some device could be developed by which this interaction could be dealt with as a facet of a multidimensional construct this would facilitate the development of goals and the conversion to educational activity. Such a device or model can be developed.

5. *Objectives can probably be best stated in terms of persistent life situations of the mentally retarded* rather than in terms of subject matter, or the study of social phenomena. The persistent life situations concept as set forth by Stratemeyer, Forkner, and McKim is a somewhat unique approach to curriculum design.[2] It is based on the notion that the interaction in the dynamic relationship between the individual and every aspect of his environment is the

[2] Florence B. Stratemeyer, Hamden L. Forkner, and Margaret G. McKim, *Developing a Curriculum for Modern Living* (New York: Bureau of Publications, Teachers College, Columbia University, 1947).

basis for identifiable problems which exist in varying dimension at various times. The assumption is made that educational experiences can be developed which relate to these real problems to the end that the child is able to resolve them and develop skills that enhance later adjustment.

6. *Goals should be stated in terms of the limits imposed upon the school by our traditional and legal structure.* The school is only one of many powerful educating agencies that influence the behavior of the child. Moreover, the school has had certain limits imposed upon it by virtue of certain moral, traditional, and legal restrictions. The legal structure alone will impose definite limitations which serve as a basis for the delineation of goals and objectives.

There is little point in the development of statements of goal for educational purposes if it is not within the province of the school to convert such goals to action. This, in one sense, tends to simplify the problem of curriculum design and development and should be constantly kept in focus. If goals are too comprehensive and extend beyond the scope of the traditional and legal role of the school, it is difficult or impossible to develop educational programs.

7. *The statement of the goals or outcomes of educational experience ought to be an expression of a basic curricular theory for the mentally retarded.* It is unfortunate that there has not emerged during the past half century a fundamental curricular theory which would serve as a point of departure for the design and development of a curriculum for children, and insufficient and frequently unrelated body of research knowledge.

8. *Goals should be stated in terms that coincide with the maturational aspects of development* so that the so-called developmental tasks give sequence to the curriculum.[3]

Some Assumptions with Which to Evaluate Goals of Education

There are a number of assumptions that can serve as a basis for the critical evaluation of objectives and for the reformulation of goals for the mentally retarded. Some of them are as follows:

1. The nature of the learner and the nature of the society in

[3] Robert J. Havighurst, *Human Development and Education* (New York: Longmans Green, 1953).

which he lives is an effective basis for the development of specific goals.

2. The interaction between the learner and his culture is the basis for an infinite variety of complex problems of adjustment that can serve as a basis for the development of statements of goals.

3. The interaction between the learner and his physical environment with its associated constellations of problems can be stated in terms of certain persistent life situations.

4. The persisting life situations of the mentally retarded child can be stated in such a way as to serve as a basis for the development of educational experiences that will tend to provide for effective personal-social interaction reflected in ultimate adjustment.

5. The persisting life situation can be converted to educational experiences that are as dynamic as the environment from which they arise.

6. Persisting life situations tend to focus on the real and specific needs of the learner, thus permitting the investment of maximum instructional energies directed toward the solution of specific problems which grow out of these needs.

7. The persisting life situations provide a single frame of reference which permits a systematic appraisal of the problem of curriculum, and a systematic development of curriculum content with scope and sequence.

8. The task of selecting goals from the wide variety of sources is a primary responsibility of the professional educator. This responsibility is one in which he must provide intelligent and responsible leadership, and the ability to utilize every available resource.

A Review of the Literature

We shall attempt to examine the statements of recognized students of special education who have attempted to set forth a philosophic position in the past quarter century. The statements are excerpts from the literature that have become recognized as the standard work in the field.

The materials which were selected are thought to be typical illustrations of statements of educational objectives and it is not suggested that this is an exhaustive review of all statements that have been developed.

Inskeep [4] set forth certain goals. Her specific goals were based on the general purpose of education, i.e., the training of self-controlled, self-supporting citizens. She places an emphasis on "a trained hand, guided by a thinking head, and controlled by disciplined emotions."

She proposed several specific goals as follows:

1. Health
2. Social living
3. Getting and holding a job
4. Thrift
5. Efficient use of leisure time

Descoeudres [5] itemizes the objectives for the education of the mentally retarded in terms of a child-centered approach as follows:

1. The child
   a. His physical and mental constitution
   b. His needs—food, clothing, housing, instruction, vocational training, moral and aesthetic needs, their existence and their inevitableness.
2. His environment
   The child and his family
   The child and the school
   The child and society
   The child and the animal world
   The child and the vegetable world
   The child and the mineral world
   The child and the sun
3. Training and the senses and the attention
4. Physical training
5. Hand work
6. Drawing
7. Speech
8. Reading
9. Spelling
10. Arithmetic
11. Moral training

The Educational Policies Commission developed a report [6] in which four broad objectives were stated. While these goals were

[4] Annie D. Inskeep, *Teaching Dull and Retarded Children* (New York: Macmillan, 1926).

[5] Alice Descoeudres, *The Education of Mentally Defective Children,* trans. by E. F. Trow (Boston: Heath, 1928).

[6] National Education Association, Educational Policies Commission, *The Purposes of Education in American Democracy* (Washington, D. C., 1938).

developed with the general needs of all children in mind, we need to examine them inasmuch as these statements have tended to influence the objectives developed by many communities in the development of a curriculum for the mentally handicapped. They are as follows:

I. The Objectives of Self-Realization

1. *The inquiring mind.* The educated person has an appetite for learning.
2. *Speech.* The educated person can speak the mother tongue clearly.
3. *Reading.* The educated person reads the mother tongue efficiently.
4. *Writing.* The educated person writes the mother tongue effectively.
5. *Number.* The educated person solves his problems of counting and calculating.
6. *Sight and hearing.* The educated person is skilled in listening and observing.
7. *Health knowledge.* The educated person understands the basic facts concerning health and disease.
8. *Health habits.* The educated person protects his own health and that of his dependents.
9. *Public health.* Works to improve the health of the community.
10. *Recreation.* The educated person is participant and spectator in many sports and other pastimes.
11. *Intellectual interests.* The educated person has mental resources for the use of leisure.
12. *Esthetic interests.* The educated person appreciates beauty.
13. *Character.* The educated person gives responsible direction to his own life.

II. The Objectives of Human Relationship

14. *Respect for humanity.* The educated person puts human relations first.
15. *Friendships.* The educated person enjoys a rich, sincere, and varied social life.
16. *Cooperation.* The educated person can work and play with others.
17. *Courtesy.* The educated person observes the amenities of social behavior.
18. *Appreciation of the home.* The educated person appreciates the family as a social institution.
19. *Conservation of the home.* The educated person conserves family ideals.
20. *Homemaking.* The educated person is skilled in homemaking.
21. *Democracy in the home.* The educated person maintains democratic family relationships.

III. The Objectives of Economic Efficiency

22. *Work.* The educated producer knows the satisfaction of good workmanship.
23. *Occupational information.* The educated producer understands the requirements and opportunities for various jobs.
24. *Occupational choice.* The educated producer has selected his occupation.
25. *Occupational efficiency.* The educated producer succeeds in his chosen vocation.
26. *Occupational adjustment.* The educated producer maintains and improves his efficiency.
27. *Occupational appreciation.* The educated producer appreciates the social value of his work.
28. *Personal economics.* The educated consumer plans the economics of his own life.
29. *Consumer judgment.* The educated consumer develops standards for guiding his expenditures.
30. *Efficiency in buying.* The educated consumer is an informed and skillful buyer.
31. *Consumer protection.* The educated consumer takes appropriate measures to safeguard his interests.

IV. The Objectives of Civic Responsibilities

32. *Social justice.* The educated citizen is sensitive to the disparities of human circumstance.
33. *Social activity.* The educated citizen acts to correct unsatisfactory conditions.
34. *Social understanding.* The educated citizen seeks to understand social structures and social processes.
35. *Critical judgment.* The educated citizen has defenses against propaganda.
36. *Tolerance.* The educated citizen respects honest differences of opinion.
37. *Conservation.* The educated citizen has regard for the nation's resources.
38. *Social applications of science.* The educated citizen measures scientific advance by its contribution to the general welfare.
39. *World citizenship.* The educated citizen is a cooperating member of the world community.
40. *Law observance.* The educated citizen respects the law.
41. *Economic literacy.* The educated citizen is economically literate.
42. *Political citizenship.* The educated citizen accepts his civic duties.
43. *Devotion to democracy.* The educated citizen acts upon an unswerving loyalty to democratic ideals.

It is not uncommon for local school systems to develop statements of goals as a point of departure in curriculum planning at the local level. One such statement, "The Fundamental Purposes of Education," which is included is fairly typical of this kind of statement.[7]

1. To develop and maintain physical and mental health.
2. To develop competency in the fundamental tools traditionally called the 3 R's.
3. To think critically and act responsibly.
4. To develop and strengthen home and family life.
5. To respect, understand, and live well with others.
6. To develop moral and spiritual values.
7. To understand and to cope with the physical world.
8. To grow in appreciation of the arts and in desire and ability to express oneself creatively through various media.
9. To develop interest and skill in worthwhile leisure-time activities.
10. To develop understanding of and respect for the cultural heritage.
11. To develop the knowledge, skills, attitudes, and understanding essential for earning a living.
12. To develop consumer effectiveness.
13. To appreciate the duties, responsibilities, and privileges of citizenship.

Martens[8] has stated some objectives as follows:

General Objectives

1. Education for achievement in the world of knowledge.
2. Education for achievement in occupational life.
3. Education for achievement in social relations.
4. Education for achievement in worthwhile use of leisure time.

Specific Goals

I. The knowledge and disposition to keep physically well in order to enjoy life to its maximum.
II. An ease and a joy in social relationships that help him to make friends and to participate in social and civic experiences.
III. An ability to plan and to choose his leisure activities wisely.
IV. An ability to live as a contributing member of a family and a

[7] Claude V. Courter, *Schools and the Means of Education: A Statement of the Policies, Principles and Procedures of Cincinnati's Program of Public Education,* a Special Report to the Board of Education (Cincinnati: Board of Education, 1954).

[8] Elise H. Martens, *Curriculum Adjustment for the Mentally Retarded: A Guide for Elementary and Secondary Schools,* rev. ed. 2, no. 2 (Washington, D. C.: Government Printing Office, 1950).

neighborhood group, and later to maintain his own home as head of a family.

V. The ability to earn as much of the necessities of life as possible.

VI. The knowledge and ability to spend his salary wisely.

Featherstone,[9] in discussing the "slow learner," lists several goals, and suggests the Educational Policies Commission formulations would be suitable as a guide to developing specific goals. He further suggests that "the goals must be immediate and tangible." He lists the following:

1. Health
2. Vocation
3. Home and family
4. Personal development
5. Social competence
6. Foundational skills and abilities

Graham and Engel [10] state very generally that "All children are entitled to the best training to promote their growth and welfare." They suggest that "it is not, however, to be conceived of as a modified plan of regular education, but as a unique program planned in terms of the needs of a particular group or an individual child." They do not isolate the specific instructional areas with statements or descriptive terms, but tend to draw on the Educational Policies concept.

Delp [11] listed certain "goals" for the mentally retarded. In his list he probably extended his concept to include some things other than the purposes of education. His list is as follows:

1. Correct diagnosis
2. Understanding
3. Acceptance
4. Maturation
5. Physical defects and well-being
6. Habits of living
7. Social adjustment
8. Personality

[9] William B. Featherstone, *Teaching the Slow Learner* (New York: Bureau of Publications, Teachers College, Columbia University, 1951).

[10] Ray Graham and Anna Engel, "Administering Special Services," in National Society for the Study of Education Forty-ninth Yearbook, Part Two, *The Education of Exceptional Children*, ed. by Nelson B. Henry (Chicago: Univ. of Chicago, 1950).

[11] Harold A. Delp, "Goals for the Mentally Retarded," *American Journal of Mental Deficiency*, 55 (April 1951), 472–478.

9. Academic fundamentals
10. Information
11. Day-to-day standards
12. Self-care and self-support
13. Adequate leisure time activities
14. Supervision and guidance
15. Adequate placement

It is evident from the headings used that this statement of goals includes content beyond the purview of educational experience. One might guess he is really thinking in terms of "a total program for the retarded."

A state group interested in the education of the retarded adolescent developed the following statements: [12]

1. Mastering the tools of communication . . .
2. Developing a strong body and a sound attitude toward it and toward good health practices.
3. Developing satisfactory social relationships with other adolescents and adults.
4. Understanding and appreciating the values of family life together with a desire for the ability to improve family living.
5. Acquiring knowledge of, practice in, and zeal for democratic processes.
6. Becoming sensitive to the importance of group action in the attainment of social goals and proficient in the skills involved in such action.
7. Becoming an effective consumer.
8. Becoming occupationally adjusted.
9. Developing meaning for life.

Kirk and Johnson [13] state that "Objectives can be stated in a number of ways and in different terms. In general, however, all specialists agree that the more specific aims for the mentally handicapped include the following:

(1) They should be educated to get along with the fellow men; *i.e.*, they should develop social competency through numerous social experiences.

(2) They should learn to participate in work for the purpose of earning their own living; *i.e.*, they should develop occupational com-

[12] Vernon Nickell, *Educating the Mentally Handicapped in the Secondary Schools*, Illinois Secondary School Curriculum Program, Bulletin No. 12 (Springfield: Department of Public Instruction, 1951).

[13] Samuel A. Kirk and G. Orville Johnson, *Educating the Retarded Child* (Boston: Houghton Mifflin, 1951).

petence through efficient vocational guidance and training as a part of their school experience.

(3) They should develop emotional security and independence in the school and in the home through a good mental hygiene program.

(4) They should develop habits of health and sanitation through a good program of health education.

(5) They should learn the minimum essentials of tool subjects, even though their academic limits are third to fifth grade.

(6) They should learn to occupy themselves in wholesome leisure time activities through an educational program that teaches them to enjoy recreational and leisure-time activities.

(7) They should learn to become adequate members of a family and a home through an educational program that emphasizes home membership as a function of the curriculum.

(8) They should learn to become adequate members of a community through a school program that emphasizes community participation.

"The program for the mentally handicapped stresses (1) occupational adequacy, (2) social competence, and (3) personal adequacy."

A recent re-examination of goals for adolescents has become a recognized statement described as "Imperative Educational Needs of Youth." [14]

1. All youth need to develop salable skills and those understandings and attitudes that make the worker an intelligent and productive participant in economic life. To this end most youth need supervised work experiences as well as education in the skills and knowledge of their occupations.
2. All youth need to develop and maintain good health and physical fitness.
3. All youth need to understand the rights and duties of the citizen of democratic society, and to be diligent and competent in the performance of their obligations as members of the community and citizens of the state and community.
4. All youth need to understand the significance of the family for the individual and society and the conditions conducive to successful family living.
5. All youth need to know how to purchase and use goods and services intelligently, understanding both the values received by the consumer and the economic consequences of their acts.
6. All youth need to understand the methods of science, the influence

[14] National Education Association, Educational Policies Commission, *Education for All American Youth: A Further Look* (Washington, D. C., 1952).

of science on human life and the main scientific facts concerning the nature of the world and of man.

7. All youth need opportunities to develop capacities to appreciate beauty in literature, art, music, and nature.
8. All youth need to be able to use their leisure time well and to budget it wisely, balancing activities that yield satisfaction to the individual and with those who are socially useful.
9. All youth need to develop respect for other persons, to grow in their insights into ethical values and principles, and to be able to live and work cooperatively with others.
10. All youth need to grow in their ability to think rationally, to express their thoughts clearly, and to read and listen with understanding.

Ingram [15] has stated the objectives in five topical categories.

1. Mental and physical health
2. A practical working knowledge of the tool subjects
3. Worthy home and community life
4. Worthy use of leisure time
5. Adjustment in industry

Wallin [16] has developed a rather elaborate statement of the goals of special classes. He states them as follows:

The specific functions or goals of the life adjustment program of the special class should include:

1. Continuous systematic study of each child by clinically minded teachers to discover individual aptitudes, potentials, proclivities, and needs and to devise more effective methods of remediation and therapy.
2. The formation of likeable personalities free from crippling distortions and injurious compensations by providing an atmosphere of contentment and acceptance, together with opportunities for joyous, successful achievement which will tend to dissipate feelings of insecurity, frustration, and disheartenment and will engender feelings of hope, confidence, and determination; by applying sound mental-hygiene principles to all the learning situations; and by using individual and group psychology.
3. The development of maximal motor, occupational, and economic efficiency.
4. The development of practical social understandings and skills, desirable civic qualities, and ethical character.

[15] Christine P. Ingram, *Education of the Slow Learning Child* (New York: Ronald, 1953).

[16] J. E. Wallace Wallin, *Education of Mentally Handicapped Children* (New York: Harper, 1955).

5. The development of practical literary tool skills as far as the child's limitations permit.
6. The provision from the time the child enters school of personal, educational, and vocational guidance based on all the data available and on intimate personal contacts.
7. The provision of job information and job placement.
8. Follow-up investigations to determine the value of the training provided and to further job and social adjustment.
9. Preparation for wholesome leisure-time diversions in both home and community.
10. The development of physical and mental efficiency and health.

DeProspo [17] in discussing curriculum says the goals might be variously termed:

1. Occupational and social adjustment
2. Human relationships
3. Better living
4. Personal development
5. Personal growth
6. Total adjustment

He makes the following observation: "In one sense, all of these are the same thing, yet each is too general a term to serve as an objective."

Summary and Conclusions

In an attempt to develop a basic statement of goals for the education of the mentally retarded the writer has attempted to analyze by statements that have been set forth by students of the problem for the last quarter century.

An examination of the statements suggest a number of generalizations.

1. There is a tendency to agree on many items in a listing of educational objectives; for example, "tool subjects," "making a living," "using one's leisure time wisely," and others.

2. Most students of the problem tend to agree that objectives need to be "specific." This is presumed to mean that they need to

[17] Chris DeProspo, "A Suggested Curriculum for the Mentally Retarded," in Merle E. Frampton and Elena Gall (eds.), *Special Education for the Exceptional* (Boston: Porter Sargent, 1955), Vol. 3, pp. 472–478.

be stated in terms of the nature and needs of the mentally retarded learner.

3. There seems to be agreement that the general goals for the retardate are the same as for all learners since the mentally retarded child is more similar than different than his normal peers.

4. Statements of objectives tend to be set forth in too broad a category such as "learn to be an effective member of a family," "an effective member of a community," and others.

5. Statements tend to be handed down from one student of the problem to another with minor variations.

6. There was a marked shift away from the specific training of certain "functions" which represented the influences of European physiologically oriented workers.

7. Statements do not tend to be parallel and are frequently restated.

8. Statements sometimes tend to intermix the problem of the content of the curriculum with educational methodology and organization. This tends to produce some confusion.

9. There are some gaps in statements as set forth in the past 25 years. For example, there is no mention of "learning to travel about."

10. Certain statements tend to be included in combination by virtue of tradition. For example, safety education is usually included under health education. Mental and physical health are usually spoken of in the same breath.

11. Certain statements of objectives as described by some authorities did not remain within the confines of the problem and tended to include many irrelevant items having little bearing on the problem of curriculum, usually focusing on educational methodology.

12. Statements tend to be ambiguous, or tended to use rather "high-flown" language that produced problems of interpretation of meaning.

Conclusions

In the opinion of the writer, there is a need to restate the objectives or goals in terms of persisting life situations which are a function of the needs of the individual as dictated by his unique growth and the kind of society in which he lives. These problems have their foundation in the fundamental problems of daily exist-

ence of the mentally retarded. It is intended that they meet the criteria pointed out earlier and are contained within a single contextual framework. They are stated in terms of what the learner needs rather than in terms of what the teacher should teach.

1. Learning to maintain a state of physical well-being.
2. Learning to live safely.
3. Learning to understand one's self.
4. Learning to get along with others.
5. Learning to communicate ideas.
6. Learning to use leisure time.
7. Learning to travel and move about.
8. Learning to earn a living.
9. Learning to be a home-maker.
10. Learning to enjoy life through the appreciation of art, dance, and music.
11. Learning to adjust to the forces of nature.
12. Learning to manage one's money.

It is obvious that many problems of ambiguity and definition are inherent in such simply constructed statements, and it is the intention of the writer to develop each of the concepts in forthcoming publications.

25 *Characteristics of Educable Mentally Handicapped Children*

HERBERT GOLDSTEIN and DOROTHY M. SEIGLE

OVER THE YEARS workers in the various disciplines concerned with the mentally handicapped have developed a body of descriptive terms certain of which have crystallized into what is

From *A Curriculum Guide for Teachers of the Educable Mentally Handicapped* (Springfield: Illinois Department of Public Instruction, 1958), pp. 4–18. Reprinted with the permission of the Division of Special Education of the Office of Public Instruction, Illinois; the Institute for Research on Exceptional Children, University of Illinois, and the authors. Dr. Goldstein is associate professor of education, University of Illinois; Miss Seigle is a consultant in the Division of Special Education, Office of Public Instruction, Illinois.

commonly known as the characteristics of the educable mentally handicapped. While the characteristics of the educable mentally handicapped are stated, for the most part, in psychological language, they receive common usage in all interested disciplines. It is, therefore, very important that a discussion of characteristics take place within a clearly defined frame of reference to minimize semantic problems. For the purpose of the Curriculum Guide,* the characteristics of educable mentally handicapped children will be discussed within the framework of education.

Before setting forth the characteristics of the educable mentally handicapped, certain assumptions must be reviewed. First, all characteristics associated with the educable mentally handicapped are typical of the characteristics of the population as a whole. Differences in characteristics are a matter of degree and not of kind. Thus, any person regardless of intellectual status may, under certain conditions, show evidence of frustration and, to some degree, an inability to handle abstractions in problem solving. Second, while the term "characteristics of the educable mentally handicapped" implies a group behavior, individuals in the group may exhibit any one or combination of characteristics and, in some cases, none worthy of mention. Third, despite the fact that the behavioral characteristics are more frequently noted in the educational setting, the primary characteristics such as rate of mental development and physical status are continuously exerting a critical influence on the total performance of the child.

In order to indicate the interrelationship between the characteristics of the educable mentally handicapped, it might be convenient to consider the characteristics in two categories: (1) the primary characteristics which precipitate and influence certain types of behavior in the educable mentally handicapped, and (2) the secondary characteristics which are manifested by the interaction of the child's inherent characteristics with his physical and social environment.

Primary Characteristics

The primary characteristics might best be viewed as those which are literally built into the child. These characteristics are

* To avoid a break in continuity, the term "curriculum guide" has not been edited from this reading. It refers to the complete report from which this article was taken.—ED. NOTE.

representative of intellectual and physical growth and development. As such, they have their roots in the anatomy and physiology of the child from the moment of conception. For many years, it was held that these characteristics were constant and incapable of being modified. In recent years, however, research and experience have shown that modifications introduced into the child's environment in the form of cultural, dietetic, and educational measures can have a marked effect on the rate and nature of the child's intellectual and physical growth.

Physical Characteristics For the purposes of the Curriculum Guide, the physical characteristics of the educable mentally handicapped will be treated comparatively briefly because of their limited influence on educational procedures. There is no intention to minimize the importance of these characteristics since it is generally recognized that there is often a relationship between physical condition and intellectual ability. Nevertheless, when one considers the role of the educator in this area, it can be seen that it is one of regulation and accommodation; the administration and the teacher most frequently follow the rules or see that the children follow the prescription of the diagnostician and therapist. Rarely, if ever, does the educator initiate direct procedures designed to correct or ameliorate a specific condition. Certainly, administrators and educators make provisions for children with specific physical handicaps such as brain injury. These provisions, however, are designed to accommodate the learning and behavior problems arising out of the physical handicap and not to correct or ameliorate the basic physical condition itself.

In terms of their general physical growth and maturation, educable mentally handicapped children follow the same sequence as their normal peers. It has been contended that, as a group, they are somewhat inferior in size and weight as compared with children of the same age, that they are more prone to illness and that the prevalence of physical handicaps is greater. Of the first two, inferiority in physical development and proneness to illness, it is difficult to determine whether these characteristics are directly associated with mental handicap or with environmental conditions or both. Environmental conditions should merit considerable attention since studies have shown that, at least in large metropolitan districts, a sizable proportion of educable mentally handicapped children come from substandard homes. In some instances, the existence

of a physical handicap and mental handicap may have a direct relationship as in the case of some brain-injured children. In other cases, the mental handicap may be independent of the source of the physical handicap.

For the educator, the nature of the physical handicap and its effect on the learning and behavior of the educable mentally handicapped child transcends its etiology. While it is important for the administrator and the teacher to obtain knowledge about the basic nature of the physical handicap, this is but a preliminary step toward modifying or adapting the classroom and classroom techniques in order to reduce the negative effects of the handicap on learning and behavior. It is here that the educator assumes a leadership role in the development of methodology for instruction and evaluation. Experience has shown that a variety of physical handicaps may be effectively subsumed under one system of instruction and classroom modification regardless of the diversity of etiology.

It is therefore very important that administrators and teachers be alert to the existence of physical handicaps in terms of relevant techniques and services. In all cases, educational treatment should be focused on the educable mentally handicapped child as a total organism and not on unique conditions.

Intellectual Characteristics Basically, the intellectual characteristics of educable mentally handicapped children are similar to those of their normal peers in that they follow the same developmental sequence. The differences that exist are not so much in the kind of characteristics as they are in the rate and degree with which they develop. Educable mentally handicapped children learn in the same way as do normal children, through experience. In contrast, their rate of learning is slower and they rarely learn as much, particularly in academic areas. In the course of learning, they apply, like other children, the processes of imitation, reasoning, and generalization. To the degree that they can, they acquire concepts and develop value systems consistent with social living.

Psychologically, educable mentally handicapped children, like all children, require and seek love, security, recognition, and a sense of belonging. It is important that the administrator and teacher recognize the relationships between the educable mentally handicapped child's basic psychological needs, certain aspects of our culture, and the child's intellectual subnormality. Our culture generally smiles upon the bright, successful, creative individual and

frequently rewards him with gestures of affection and recognition. Conversely, it frowns upon the incompetent and the laggard and confers on him the very antithesis of his basic needs, rejection. It is obvious that the educable mentally handicapped child's intellectual subnormality must, in all too many cases, operate to prevent the fulfillment of his needs for affection, acceptance, and security, if not in the home, at least in the more competitive and depersonalized activities in the school setting.

The administrator and teacher can play an active and positive role in helping some educable mentally handicapped children meet their basic needs within the limits imposed by their relationship with the children and with other children within the public school. Knowledge of the child, his assets and liabilities, plus an understanding of his social and emotional environment outside of school will help the teacher develop a method for working with the child to the extent that she can. It is important to recognize, however, that an effective teacher-child relationship is not always possible in every case and that this avenue toward need fulfillment for the child may be partially if not entirely closed. This is a reflection of many uncontrollable factors in the child's psychosocial environment and does not imply that the teacher or administrator has failed. In any case, to the extent that it is possible, the classroom should be a desirable locale for the child and acceptance and recognition should not be something he has to earn.

Most frequently, the intellectual characteristics of educable mentally handicapped children are stated in terms of their intelligence quotient (IQ) and then mental age (MA). For the purposes of the Curriculum Guide, the IQ and MA will be discussed in functional terms as they relate to the administrative and pedagogic aspects of special class provisions for educable mentally handicapped children.

The Intelligence Quotient In and of itself the IQ represents the position of the individual and his rate of mental development with respect to the total distribution of intelligence of the population as measured by a specific instrument. In a sense, then, the test of intelligence implicitly defines intelligence and this may vary in nature from test to test. It is, therefore, mandatory that the IQ be considered within a dynamic context, in relationship with a definable and describable activity or situation, if it is to acquire meaning. As

a point of reference, the teacher has the test situation wherein the IQ is derived.

Essentially, the administration of the intelligence test is a sampling of the child's behavior under specified conditions. The psychologist's report will contain his evaluation of this situation and his impressions. Ideally, for the teacher, the examiner's evaluation and his impressions will extend beyond the testing situation and project into the classroom. Realistically, however, the administrator and teacher should recognize that certain limitations in the testing situation restrict the extent to which the psychologist can project his evaluation and impressions of the child's behavior and performance. For one, the nature of the test situation does not reveal to the psychologist how the child will behave in a group setting with other children such as in a classroom or on the playground. Second, while the psychologist can form some judgments as to how the child relates to an adult, he has no evidence upon which he can base an estimate of how the child will relate to an adult in the presence of other children. For these reasons, it is always profitable for all concerned if the school personnel will discuss psychological test results with the psychologist and clear up questions first-hand rather than rely on inferences from the data.

Administrative Use of the IQ The IQ and all that it implies serves as one of the major criteria in the definition of educable mentally handicapped children for purposes of special class placement. In determining the eligibility of the child for admission to a special class, the child's rate of mental development is drawn into perspective with all other data available to the examiner. In many states, the IQ limits for admission to special classes are set down as a range from 50–75 or 80. In the Illinois Plan, however, no definitive range is stated, thus permitting the examining psychologist to take the rate of mental development into consideration as part of the total evaluation of the child.

In cooperation with public school functions, many community agencies consider the IQ along with other characteristics is ascertaining eligibility and feasibility for rendering service. This is most frequently the case with vocational rehabilitative agencies.

Pedagogic Use of the IQ As a single measure of intellectual status, the IQ is of very limited service to the teacher. Mainly, the

IQ is used as a basis for preliminary classification and for estimating the child's rate of mental development.

Teachers frequently ask: How much reliance can I place on the IQ? The answer to this question is drawn, in great part, from the test used to determine the IQ. Of prime importance is the fact that no test of intelligence is completely infallible particularly at the educable mentally handicapped level or above. The answer to the question then becomes one involving degree of reliance.

Of the two types of tests most common in school use, the individual tests of intelligence and the group tests, more reliance can be placed on the individual tests. Comparatively, the individual test is a much more controlled instrument both situationally and administratively and it is administered by an individual well versed in its characteristics and interpretation. On the other hand, group test situations are not so easily controlled; many difficult-to-detect conditions can enter the test situation and affect the results. Even in those cases where the test administrator can account for unusual factors in the situation, he has a difficult time effecting a comprehensive relationship between the factors and the test results. In most cases he can only make an intelligent guess in retrospect. For these reasons, the IQ derived from a well standardized individual test such as the Binet or Wechsler Intelligence Scale for Children is a more reliable measure. Possibly, it would be more profitable if the teacher looked upon the group test as one type of screening device for detecting children who deviate from the norm. An IQ derived from a group test may then be looked upon as an initial estimate of level of intelligence which is to be more clearly ascertained by an individual test.

While it has been generally accepted that the IQ may be employed as an index of rate of learning, experienced teachers have found that this use of the IQ has extremely limited application with educable mentally handicapped children because of the great variety of learning patterns in children of comparable IQs. Also, resorting to the IQ as an estimate of rate of learning implies the use of regular classroom texts and materials as a frame of reference. Since special class teachers of educable mentally handicapped children do not apply regular class materials in the form or frequency for which they have been designed, there is no long range basis for making an estimate of their rate of work in the special class.

The IQ as an index of rate of learning has most relevance in the primary-level educable mentally handicapped class with those

children emerging from the reading- and arithmetic-readiness stage. The teacher may employ the IQ as an index of rate of learning as one criterion in her early attempts at forming reading and arithmetic groups. The assumption in this case is that children of comparable IQ who are also of comparable ability will make progress at a comparable rate and thereby maintain the homogeneity of the group. The teacher will undoubtedly find that the actual reading and arithmetic performance of the children will take precedence over the IQ as a criterion for grouping as the children become more mature. In areas of classroom work other than academic, the teacher will find experiences of the child and his academic ability better judgment criteria than IQ alone.

In keeping with the notion of the IQ as an index of rate of learning, the teacher may resort to the IQ as a basis for estimating the amount of repetition and practice the child will require to master a given learning task. Again, the IQ serves here as a rough preliminary criterion to guide the teacher in her first experiences with the child. As the teacher becomes more familiar with the child's learning behavior, she will invoke other criteria in making judgments.

Occasionally it is found that the IQ is used as a basis for predicting the school achievement of educable mentally handicapped children. This is an unwarranted use of this measure because of the many factors in the child's environment and/or personality that can affect the rate and nature of learning. There have been many instances of educable mentally handicapped children from culturally deprived environments making remarkable gains following their introduction to an enriched environment. Educable mentally handicapped children with serious personality problems have also made marked changes for the better as their problems were ameliorated. These are but two familiar examples that indicate that the arbitrary establishment of a ceiling of learning based on the IQ is a hazardous undertaking.

Mental Age The child's mental age is a measure of his present intellectual status as determined by a standardized test of intelligence. The use of the mental age to designate intellectual status invokes the notion of abilities as they are related to age. Tests of intelligence such as the Binet express test results in terms of age norms and say, in effect, that the abilities of any given child correspond with the average abilities of children of a certain age. Thus,

regardless of his CA, a child is assigned a mental age of 8 years when his total performance on the test is on a par with the average for eight-year-old children. It should be kept in mind that the abilities sampled by the test are specific to the test and that no test actually samples all of the abilities of any one child. Thus, the Binet mental age has considerable implication in judging the academic ability of a child but tells little if anything about his artistic or athletic ability, among others.

Since intelligence tests sample limited segments of the child's abilities, it is very important that the concept of mental age not be oversimplified by indiscriminately comparing educable mentally handicapped children with other educable mentally handicapped children or with normal or gifted children of the same mental age. Very often the life experiences of the educable mentally handicapped child alter the qualitative nature of his mental age simply because he has lived longer and has had experiences not yet available to the normal and gifted child of the same mental age. Among educable mentally handicapped children of comparable mental ages, differences may be due not only to experience but also to biological factors. Not only are the effects of these experiences evident to the practiced administrator and teacher, but they also show up in the success and failure pattern of the educable mentally handicapped child in items in the intelligence test.

The performance and behavior of the educable mentally handicapped child may very well vacillate between his mental age and his chronological age depending upon the nature of the task and/or of the situation in which he is involved. Within this range, certain factors are most frequently in the vicinity of the educable mentally handicapped child's mental age and have considerable connotation for both administrative and pedagogic functions in the schools. For example, it is most frequently found that the educable mentally handicapped child's academic ability will most nearly approximate his mental age while his physical status reflects his chronological age. Emotionally, the educable mentally handicapped child will frequently react to many situations in terms of his mental age. At the same time, his social maturity will, in some areas, approach his chronological age. This becomes more obvious as the child matures and is evidenced in clothing styles, leisure-time activities, and the like. These and other phenomena will be discussed more specifically under relevant headings.

Administrative Use of the Mental Age The mental age has considerable implication in the admission and placement of educable mentally handicapped children in special classes. In considering the advisability of admitting a very young educable mentally handicapped child to a special class, it is well to weigh the child's intellectual status in terms of the general status of the class as a whole. If his mental age indicates that he may be far below the lower academic and social level of the class, it might be advisable to forestall admission until the child becomes more socially amenable to a classroom setting and to suggest provisions that will enhance the child's maturity.

The mental age should also be carefully considered in the admission of more mature children to the special class as well as when moving children to special classes on a higher level. Even though the child may conform physically to the more advanced class, he may not have the academic and emotional maturity to achieve acceptance by his classmates or to operate at an acceptable academic level.

Discrepancies between mental age and chronological age become more critical as the demands on the child for independent behavior increase. This becomes most obvious in junior and senior high school special classes where the student must assume a variety of responsibilities for self-direction. Planning to move a child to a secondary-level class should include a thorough evaluation of the child wherein his mental age may well help to decide on immediate promotion or postponement pending further preparation.

Pedagogic Use of the Mental Age The child's mental age is the best single criterion for estimating his academic status. Thus, the teacher may resort to the mental age in determining the reading and arithmetic aptitude of the educable mentally handicapped children in her class. Since, in the majority of cases, a mental age of six years must be reached before meaningful reading can take place, reading readiness activities might be indicated but educable mentally handicapped children with mental ages below six regardless of their chronological age. This should be a precautionary rule rather than a hard and fast one and subject to test with the individual child.

The teacher has two sources for a more specific determination of the child's academic status. Once she has established a gen-

eral expectancy for the child's ability as indicated by his mental age, she can resort to either a formal or informal diagnostic procedure. Formally she can, if conditions permit, administer an achievement test. Informally, she can develop her own procedure. For example, if the child has a mental age of seven years, the teacher might be justified in estimating that he might be reading somewhere in the vicinity of a primer level. She can then more nearly ascertain his reading level by selecting a primer, asking the child to read to her, and then observing to what extent he is successful in recognizing words and in comprehending. If necessary, she can continue to give him more simple or difficult reading, as dictated by his initial attempt, in order to establish more clearly his reading status. The child's arithmetic and social studies skills can be tested informally in an analogous manner.

It occasionally happens that educable mentally handicapped children who have had two or three years in regular classes acquire a mechanical reading and arithmetic ability that appears almost commensurate with their chronological age. A child exposed to considerable drill and rote learning can sometimes acquire work- and number-recognition skills without acquiring much comprehension. To develop an understanding of reading and arithmetic it might be necessary to backtrack to a lower level in one or both areas. This calls for the introduction of new instructional material to assure maintenance of the child's interest. Again, the child's mental age is a good indicator for determining the level of materials. Since the child has a sizable sight vocabulary and some computational skills, it might be expected that he will progress at a slightly faster rate than younger children of the same mental age who are experiencing the materials for the first time.

The mental age will also help the teacher in the assignment of children to group activities such as committees in social studies. The readiness of the child to make realistic decisions, to work with others in a group, and to comprehend group goals is often revealed by his mental age. A child with a mental age below six years may be "too young" to perceive the totality of the rationale for a class mural or the need for sharing in a group game, even though his chronological age suggests otherwise.

The allocation of time in the daily program of instruction and activities should more nearly conform to the children's mental ages than their chronological ages. The ability to attend to and work at a lesson or task is, in part, a function of the child's mental maturity.

Even interesting materials and tasks will become tiresome to the child if he is held to them for too long a period. It may be taken as a rule of thumb that lessons and activities should be comparatively short for the younger children and increased as the child becomes more mature mentally. In any case, time allocations should not be rigid. At times, the teacher's estimate may be in excess of the child's ability to attend. Observation of the child initially and during the course of the activity will often indicate that the lesson has ended as far as he is concerned. Glassy or wandering eyes, seat polishing, and shifting feet are the common early signs. Forcing the lesson beyond the time most appropriate to the mental ages of the children tends to create an aversion in them for the subject matter at hand and develops problems in management.

At times, the teacher is called upon to designate the equipment and materials she will require in the classroom. While a graded list of materials and equipment will be found in another part of this Curriculum Guide, it might be well to mention here the relationship between mental age and level of interest as they are related to classroom equipment. This relationship has most impact at the primary and intermediate levels. Interests related to games, puzzles, crafts, "free-time" reading, recordings, and others are most frequently on a level with the child's mental age. An eight-year-old child with a mental age of five will probably be more successful and receive more pleasure from materials graded near the five-year level than from those designed for eight-year-old children.

Adults who work with children frequently develop expectations related to the behavior of the children. Some expectations tend to become developmentally and situationally stereotyped. That is, experience and training tell the teacher that six-year-old children will display certain mannerisms when faced with denial of a pleasurable situation, while ten-year-old children will display a different set. From these experiences comes the frequently heard admonition, "act your age." This is, in effect, an order to the child to behave in a manner that is consistent with those behaviors historically associated with children of his life age in analogous situations.

Contrary to all of the evidence suggested by their overt behavior, educable mentally handicapped children are not nearly so inconsistent as might appear. It must be remembered that these children have two distinct ages as referrents for behavior: their mental ages and their chronological or life ages. It should not be unexpected then, to find that the behaviors of educable mentally handi-

capped children vacillate somewhere between their mental and chronological ages. It is not unusual to see an adolescent girl sulk or even dissolve in tears over what appears to be a very insignificant incident such as playful teasing by a classmate. Such an immature reaction can be quite puzzling to the uninitiated. But to the teacher of educable mentally handicapped children who has a good understanding of behaviors in their developmental strata, the rapid shift of behaviors is not unexpected. A good understanding of the relationship between mental age and associated behaviors is therefore necessary.

Understanding the implications of the mental age for the behavior of educable mentally handicapped children in the classroom setting is a major point of departure in the development of acceptable social habits in the children. The teacher's aim is to help each child develop a habit system that most nearly approaches expectations for his chronological age. The development of acceptable behaviors rank in importance with the acquisition of academic and occupational skills in the eventual adjustment of the educable mentally handicapped person in society.

Finally, a more realistic appraisal of the child's status can be obtained if the mental age is viewed as a maturing phenomenon rather than as a static characteristic. A good rule of thumb to be used in estimating the child's mental age between testing sessions is to multiply the child's age in months by his last IQ of record and divide by 100. Thus a child who was tested at the age of ten years (120 months) and who had an IQ of 70 would have a mental age of seven years (84) months. One year later he would be eleven years (132 months) of age. Multiplying 132 months by 70 and then dividing by 100 shows that this child's estimated mental age is now 92.4 months or seven years and eight months. In other words, while he gained one year in chronological age, he gained roughly eight months in mental age.

The assumption, in this procedure, is that the IQ remains relatively stable. From a functional point of view, a few points change of IQ in either direction will not affect the mental age too drastically. If, for any reason, the child's IQ undergoes a radical change, it will undoubtedly be evident to the teacher and she can make adjustments in her estimate of mental age accordingly.

It is of paramount importance that children in special classes be examined by a qualified psychological examiner at designated periods. The procedure advocated by the State Department of

Public Instruction provides for testing at least every three years. Since very dramatic things can occur with respect to a child's rate and level of mental development, the notion of "testing as required" should prevail with teachers; three year lapses between intelligence tests may actually work to the detriment of those children whose rate of progress requires confirmation and whose mental age needs redefinition.

Secondary Characteristics

Unlike the primary characteristics, the secondary characteristics of educable mentally handicapped children are not an integral part of their physical or intellectual make-up. Rather, they are the outcome or expression of conflict or imbalance between the child's primary characteristics and his physical and social environment. As such, the secondary characteristics most frequently take the form of behavior and attitudes.

Behaviors and attitudes most frequently attributed to educable mentally handicapped children include overaggressiveness, self-devaluation, short attention span, poor memory, delayed language development, low tolerance for frustration, and others. These behaviors will be discussed later in greater detail.

Since the secondary characteristics vary in intensity and frequency with the degree and nature of interaction between the primary characteristics and the child's environment, they are amenable to change. In many cases, it is possible to control or alter the interaction between the child's primary characteristics and conditions in his environment and thereby effect changes in his secondary characteristics. Most frequently such control or alteration is directed at conditions in the child's environment since they are far more subject to change than his primary characteristics. For example, when a teacher sees that an educable child is about to select a task that is far beyond his intellectual ability and directs his attention to a challenging task more within his capabilities, she has manipulated his environment so as to reduce the potential for such behaviors as hostility, withdrawal, tantrums, and others.

The teacher often finds that she must work backwards from an overt behavior or attitude to determine the source of conflict. In some cases, the source of conflict is outside of the school; home and neighborhood conditions can and do stimulate unacceptable be-

haviors long after the child has entered the classroom. Even so, it is often possible for the teacher to minimize or ameliorate the secondary characteristics of educable mentally handicapped children. For this reason, these characteristics will be discussed from a corrective point of view.

Frustration-Proneness The notion that educable mentally handicapped children have a low tolerance for frustration is one that is generally held by workers in this field. From the educator's point of view, there is some question as to the serviceability of this concept both in terms of classroom function and for purposes of communication. One might be justified in asking, "Low frustration tolerance as compared with whom and under what conditions?"

Accepting this concept without qualification may make for blind spots within the totality of the teacher's function. For example, a child may get up in the morning and have difficulty in dressing. At the same time, he sees a younger brother breeze through this task with ease. He may well find this annoying. After breakfast he may have to run an errand for his mother wherein he is to get a variety of items at the grocery store. His mother, not understanding or accepting his handicap, gives him verbal orders as she does his younger brother, rather than a written list. The child, unable to retain the verbal list, either omits or substitutes items. He may have a feeling that all is not well and this is certainly reinforced when he returns home with the garbled results of his errand. This is a second annoying experience. Later, on the school bus, the children quiz him about his school work and deride his obvious lack of ability to read and write. This is a third difficult experience. Shortly after arriving at school, one of his classmates snatches a pencil from him and playfully teases him. This seemingly minor event may well be the last straw for him and he erupts in any one of a number of unacceptable behaviors. He may strike out blindly, he may dissolve in tears or simply give up. The teacher, seeing only this last incident in the chain of events, may conclude that the child simply "can't take it" and that he has low tolerance for frustration. If this is her conclusion, she may very well enforce a no-teasing rule or she may conclude that she must stay alert to intercede for this child in all possible incidents in the classroom. What she may not realize is that this child may actually have the patience of Job and that he is consistently tolerating far more frustration than might his normal peers under similar conditions.

It might therefore be more profitable to take into account the persisting conflict engendered by the child's intellectual characteristics and the nature of the conditions around him and to consider the educable mentally handicapped child as being frustration-prone rather than a child with low frustration tolerance.

The concept of frustration-proneness draws into realization the fact that the educable mentally handicapped child is operating in a "normal" world—a world for which he is inadequately equipped, particularly in those duties and activities that call for intellectual adequacy. Purely on the basis of probability, then, chances are that the educable mentally handicapped child will be faced with difficult or impossible situations more frequently than might be expected for his normal peers. He is therefore more liable to find himself obviously inadequate while others around him succeed. The increased frequency of such situations for the educable mentally handicapped child renders him comparatively more prone to frustration than his normal peers.

The concept of frustration-proneness encourages the teacher to look far behind the precipitating incident in order to explain existing behaviors. It suggests procedures that may lead to amelioration of unhappy conditions outside of school. Parent counseling referrals by the teacher may help to develop increased understanding in the home. The attention of a school social worker may provide the child with an outlet for feelings hitherto stored and accumulating. Consultation with the bus driver and other teachers may lead to greater understanding and acceptance.

The concept of frustration-proneness has meaning in classroom-learning situations. Knowing that the educable mentally handicapped child is frustration-prone sensitizes the teacher to the conditions surrounding the child in the classroom as well as to the events occurring outside of the school. Planning activities and tasks will be based on more inclusive considerations than the immediate goals of the task.

Certainly the educable mentally handicapped child should and will experience some frustrating situations in the classroom and school; this is consistent with the realities of life. Careful planning, however, may effectively reduce the number of frustrating situations by eliminating those that have no obvious benefit for the child. This reduction of frustrating situations may enhance the child's ability to withstand hitherto intolerable situations outside of school and make him more acceptable socially and emotionally.

Self-Devaluation A characteristic of educable mentally handicapped children closely related to frustration-proneness is that of self-devaluation. This characteristic is a result of imbalance between the child's competencies, intellectual and physical, and the demands of his environment. Self-devaluation most frequently manifests itself in behaviors and attitudes signifying that the child has strong feelings of general unworthiness and that he holds his abilities in low esteem.

A tendency toward self-devaluation is an almost inevitable outcome of two related major factors in the child's interaction with persons and things in his physical and social environment. First, there is the persisting condition of the generally inadequate child searching for his place in a world that stresses adequacy. Second, there is the child's frequent misjudgment of his abilities and limitations.

The educable mentally handicapped child, in a majority of cases, operates under pre-established standards for behavior and performance. There are both antecedent and current performances against which the educable mentally handicapped child's activities can be evaluated by anyone interested in so doing. For example, older siblings may serve as historical models as seen in such statements directed at the educable mentally handicapped child as, "When Henry was your age, he could travel to any part of town alone. You can't even find your way to the corner store and back." In the ordinary course of events, he suffers from a comparison with children of his own age as well as with younger children who are more adept, swift, and efficient in performing tasks and accomplishments seemingly at his level of achievement.

A tendency toward self-devaluation is aided by the educable mentally handicapped child's limited ability to assess his capabilities and limitations realistically. Studies have shown that educable mentally handicapped children, when confronted with a task, will more frequently over- or underestimate their abilities than will their normal peers. It might therefore be expected that those children who overestimate their abilities with some degree of consistency will be loading the deck against themselves and in favor of failure. A chain of failing experiences may very well reinforce the child's feelings of unworthiness and establish strong anticipations of failure. The child who underestimates his ability will often find that his finished work is substandard when compared with that of his peers. He may accept this as evidence of inferiority.

The educable mentally handicapped child, like all children, sets

up defenses against failure and against further reinforcement of self-devaluation. One of the more obvious is a kind of suspended animation wherein the child manages to stay apart from as many activities or tasks as possible. Great urgings and even coercion are often required to move the child into a new activity. He becomes engrossed in very low-level tasks. He may cut, paste, color, and paint for interminable periods.

Another child may seem to persevere at an academic task and be very happy at it. If the teacher will look back at the child's experiences, she will often find that it was in this academic area that the child was most successful. Quite often, this may be the only area of endeavor in which the child will forge ahead; even so, the teacher can expect considerable anxiety in the child if he is pushed too fast or feels that he is being pushed.

Much can and must be done to help the educable mentally handicapped child acquire a realistic basis for self-appraisal. As he matures, he will be called upon to exercise his judgment independently of the shelter and guidance of teachers and parents. The extent to which he can correctly estimate his abilities and limitations will frequently determine the quality of his adjustment in society. It is therefore necessary that the teacher institute measures to counteract tendencies toward self-devaluation as early as possible.

Again, here is where manipulation of the child's environment may help to ameliorate a secondary characteristic. By arranging conditions and assignments, the teacher can make certain that the child will experience success in almost every undertaking. The child needs a concentration of successful experiences to help him dissipate his feelings of unworthiness. The teacher should make certain that the child's successes are real and that her recognition of his successes are sincere, since the entire plan can be destroyed should the child sense that the teacher is merely making gestures. Knowledge of the child and his needs will guide the teacher in her selection of the tasks and activities and their levels of performance.

As the child begins to show increasing signs of self-confidence, the realities of failure should be permitted to enter the plan. Just as consistent failure is detrimental to the child's self-concept so is consistent success; neither is true to life. Occasional experiences of failure plus an understanding of why failure occurred provide a basis for the child's evaluation of the situation as well as his role in the task. By discussing what happened and why, the child may begin to see the factors of failure as they apply specifically to him.

It is hoped that he will come to realize that failure in some degree comes to all persons and that the factors precipitating failure can sometimes, but not always, be controlled. Learning to take failure in his stride and to evaluate the cause may help the child to acquire the skill of studying a situation as best he can in order that he might anticipate those factors of failure highlighted by previous experiences.

The educable mentally handicapped child who is prone to forge blindly ahead into tasks and situations because of a poor assessment of his assets and liabilities can also be helped in a teacher-controlled environment. Such help is predicated upon the teacher's knowledge of what the child can do and how well he can do it. First, the teacher will have to work closely with the child helping him to develop some ability to see the commonalities in the nature of past and present tasks. This may help him to see that in many cases past occurrences can be used as a reference point in evaluating current tasks. Next, the child should be helped to acquire some skill in looking back on his past experiences to recall how well he did under the conditions that existed. This can be done by exploiting immediate situations. For example, before the child is permitted to embark on a task, the teacher and child should discuss the demands of the task. The teacher should draw from the child his estimate of how well he will do and help him to refer back to similar experiences as a basis for his estimate.

As the child proceeds with the task, it might be advisable for the teacher to observe the child's progress and note the relationship between his stated and actual abilities. In some cases, it might be necessary for the teacher to rescue the child from an impossible situation. In other situations it might be advisable to permit the child to complete the task as best he can. A criterion for judging the relevance of teacher intervention is the child's emotional status. If the task renders him so overwrought that evaluation seems about to be precluded, the teacher should subtly intervene. Evaluation immediately upon completion of the task is of primary importance since this gives the child an opportunity to relate his abilities and limitations to an immediate, concrete experience.

It is important to keep in mind the fact that self-devaluation as a characteristic has two implications for the adjustment of the educable mentally handicapped child. First, there is its effect on classroom performance and adjustment. This is an immediate problem wherein the child's feelings tend to intervene between himself

and both academic and social learning to the extent that he works far below his potential. Second, there is the effect of self-devaluation on the child's self-concept. This is a long-term problem and one that may well have its most deleterious effects when the child reaches maturity. The often quoted phrase, "The child is father to the man," is most dramatically true of the phenomenon of self-concept. Authorities generally agree that a self-concept formed and reinforced during childhood will persist throughout adulthood. If the educable mentally handicapped child is permitted to nurture and develop his feelings of unworthiness during the school years, he will approach many situations in adulthood with anticipations of failure. Thus he will virtually assure failure where success might have been. By possibly guiding the child in his solution of problems, the teacher may help him shape his self-concept to one more nearly consistent with reality.

Learning Disabilities

Conflicts between the educable mentally handicapped child's intellectual ability and the demands of academic and social situations often manifest themselves as disabilities in learning. These disabilities may be identified as a tendency to oversimplify ideas and concepts, reduced ability in generalization, short memory and attention spans, and limitations in incidental learning.

Oversimplification of Concepts One of the intellectual characteristics attributed to the educable mentally handicapped child is his tendency to do comparatively better with concrete or functional ideas and concepts than he can with abstractions. For example, when asked to define or describe an object, the educable mentally handicapped child will most frequently do so in terms of its utility. Thus, an orange is for eating, a chair for sitting, a book for reading, and so on.

In the early years of the child's academic education this is, at least superficially, no serious problem since most of his reading texts and arithmetic learnings are at a concrete level. As the child makes progress, however, it becomes obvious that his ability to comprehend and to conceptualize lag behind his technical skills in academic areas such as word recognition and computation.

Similarly, the educable mentally handicapped child function-

alizes or oversimplifies the ideas, concepts, and abstractions typical of social learnings. Rules for classroom living may be learned to the extent that the child can recite them verbatim. The child may be able to live up to some rules and not to others. This is not unlike being able to understand the meanings of individual words in a sentence without being able to grasp the central idea of the total sentence.

Limited Ability in Generalization Closely related to the educable mentally handicapped child's tendency to concretize or functionalize concepts is his difficulty in developing generalizations. The more abstract the related concepts in situations embodying a common principle the more difficulty the educable mentally handicapped child has in seeing the commonalities in the situations. Thus, a child may quickly recognize the addition sign in a problem in computation without seeing its relationship to the word "and" in the verbal problem: Tom has five pencils and Mary has three pencils. How many do they have together? This is often true despite the fact that in describing the purely computational problem the child states: five and two are seven.

In social learnings the educable mentally handicapped child may have considerable difficulty in seeing the common features of two similar situations separated in time and space. He may quickly learn the rules governing behavior in the school cafeteria line and quietly await his turn at the hot tables. Three hours later, however, in boarding the school bus he may storm through the line of waiting children in his eagerness to get to his favorite seat.

Such contradictions in the child's academic and social behaviors are the bane of the teacher's existence, not to mention others with an investment in the child's adjustment and progress. Yet, in this area of intangibles, concept formation and generalization, the teacher may effectively manipulate the environment to the advantage of the educable mentally handicapped child by (1) teaching in such a way that both mechanical and conceptual skills are integral with each lesson and activity, and (2) by helping the child to see how a principle with academic or social connotation applies in a variety of situations.

It is not sufficient for the educable mentally handicapped child to know how to add. He must also acquire the concept of addition so that he may independently differentiate *when* to add from any

one of a number of arithmetic behaviors available to him. Likewise, in reading, he must learn to recognize words on sight, but he must also learn the concepts they represent if his reading is to have any meaning to him. Devoid of concepts, arithmetic becomes nothing more than exercises with numbers and reading becomes word calling. In social learnings, the acquisition of concepts underlying many rules for group living is basic to the educable mentally handicapped child's ultimate social adjustment. Without concepts for social behavior the educable mentally handicapped child may well become obedient to rules—but only to those rules for which he can foresee immediate enforcement.

Once the teacher has helped the educable mentally handicapped child to acquire a conceptual repetoire, the process of generalization becomes more nearly possible. It seems reasonable to assume that the child must have some understanding of a situation before he can effect even a minimal relationship between the given situation and others requiring analogous behavior or action. Thus, it is not only important for the child to learn that he must wait his turn quietly while standing in the cafeteria line but he must also learn *why* if he is to be expected to generalize this behavior to the school bus line, the line at the local theater, and the line at the drinking fountain.

It is not too difficult to see the relationship between the many academic and social behaviors expected of the adult in our society and the behavior expected of the school child. The major difference between the two may be found in the degree of independence with which the individual anticipates the need for and fulfills behavioral expectations. Just as obvious, the ability to foresee the results of one's behavior is basic to differentiating between the appropriate and inappropriate. The extent, then, to which the educable mentally handicapped child in the special class is able to acquire and develop a conceptual base for his academic and social learnings may very well determine the extent to which he will generalize desirably both in his youth and in his adulthood.

Short Memory and Attention Span With the phenomena of conceptual learning and generalization still fresh, it might be well to consider two other learning disabilities characteristic of the educable mentally handicapped. These are short memory and short attention span. As in the case of other secondary characteristics,

these are relative to the memory and attention span of so-called normal children of the same age or, more accurately, to the teacher's conception of the memory and attention span of normal children.

The extent to which these characteristics exist will vary with the child. Some children in a reading group will recall many of the new words learned in a previous session while others will stare at them as though seeing them for the first time. In the same reading lesson, some will begin to fidget or show signs of wavering attention before others.

In the case of the child's characteristically short memory or poor retention of learning, the teacher may be guided by the results of research. Studies show that learnings which have meaning to the student will be remembered longer than those that have relatively little or no meaning. These findings have considerable implication for planning of instruction, provision of learning materials, and the teacher's selection of language in communicating with the children.

The instructional or lesson plans should incorporate and stress the learnings most relevant to the child in accordance with his needs. The principle of conceptual distance should receive prime consideration in the plans. To discuss the implications of city elections with primary-level children is conceptually far more remote for them than a discussion of behavior in the school halls.

Learning materials such as texts and seat work should be within the child's limits of comprehension. The teacher must continuously be alert for the factor of comprehension because of the facility some educable mentally handicapped children have for "word calling." All too often these children learn to recognize words without learning or understanding their meaning. Through rote learning, they can "read" entire pages without error. In arithmetic, they may learn the mechanics of computation without learning the principles underlying the operation. The teacher can test for comprehension in reading by asking the child to relate in his own words what he had read. In arithmetic, she can base a verbal problem on an algorism with which he has demonstrated facility.

The level of the teacher's language will often determine how long, if at all, the children will remember rules, directions, and other information to be retained. If the teacher employs language beyond the comprehension of her class, she will probably hold their attention while her voice dominates the scene but not for long after. Lack of comprehension rather than short memory span may

be the reason some of those supposed to be doing seat work start the parade to the teacher's side for a repetition of directions.

Another pertinent result of research indicates that materials that are overlearned are retained longer than those learned only to familiarity. For example, in teaching a child a new word, the child may identify it correctly after the fifth presentation. The teacher may stop there and go on to a new word or she may go right on working with the same word with a number of presentations beyond the fifth. The probability that the child will remember the new word longer is enhanced by the few additional presentations of the word. This will undoubtedly hold for other learnings as well.

Duration of attention span may also be related to the extent to which the child comprehends or is interested in what is going on around him. Even as adults, most of us have become involved in situations that are beyond our comprehension or of little interest. This may have been a lecture, concert, or movie. The tendency of most, under these conditions, is to leave the scene in the most acceptable manner. If we cannot get up and depart, we may doodle, read the ads on the program, or doze. Educable mentally handicapped children will also leave the scene in their own way once they lose understanding or interest in proceedings. They cannot get up and leave the circle or their desk without attracting censure so they fidget, poke, hum, daydream, and invent activities with greater appeal to them.

Again, manipulating the classroom environment may help the teacher ameliorate the secondary characteristics of limited memory and short attention span. By ascertaining that classroom work is within the comprehension of the children and by organizing activities and materials so that they stimulate the interest of the children, the teacher may effectively reduce learning loss and disciplinary problems.

Limitations in Incidental Learning The typical classroom learning situation has both a central theme and information peripheral to the theme. Some peripheral information might be contributory to the central theme while some might be quite irrelevant. Both types of information comprise the learnings which are termed incidental. For example, in a lesson in simple grouping the central theme might be the discrimination of groups of three from groups of two. As learning aids, the teacher might use blue irregular coun-

ters for the groups of two and yellow blocks for the groups of three. The identification of the contrasting colors and shapes of the learning aids might be considered information contributing to the central theme. The material relationship between the blocks and the table top, the teacher's costume, number of children in the group, and the lighting in the room might be considered irrelevant to the lesson.

As compared with normal children, the educable mentally handicapped child will frequently learn something about the central theme but very little, if anything, incidental to it. He may learn to differentiate the group of three from group of two in the lesson cited above. It is likely, however, that he will not learn very much about the materials with which he worked. He might not see that the yellow in the blocks and the blue in the counters are not only a part of the learning materials but that they also have intrinsic value as colors. This may be so despite the fact that the teacher used the colors as cues stating, "Hand me three yellow blocks."

The educable mentally handicapped child's limited ability to learn incidental information indicates that the teacher cannot take for granted that the child will acquire information simply because it is immediately in his presence. Further, it means that the teacher will have to plan in considerable detail not only how she is going to present the central theme but also which of the peripheral learnings she wants the child to acquire.

It is possible, with some educable mentally handicapped children, to increase the amount of incidental learning by helping them to increase their skills of observation. This must be a calculated plan wherein the teacher helps the children to identify the central theme and then to look beyond the central theme to the other factors in the setting. In the lesson on the fireman as a community helper, the class may be discussing a picture of a fireman from the viewpoint of his contribution toward protection. Once it appears that the children have at good grasp of this theme, the teachers can begin to draw the children's attention to the uniform and equipment. Occasionally, the teacher should draw the children back to the central theme so that the prior learning will not become overwhelmed by the incidental learning.

Most important, the teacher must study each area of learning to ascertain the facts and skills to be acquired by the child. Rarely can the teacher take for granted that educable mentally handicapped children will learn simply because they are in the immediate vicinity of information. After ascertaining the facts and abilities to be

learned, the teacher must studiously incorporate them in the totality of the lesson.

Retarded Language Development When one considers the role of conceptualization, generalization, and rote learning in the development of language, it is not too surprising to find that many educable mentally handicapped children are markedly retarded in this respect. In language ability, the educable mentally handicapped child most nearly approximates a level consistent with his mental age. This is often true of both his ability to produce language and the quality of the language itself.

At the primary level, some educable mentally handicapped children exhibit speech defects typical of the preschool child. Baby talk and imperfect articulation are not only evident but also persist for some time. Immediate and concerted action by both a qualified speech correctionist and the classroom teacher is necessary if the child is to make progress at an effective rate. It would be very unrealistic to assume that the special-class teacher has the time or critical skills necessary to effect a change in the child's speech production. It is just as unrealistic to assume that time will "cure" the speech defect.

The fact is, the educable mentally handicapped child pays a considerable penalty if his speech defect is permitted to go unremedied by a speech correctionist. The time that the teacher might devote to helping him develop an expanded, effective vocabulary is necessarily spent in helping him learn to produce words clearly. Thus, the acquisition of higher skills in communication are delayed. Further, an obvious speech defect has a psychological impact on the child in that it draws undesirable attention to him. If this is permitted to persist, the child may develop an aversion to speaking and minimize his efforts in this skill as a protective measure.

One of the more prevalent language characteristics of some educable mentally handicapped children is their tendency to limit their communication to single words or fragments of sentences. While this mannerism in normal or gifted children might be attributed to laziness or sloppy habits of communication, in the educable mentally handicapped child it may be due to impoverished ideas or concepts as well as a limited vocabulary.

The development of a functional vocabulary is a major goal in the education of educable mentally handicapped children. Learning to identify new words is but a preliminary stage in this develop-

ment. The child must also be helped to learn, to the best of his ability, the meanings of words as well as the multiplicity of concepts associated with them. Once the child shows evidence of expanding his vocabulary, he should undergo considerable practice in using the new words within the context of sentences. This may take considerable urging and encouraging but it is only through long and constant practice that acceptable language habits will be developed.

The teacher has many language situations to exploit in helping the child make progress in language development. These range from conversational situations to more complex dramatizations of life situations and role playing.

Educability The most important and constructive characteristic of the educable mentally handicapped child is the fact that he is educable. All too often the phrase "educable mentally handicapped" rolls off the speaker's tongue as a verbal label without any recognition of the fact that the very use of the label signifies that the child can learn—that he is in some degree amenable to education as it is defined in the public school frame of reference.

The fact that the child is educable means that he has the potential to profit from a learning situation that takes into account all of the characteristics discussed earlier according to the frequency and intensity that they exist in the individual child. Fortunately, while educable mentally handicapped children, like others, exhibit individual differences, they also generally have commonalities in ability, performance, and behavior that permit for both individual and group programing and instruction.

The crucial factors in dealing with the educable mentally handicapped child's characteristic of educability are the extent to which the teacher is trained and able to work constructively with them, the extent to which teachers and administrators plan and develop a consistent educational program for them and the ability of teachers and administrators to carry out a comprehensive program of education for them that will fulfill the long-range goals of public school education.

26 *Curriculum Experiences for the Educable Mentally Retarded*

ELISE H. MARTENS

THE SELECTION of content for special courses of study is something more than an armchair problem. The daily observation of subnormal children within and without the classroom, the careful study of their inclinations and abilities to deal with present problems, the interests which for them color life and make it complete—these are the bases upon which curriculum adjustment must be made. In a word, the experience of the child is the teacher's cue. He must reach out and bring that experience into classroom situations in such a way that the child will be able to go from the classroom prepared to meet the same type of experience outside with a better understanding of its meaning, with a greater ability to handle himself in relation to it, and with more satisfying results. There is no better way to achieve the specific objectives of instruction than by permitting the child to experience day by day the growing ability to work and to play with companions; actually to prepare food and clothing for use; to spend money for necessities; and to master the skills that are needed for carrying out in reality the activities of his daily life.

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The Unit of Experience

Experience in daily living cannot proceed at random, nor can all experiences in living with their varying degrees of complexity be utilized at once. The teacher who has previously merely asked himself, "When must I teach this child to borrow in subtraction?" may now ponder upon the child's ability "to make bread for the next day's meal" or the ability to execute over the telephone the next day's order to the grocer. As in other programs, there is a time in the child's day-to-day life when certain aspects have more color and meaning than at other times. Hence the "unit of experience" is introduced in order to facilitate the organization of experiences at levels at which they are most helpful in the child's living. The unit of experience may be defined as *an actual experience in living related to the child's immediate interests and environment, which in turn related to his total experience makes for richer and more vital living.*

Units of experience will necessarily differ with every group of children, but there are three basic attributes which give to the well-developed unit of experience its value. In the first place, the experience or activity should be real and not make-believe. There are enough real experiences in every environment to eliminate the need of resorting to those drawn from foreign environments or of setting an artificial stage. For example, the experience of mailing letters and packages can in many situations assume the natural activity of going to the post office and actually mailing the material. A child's experience with flour may be the actual preparation of foods involving the use of flour rather than the construction of a cardboard flour mill which is only an imitation of the real thing.

In the second place, the experience should provide for cooperative living. It should contribute to the child's understanding or experience of the feeling of working with others. Even if the experience itself is so arranged that the child does some of his work alone, the results should be a part of the whole related scheme.

In the third place, the results, whether tangible or not, should be emotionally, physically and mentally satisfying to the child. Within every experience there should be levels of growth, so that each child is accomplishing what is actually most necessary to his own satisfaction of needs. In other words, the experience may have some-

thing to contribute to the social needs of an eight-year-old child and yet may involve operations of such simplicity that it also satisfies the motor facility and mental development of children two or more years younger.

Examples of a Unit of Experience Experiences in helping the child to live fully his present life differ in different localities. Experiences common to life in a large metropolis of the size of New York would be foreign and artificial to a rural community. No one set of experiences or the units thereof can serve all groups adequately. All children, however, live in a world where daily food, clothing, shelter, and play life have a meaning for them. Therefore, two units of experience based upon home and community life are used here for illustrative purposes.

Unit on Foods In one classroom a large unit on home life was divided into activities related to foods, clothing, and shelter. The experiences of the classroom were real in that the children prepared their daily lunch at school. The following activities were included:

1. Preparing menus.
2. Preparing personal shopping lists.
3. Preparing telephone shopping lists.
4. Preparing and cooking vegetables.
5. Preparing meat.
6. Making desserts.
7. Making baked foods and jellies.
8. Setting tables.
9. Eating correctly.
10. Clearing tables.
11. Stacking dishes.
12. Disposing of garbage.
13. Washing dishes.
14. Replacing dishes in cupboard.
15. Preserving left-over foods.
16. Cleaning kitchen.
17. Washing and ironing lunch cloths.
18. Collecting lunch funds.
19. Computing lunchroom bills.
20. Paying bills.

These tasks were graded upon the twofold basis of (1) spontaneous selection by children for social satisfaction and (2) manual dexterity and mental comprehension necessary to complete the task properly. At lower levels the simplest experiences in themselves were sufficient for complete satisfaction to the child. Older children needed wider contacts in the community. Some of the activities demanded motor and mental skills for satisfactory completion. Such skills were taught and used as they were needed, with sufficient drill to make the instruction function effectively.

Unit on Child Care The description of part of a unit on child care, as adapted from the report of several teachers who worked

together for the instruction of a group of adolescent girls, ranging in chronological age from 14 to 16 years and in mental age from about 8 to 10 years, is given in somewhat different form. The objective of the unit was to prepare the girls for better service when caring for children either in their own homes or as a means of earning a livelihood.

The unit was divided into three parts, as follows: (1) entertainment of the child from 1 to 6; (2) food for the preschool child; (3) care and hygiene of the preschool child. The content of the first of these is briefly outlined below:

ENTERTAINMENT OF THE CHILD FROM 1 TO 6

A. Storytelling
   1. Selection of material:
      (a) Class discussion of types of material suitable for young children: nursery rhymes, animal stories, fairy stories.
      (b) Illustrations of various types of stories, as told by teacher.
      (c) Search for material by girls in library and at home.
      (d) Listing of stories for future reference.
   2. Learning to tell stories:
      (a) Development in class of outline for story: introduction, events, conclusion.
      (b) Discussion of outlines as made by individual girls.
      (c) Writing in detail the stories to be told.
      (d) Practice in telling stories in class.
   3. Telling stories to:
      (a) Preprimary children in the same school.
      (b) Brothers and sisters at home.
      (c) Children at baby party.

B. Games
   1. Discussion of various types of play activity and games; their relation to health and recreation.
   2. Observation of and report on children at play in kindergarten, in nursery school, on playground, at home.
   3. Construction of cut-out puzzles, toys, and scrapbooks for use of children.
   4. Practice in playing with the children at school and at home, with reports and discussion of progress.

C. Planning and conducting a baby party for 20 children under 6 years of age, with entertainment through games, toys, and stories, and with refreshments made and served by the girls.

The place of reading, language, and spelling in a unit of this kind is obvious. Stories were read, written, and told. Reports were made on observations and work done. Lists of stories, games, and other types of entertainment were kept. Health and physical education entered the picture in the choice of recreational activities, and even more so in the other two parts of the unit not described here, dealing with food and child hygiene. Art, music, and hand work were used in the preparation of material. The plans for the baby party and the budgeting of expenses met in other parts of the unit necessitated the use of numbers. Social concepts were, of course, emphasized throughout. The entire unit was an excellent example of how many of the vitally functioning elements of real education can be coordinated on the basis of an experience of immense practical value and interest to adolescent girls.

Time Allotments and Daily Schedules The daily division of time among the several activities included in a unit of work may seem to some a difficult problem. If an experience is directed to socially useful activities, tight compartments cannot be assigned to subjects as such. Nor can any division of time be suggested that will fit all situations at all periods of the year. This does not mean that the amount of time given to a particular activity may be left to take care of itself, determined only by the inspiration or fancy of the hour. Careful judgment must be exercised, based on purposeful planning in the light of the children's needs and the content of the unit of experience under way.

In general, it seems safe to say that a carefully planned schedule for children of primary and intermediate ages will show approximately half of the day (or of the week) used for the teaching of various skills (academic and manual) needed in the unit of experience, and the other half for the pursuit of socializing group activities which are involved in the unit and which give opportunities for the application of learned skills. Needed variation made for adolescents will be in the direction of increasing work of socializing and occupational type and decreasing the time spent on academic drill. In order to keep the division of time flexible, many class programs are made on a weekly rather than a daily basis. This insures a certain amount of freedom from day to day and yet furnishes a definite standard of procedure.

Social and Civic Experiences

To live happily a man must be able to get along with his fellows, respect the rights of others, recognize the value of cooperation, desire to earn an honest living, and respect the laws of the country in which he lives. The highest type of behavior along these lines can be obtained only through constant practice in the early years. If there is a sufficient repetition of a specific situation, a behavior habit is formed. A habit once formed is not easily broken. The school should accept its responsibility along with the home and the church is helping to develop socially acceptable habits. Hence, social and civic experiences should play a vital part in the life of the school.

The Home, the School, and the Community Prior to the child's entering school, he has been associated mostly with members of his own family. The relationships, duties, responsibilities, and attitudes commonly found in the home may well be the point of departure which the teacher uses to aid in the adjustment of the child to the new situations in which he finds himself in the school. The teacher should, as far as possible, make contacts with the homes represented in his class. He can in this way learn of each child's environment and obtain the cooperation of the home in bringing about needed improvement of attitudes and relationships.

Next to the home in the experience of the child comes the school, and after the school comes the community. The teacher can draw freely upon each of these fields in the development of units of experience that will place the child in social situations of vital importance to his growth as a social being. Suggestions taken from school life and from community life are given in the outline on pages 237–240. Each experience will function best if it is made a part of a larger situation or experience in which the children are actively participating. Almost any one of them can be made the background for effective training in social habits and attitudes. For example, if a trip to a farm or factory is in prospect, an informal discussion can be developed in which the children themselves will set the standards for their personal appearance and conduct. And when they have returned, another informal discussion can be used as a

basis for checking their achievements in these directions, as well as for considering the content of their observations.

Retarded children will grow up to be adults. They will be voters and citizens of the community. Somewhere in their school program there should be a place to consider community civics and the problems of government common to all localities. The older boys and girls can be helped to comprehend some of the vital issues of the day. What makes a community a good place in which to live? What regulations for health and sanitation are important? What kind of a person makes a good city or county official? Why do workmen strike? If there is a strike pending or under way in the community, what are the pros and cons? What other local problems exist that need to be worked out by *all* the citizens?

For boys and girls who are ready to leave school and to take their places in the working world, the employment opportunities of the community should be investigated. This is a social experience of intense practical value. A list of possibilities can be made out in class through group participation, visits can be made to some of the plants under consideration, and requirements, advantages, and hazards of respective jobs can be analyzed. The boys and girls who, when they leave school, have some familiarity with the types of jobs that they can probably fill with reasonable satisfaction have taken a big step toward getting one of those jobs. Certainly the school should do as much as possible in laying the foundation for this important phase of the young man's or young woman's life.

SUGGESTED SOCIAL EXPERIENCES TAKEN FROM HOME LIFE, SCHOOL LIFE, AND COMMUNITY LIFE

(To be adapted to needs of age and ability levels)

A. Social experiences in home life
   1. Experiences for all children:
      (a) Visiting a home near the school, not too far above the level of homes known by the children, but neat and well-kept, to observe items important in homemaking, such as clean floors, neatly made beds, arrangement of furniture, sanitary provisions, care of yard and garden.
      (b) Talking about the visit, the activities, relationships, and responsibilities of the home as experienced by the children.
      (c) Making a playhouse, not elaborate, but large enough for the children's use.
      (d) Arranging a party, with the children as hosts and hostesses.

(e) Discussing the arrival of guests in the homes of the children, visits from relatives, or the arrival of a new baby in the family.

2. Additional experiences for older girls:
   (a) Homemaking activities, such as cooking, sewing, house furnishing, arrangement and decoration, care of clothing, and budgeting expenses.
   (b) Making notebooks illustrating activities listed under 2(a) above.
   (c) Shopping excursions; learning how to select and purchase commodities used in the home.
   (d) Ordering supplies over the telephone.
   (e) Inviting parents to school to see exhibit of hand work or other classroom activities.
   (f) Serving tea. (Older girls should arrange tea table, pour tea, make sandwiches, cookies, etc. They should feel responsibility for engaging their parents in conversation, introducing them to their teacher or to other parents.)
   (g) Caring for children. (Real children should be used if possible. Day nurseries may cooperate and permit the class to "adopt" a baby. Reports should be made on care of baby sisters and brothers.)
      (1) Bathing.
      (2) Dressing.
      (3) Feeding.
      (4) Making clothing.
      (5) Playing games with young children; entertaining them with songs, stories, poems.
      (6) Arranging a children's party.
      (7) Helping with the kindergarten group in the school.

3. Additional experiences for older boys:
   (a) Constructing playhouse.
   (b) Participating in some of the work of the home, such as picking up clothes, helping mother, shining shoes, running errands, shoveling walks, making simple repairs.
   (c) Collecting figures on cost and maintenance of a home; budgeting expenses.
   (d) Collecting pictures of different types of homes for a booklet.
   (e) Participating in school's tea party for parents, especially in the conversation.
   (f) Caring for pets.
   (g) Working in a garden. (Each boy should have a plot of his own.)

B. Social experiences in school life
   1. Working in groups for a common cause:
      (a) Game periods; playground activities.
      (b) Group construction work in classroom.

(c) Committee work.
(d) Participation in paper sales.
(e) Spontaneous dramatization of stories or situations depicting the the life of various periods, countries, or areas.
(f) Preparation for special holidays or festive occasions.

2. Participation in school civic league meetings or student council, in auditorium programs, in school-safety program.
3. Membership on ball teams.
4. Musical activities; dancing and rhythmic exercises.
5. Sharing responsibility for keeping school building in good condition.
6. Observing school activities in other rooms; making contacts with other class groups whenever the child can compare advantageously. (This will be for children having special ability in some direction, such as music or art.)
7. Assisting in the preparation and serving of lunches. (This provides an unlimited number of practical experiences arising daily.)

C. Social experiences in community life

1. Listing and discussing persons in community who contribute to our needs:
   (a) City life
      (1) Milkman
      (2) Butcher
      (3) Grocer
      (4) Baker
      (5) Druggist
      (6) Oil stationman
      (7) Postman
      (8) Fireman
      (9) Policeman
      (10) Motorman
      (11) Librarian
      (12) Laundryman
   (b) Rural life
      (1) Farmer
      (2) Postman
      (3) Thrasher
      (4) Corn huskers
      (5) Hay balers
      (6) Traveling grocer
      (7) Traveling druggist
      (8) Fireman
      (9) Traveling librarian
      (10) Oil stationman
2. Listing and studying local industries or places requiring workers.
3. Making trips:
   (a) To various places of business.
   (b) To farms, observing farm activities.
   (c) To industrial plants.
4. Conversing with people who serve in either urban or rural life.
5. Making contacts with people and agencies who can give information and guidance, such as doctors, nurses, ministers, and social agencies.
6. Locating desirable places for recreation, such as parks, playgrounds, neighborhood houses, and theaters.

7. Locating public buildings, such as churches, gas company, electric company, city hall, fire department.
8. Writing friendly letters.
9. Writing business letters asking for information or quotations of prices, making an appointment for an interview, or engaging a speaker who will address the class on some phase of community life.
10. Participating in field-day programs on public playgrounds; making use of public parks, swimming beaches, skating rinks, and other facilities provided for recreational purposes.
11. Engaging in interscholastic meets, such as football, baseball, and basketball.
12. Investigating employment situation in community; making out application for job; studying Workmen's Compensation Insurance forms; considering benefits granted workers in particular occupations.

The State, the Nation, and the World Beyond the immediate community there are the state, the nation, and the world. Because a child is mentally retarded is no reason why he should be deprived of the socializing influences of learning a few things about the geography of his country and of the world. He should learn something, too, of the life of other people and of other times; of the history of his own people, centered on the service of a few truly great men and women of the past. The interests of the older pupils could center on the most obvious current social and economic issues.

Most, if not all, of the content suitable for us in these fields can be introduced as elements of units of experience in which children are vitally interested. A unit on shelter can with many groups include a consideration of the houses of the Indians and the Eskimos and of the place of these peoples in our national life. Like normal children, the mentally retarded take delight in dressing up like Indians, in building an Indian wigwam, in learning some of the simpler Indian songs, and in reading or in hearing read the stories of the life of the Indians. Particularly in communities which have a past intimately related to the Indians would such activities be appropriate.

In California, the discovery of gold and the admission of the state into the Union would open the door to many opportunities for emphasis upon civic progress and responsibilities. In New England, the landing of the Pilgrim Fathers and early colonial days would be topics of value and hold possibilities for development. But in neither

of these sections would a study of the exports of Wales or of the history of French Guiana offer anything of social value to children whose mental horizon and whose sphere of activity are both seriously limited.

Turning to problems of national scope: What does it mean to be a citizen of the United States? What privileges does it bring? What responsibilities does it carry? There is no more important phase of education of the mentally retarded than to build up an appreciation of American citizenship and of the citizen's rights and responsibilities.

At the time of a state or national election, some of the most obvious facts and issues can be discussed. A class or school election can become the background for learning the mechanics of voting for officials. Selected members of the class can represent different candidates. Older boys and girls, if not too seriously retarded, can achieve understanding of some national problems. Every citizen needs to be able to think clearly and make sound judgments about national issues.

Reading

Long, involved sentences, abstract words, and abstract number ideas are usually beyond the comprehension of mentally retarded children. They should not be asked to waste time trying to master all the academic skills required of intellectually normal pupils. Only those skills which are instrumental in the development of a useful adult life, as well as a happy childhood, should be attempted. As with social and civic experiences, the child learns to read, to write, and to add more readily when the need of learning arises out of an experience through which he is living at the time. He becomes so interested in the situation or in the manipulation of objects connected with the experience that he is either unaware that he is learning or is definitely tackling a difficult piece of work as a means toward reaching a goal which this new experience has opened up to him.

Reading is an important factor in helping the child to take his place with normal people in the community. Yet adult reading needs in their simplest terms are few. In order of importance they are: (*a*) reading for protection; (*b*) reading for information or instruc-

tion; and (*c*) reading for pleasure. Some mentally retarded children will be able to master only enough reading for their own protection. Others will be able to add reading for information and instruction. A few will read for pleasure.

Reading for Protection The child should be able to recognize instantly such signs as DANGER, CAUTION, EXIT, KEEP OFF, EXPLOSIVES. He should be able to read pedestrian traffic signs such as KEEP TO THE RIGHT, WALK FACING TRAFFIC, WATCH YOUR STEP. He will need to be able to read streetcar, train, or bus signs, showing their destination; also such signs as NO SMOKING, DO NOT PUT HEAD OR ARMS OUT OF WINDOW, DO NOT TALK TO THE MOTORMAN, SPITTING PROHIBITED, NO SPITTING. All but the children of lowest grade of intelligence will have need to learn auto traffic signs. These will include such road signs as SCHOOL—GO SLOW, STOP—LOOK—LISTEN, CROSSROADS, CAUTION—MEN WORKING AHEAD, ROAD SLIPPERY WHEN WET, DANGEROUS CURVE, STEEP GRADE, NO LEFT TURN, CAR STOP.

Reading for Information and Instruction In order that the child may find his way about the community, he must be able to read street signs, streetcar signs, transfers, timetables, and official signs and warnings. He must also know how to find a name through the alphabetical lists given in the telephone and the city directories. Any other reading items should be introduced that are common to the social and industrial or agricultural environment of the child. He should be able to read labels and names of all household necessities such as names of articles of clothing, drugs, groceries, and common tools. He should be able to read the names of stores or departments in stores that carry such items. His reading vocabulary should include the names of common plants and animals. He should be able to read newspaper advertisements such as announcement of sales, "Help Wanted" and "Lost and Found" columns.

Some of these items will be common to the lives of both city and rural children, others only to one or the other group. Each group should have a vocabulary suited to its own particular needs. Each child should go as far as he is able. A very deficient child in the city may be able to learn only the names of streets in his immediate vicinity. Others with more ability will learn the geography of

the city and will be able to learn the names of all principal intersecting streets, of all parks in the community, and of the important buildings. Still others, especially those whose families use the automobile as a means of travel, may be able to learn the geography of the entire state, as well as of neighboring states. There is no limit set except the child's ability and interest.

The rural child of very low ability may be able to learn only the names of crossroad signs of his immediate vicinity and the name and destination of the bus that passes through. Others may learn the names of the towns through which the bus passes and the destination of other busses met at junction points. To rural children the physical geography of the state should be of special interest.

The type of vocabulary for either city or country will be built naturally and with ease through many units of experience in which the need to know the geography of the locality arises. Such experiences include:

1. Walks about the vicinity of school and home.
2. Trips about the city to
   (a) Market
   (b) Dairy
   (c) Bakery
   (d) Art gallery
   (e) Parks or playgrounds
3. Tracing the progress of farm products to their markets.
4. Tracing some manufactured article from the factory to farm or home.

Reading for Pleasure Children of low intellectual ability may read for pleasure if carefully guided and directed to material that is within their comprehension and interest. Among the first sources to which they turn are the "funnies" and at least the headlines of the sports pages. Some book lists have been made out by librarians and others interested in the reading of retarded children, indicating the books most frequently preferred by them. Even commercial publishing companies have begun to include in their catalogs of books for boys and girls a classified list of "books for retarded readers," specifying age and vocabulary level. Any teacher can find or develop such a list for himself, being careful to offer the children only those books which they can handle with ease.

Experience Reading Experience reading, involving items common to the activity being carried on in class, is the best approach to the development of reading skill. For example, if a class activity centers on household pets, the child must acquire many new words for his reading vocabulary. Together teacher and pupils will develop phrases, sentences, and paragraphs that will be printed on charts and in turn become the next day's reading lesson. Through discussion and work periods the new words will be made a part of the child's vocabulary. They will have real meaning for him. When he encounters them again in another reading situation, they will give meaning to the new subject matter.

The experience and vocabulary used should always be in terms of the psychological maturity of the child. The experience must be real to him, and to be real it must be well within his ability to understand it. Household pets interest most children. To the child with a mental age of 6 years, a dog is little or big, black or brown. His reading experience may center on the following ideas:

1. The dog as a playmate.
2. His habits (what he eats; where he sleeps).
3. How to take care of a dog.
4. Why take care of him.
5. Tricks he can learn.
6. How to punish him.
7. How to reward him.

The child with a mental age of 8 or 9 will be interested to go further and learn about the different breeds of dogs, the native country of each breed, the different characteristics and uses of each breed.

Again, in carrying out a post office unit, the interest of the child who has a mental age of 6 will not go beyond the postman, the letter, and the stamp. The child of a mental age of 8 or 9 years will want to learn about the duties of the local postmaster, the train mail, the air mail, and the ocean mail. The boy who is 14 or 15 years old and who has a mental age of 10 or 11 may be interested in mail rates, routes, and perhaps in subsidies to airplane and ship companies for the carrying of mail.

The child who is not ready to build up reading concepts should share in the group's unit of experience, develop his own background of experience, and increase his speaking vocabulary. His reading activities should be of kindergarten or preprimer level, involving largely the matching of words and objects or of words and pictures.

Language and Spelling

Since spelling is the medium of written language, these two phases of work are here considered together. Language is the mode of expression of the child growing out of his activities and interests. Oral expression is the chief aim of language instruction for mentally retarded children. As adults they should have clear, distinct speech, be able to express their thoughts in simple sentences, be able to speak over the telephone, and be able to ask for or to give simple directions.

In the classroom the child's facility with language will grow under the teacher's guidance as his field of life experience enlarges. His speaking vocabulary should increase and his meaningful reading vocabulary will increase accordingly. He should learn to speak clearly and to express complete thoughts. He should use his language ability in reading, arithmetic, social science,, arts, and other fields. The fact that language is so general a subject makes it important that a check list be used constantly to evaluate the work that has been done. Such a list can be formulated by the teacher on the basis of the activities carried on in class, supplemented by standard word lists.

Written language grows out of the use of oral language. The pupil should be able to *say* first that which he wishes to *write*. A need for written language will arise when he wishes to write a letter to his mother inviting her to a school party or to a firm asking for information, catalogs, folders, or exhibits. He may wish to write a simple account of an activity being carried on in the classroom or to compose a greeting for Christmas or Easter. Every experience carried on under the teacher's guidance provides opportunity for developing written language in conformity with the probable demands that will be placed upon the retarded child as he grows up. Among the common activities that will demand written expression will be: application for a job; ordering goods from a mail-order house; writing letters to relatives or friends; and other experiences that may be peculiar to his own social environment.

Spelling needs are simple, and demands in this direction should involve only those words which are likely to be included in the pupil's adult writing vocabulary. Numerous standardized spelling scales have been published which may be used as basic check lists. The limit of progress should be determined only by the child's

own ability to master the mechanics of the spelling of words common to his needs. In some cases it is the one field in which a mentally retarded child seems to excel.

The activities carried on in the classroom should be the basis for introducing new words. Words so derived will be meaningful to the child. They will already be a part of his speaking vocabulary, and he will readily recognize the need for making them a part of his writing vocabulary. Their correct spelling should not stop with the so-called "spelling lesson," but should be a part of every writing activity in which the child engages.

Numbers

Adult Arithmetic Needs The minimum everyday demands of arithmetic in adult life are relatively few, but they are important. Many of them involve the use of money and of making change. The chief problems relate to table or household expenses and are concerned with such items as groceries, fruit, meat, milk; clothing, drygoods, house furnishings; fuel, electric light, gas; rent or taxes. Which of several items would it be better to buy? How can the household budget be managed? These are questions that face everyone of us almost daily. Other problems involve the figuring of wage rates per hour, week, or month, the use of time schedules and common weights and measures. Some of the boys could paper rooms in their own homes. They should have the necessary number facts and skills at their command. Some could plant corn and be able to figure the cost. Some may build chicken coops or hen houses. They should know how to buy lumber. Whatever number situations arise in the life of the child or in the life of his family could be considered good content in arithmetic, provided the child's mental level is high enough to enable him to cope with them.

In any situation it is probably safe to say that the essentials of number development in classroom activities should include much practice with the following skills:

1. Addition and subtraction of two-digit numbers.
2. Addition and subtraction of dollars and cents.
3. Content of multiplication tables.
4. Short division.
5. Simple fractions and mixed numbers, concretely applied (e.g., ½, ¼, 1½, 1¼, 1), common to measuring of pounds or yards.

6. Common weights and measures.
7. Clock and calendar facts.
8. Timetables and schedules (railroad, bus, airplane).

Meaningful Experiences The mentally retarded child needs many meaningful experiences with numbers before he is ready to handle simple problems. Every classroom activity in which a number situation arises can be made a part of his experience. His ideas of number values should be systematically built up out of his immediate environment and should be based upon objects which he can handle or, less frequently, representations of objects through pictures. The following number situations are among the many that may be considered common to every child's experience:

1. Representations in pictures (e.g., 4 baby ducks and 1 mother duck; 2 black dogs and 3 brown dogs; 3 birds in a tree and 2 in the sky).
2. Real money for real buying or for playing store.
3. Desks, scissors, crayons, etc., to count.
4. Boys, girls in the class—to count and to compare.
5. Boys, girls, absent today—yesterday.
6. Party preparations—counting napkins, plates, cakes, apples.
7. Price lists and other information to compare values and thus to promote consumer education.
8. Hourly, weekly, or monthly wage scales.

Number Vocabulary Through such experiences as these, the child can develop a concept of number values and relationships. He should learn in doing things that the "and" relation means addition; and that "difference," "how much more," "lost" or "gave" means subtraction. He is not ready for written problems until these items are part of his speaking vocabulary and are recognized as "cues" for the solution of oral problems.

Before he leaves school, he should acquire a working vocabulary of arithmetical terms that he will commonly meet in a work-a-day world. The following terms represent some of the concepts common to everyday usage:

1. Terms relating to time, space, or quantity:

another	enough	pair
half	both	part
double	increase	smaller
twice	less	some
each	many	none

2. Terms relating to measurement:

dollar	nickel	half
dozen	inch	pounds
quarter	measure	quart
dime	acre	weight
cent (penny)		

3. Commercial terms:

bill	cost	rent
buy	earn	sell
change	expense	spend
charge	price	worth

Drill on Fundamentals The use of the unit of experience does not eliminate the need for drill. The use of the newly acquired tool over and over again in many and varied situations makes it a permanent part of the child's knowledge, and the mentally retarded pupil is, of all children, most in need of such repetition if he is to acquire a given skill. Short drill periods have a place in arithmetic as in other fundamental processes and can, in practically every case, be based upon the content of the unit of experience. Add 3 cupfuls of fruit juice and 2 cupfuls of water to make a pitcher of fruit punch. Make a garden path 4 feet wide and 8 feet long. Divide a day's wages into halves. Through countless applications the attainment of skill in the fundamental processes can become for the child an interesting, purposeful activity rather than a meaningless process.

Penmanship

Legibility is the chief goal of instruction in penmanship, and this requires the achievement of muscular coordination, proper posture, and proper manipulation of the pencil. Once the child has acquired the ability to form even, well-spaced letters, he should understand that writing is only for conveying a message or for preserving a record of some interesting event or important fact. Therefore his writing must always be legible, neat as to form, and free from smudges.

Continued vigilance on the part of the teacher to see that the child assumes a proper writing position, that his paper is properly placed before him, and that his pencil is properly held will produce far better and more lasting results than any amount of formal in-

struction. To be sure, habits here as elsewhere need to be formed through much repetition. Hence drill again has its place, but the mentally retarded child does not automatically transfer "copybook" penmanship to his ordinary everyday requirements in writing. After the bare essentials have been acquired, the best practice that can be given to him is in immediate connection with his writing activities. Written language and penmanship are supplementary to each other.

Summary

1. The nature of the mentally retarded child's handicap limits both the amount and the kind of subject matter by which he is able to profit. In individual cases, however, no restriction should be placed upon the content of academic experiences in which the child participates except that which is imposed by each child's own lack of ability to comprehend.

2. In general, the criteria for the selection of academic subject matter should be its possible contribution toward happy childhood and the probable need for it in adult life.

3. The approach to the mastery of subject matter should be through experiences of the child at the level of his social interests, presented through concrete ideas and the manipulation of objects. Every fundamental skill can be taught through many and varied experiences forming the basis for the necessary drill.

4. The choice of the subject matter to be presented at a particular time should be in response to a real need or interest on the part of the child in meeting a particular situation or in solving a particular problem.

5. Word lists, spelling lists, multiplication, addition, and subtraction tables may serve as valuable tools in selecting the skills to be achieved, and as a check to determine the skills already acquired and the amount of drill needed.

Experiences in Science Science is as important for mentally retarded children as for all other children. Modern man is dependent upon science to meet his basic needs. It includes the study of food, clothing, and shelter; plant and animal life; the earth and the universe; energy and machines. The experiences of all children and adults—including the mentally retarded—touch upon the science aspects of living. With some of these aspects the mentally retarded

are vitally concerned. Their school life should not end without rich opportunities to explore.

However, a curriculum in science which may be excellent for the regular elementary or secondary grades is not necessarily either desirable or practical for mentally retarded children. They are not as observant or as well-informed concerning things about them as are normal and mentally superior children. They do not grasp abstract ideas readily. They must have intensely practical experiences and many varied repetitions of experiences of the same general type if their observations and interpretations are to function effectively. Some of the content usually included in junior and senior high school science is of utmost value for efficient living, but it must be taught realistically and simply enough for the mentally retarded child to understand and to use. Since, by definition, he will not be able to meet the standards of the regular classes in junior and senior high school, such content will need to be presented to him in terms of his own ability to understand. These facts make it imperative to select carefully curricular material from all fields of science directed toward increasing the child's equipment for daily living.

Requisites of Satisfactory Material Both the physical and the biological sciences offer material of interest and value to the mentally retarded. To be acceptable such material must, in the first place, contribute to interpretation of the environment, to adequate adaptation within the environment, and to the appreciations and attitudes that add to its enjoyment. In the second place, the subject matter selected must be simple enough for mentally retarded children to understand, tangible enough for them to appreciate, and objective enough for them to utilize. That which is an integral part of the environment as they see it and work with it from day to day and which can be explained objectively with concrete materials at hand constitutes the most desirable content.

The experiences selected should contribute to the development of habits of more careful observation and to the extension of wholesome interest in the physical environment and thoughtful care of living things. They should bring about an acquaintance with those scientific facts that concern health and safety. They should stimulate economic purchase and use of commercial products and mechanical devices, with an ability to make selection on the basis of value and durability. They should add to the power to interpret

simple phenomena of the physical environment and of the behavior of living things. Finally, they should open up some possibilities for the use of leisure time.

Experiences in science are a logical part of every unit of experience. The teacher who says, "Now we'll have a science lesson," and who fails to see the vast opportunities for guiding the children into realms of experiences in science through the unit on the home, on foods, on clothing, or on any other theme, loses the opportunity of intergrating the daily experiences of pupils. The topics listed in this chapter are suggested not as themes to be presented through isolated discussions or experiences, but as phases of scientific subject matter that can be either closely related to the total units of experience with which they individually belong or used as the basis of an experience to which other fields are related.

For example, an entire unit of experience might be planned about the subject of plants. In one class, the children planted several kinds of seeds in flower boxes, which in due time became aglow with color and beauty. The flowers furnished the approach to a study of the place of seeds and of roots in plant life; of different kinds of seeds and roots, including those which are edible; of the needs of plant life; of the use of plants for clothing, for building, for medicine, and for coloring. Into this setting were introduced activities in reading, language, numbers, manual arts, music, health education. Younger children of the group participated in the simpler activities and observed others. It was a socializing experience that helped each child to learn something of and to appreciate nature's work and its effect upon human life.

In another class a unit of work was developed under the general topic of milk. The children of lowest ability cut out pictures of cows, milk bottles, milk trucks; they talked about the milkman and the use of milk at school and at home. The intermediate group took a trip to the dairy, made butter and cottage cheese in the classroom, saw and discussed some "movies" on cows and milk, made reading charts, wrote stories and poems, and modeled, out of clay and wood, cows, calves, barns, trucks, and milk wagons. The advanced group joined the intermediate group in its activities, but added spelling and arithmetic lessons based on the same material, vocabulary charts, posters, and recipe books. The entire school became "milk-conscious."

The study of habits and needs of native birds might in some localities easily become a part of a unit of experience on "exploring

the community." Reading the thermometer might be included in the same unit and be related to weather conditions of the community. Many scientific observations are closely concerned with the subject of food. Nature study, biology, astronomy, chemistry, and physics all offer material from which selection can be made in accordance with the ages and mental levels of the children concerned and with the units of experiences that are under way.

Even the youngest children can watch the birds, the clouds, the rain, the snow. They can observe the change of seasons. They can become acquainted with the flowers and the trees growing in the immediate vicinity; with the habits of common birds, animals, and fish; and with the behavior of the butterfly, the caterpillar, and the ant. They can catch snow in a container and watch it melt; see snow crystals under the magnifying glass; put water out to freeze; care for pets and for plants; boil water and watch the steam; watch a lighted candle go out when placed under a glass; and watch water disappear from the blackboard after washing. All these observations, experiments, and other activities will help the young child orient himself in the world of nature about him and see some of simplest ways in which natural law applies to human existence. As he grows older, he will be led to a more scientific knowledge of living things in a natural world through more comprehensive experiences.

SUGGESTED EXPERIENCES

A. Subject matter drawn from the immediate environment of the child
   1. Habits and needs of native birds.
   2. Preservation of wildlife.
   3. Plant life (indoor and outdoor); its need for development; absorption of moisture; growth; value.
   4. Daily phenomena of weather: rain, snow, hail, fog; amount of rainfall.
   5. Function and operation of simple mechanical devices, such as the toy steam engine, water wheel, bellows, air pump, carpet sweeper, bicycle, meat grinder, egg beater, vacuum cleaner. Some of the major features of the universe, such as sun, moon, earth, stars, clouds, wind, seasons, day and night.
   6. Sources and composition of common materials used for food, clothing, shelter, tools, transportation.
   7. Scientific explanation of some of the modern means of communication and transportation, such as the telephone, telegraph, radio, television, balloon, automobile, airplane.

B. Skills offered by various sciences that are usable in daily living
   1. Reading the thermometer.
   2. Pouring from a bottle so that it will not gurgle and spill.
   3. Using a medicine dropper.
   4. Gradually heating a glass container so as to loosen the lid.
   5. Building a fire.
   6. Bleaching or dyeing cloth.
   7. Using a siphon.
   8. Comparing the relative values of cooking utensils.
   9. Simple household processes, such as using a plunger, changing fuses, putting new washers on faucets, making simple extensions for electric lights.

C. Directed observation of simple, well-planned experiments illustrating well-known scientific principles
   1. *Buoyancy of water.* Floating different sizes of materials of various shapes in water and noticing the water line of each; experimenting with the shape and resulting variation in the water line; applying to the making of toy boats the principle that objects are buoyed up by the amount of water they displace.
   2. *Leakage of water.* Measuring the amount of water wasted in a given length of time from a slow leak, appreciating the fact that trivial waste results in considerable loss.
   3. *Purification of water.* Putting on small glass lids or dishes (*a*) water from a puddle, (*b*) water from a faucet, and (*c*) boiled water, observing daily through magnifying glass the changes taking place; filtering water and boiling water; investigating the local filtration plant and water supply.

D. Knowledge that contributes to the understanding and appreciation of the behavior and needs of living things
   1. Life cycles of animals and plants.
   2. Distribution of seeds in a seed pod.
   3. Growth of seedlings and bulbs under different conditions of light, moisture, and heat.
   4. Kinds of common trees: their foliage, fruits, and uses.
   5. Behavior and needs of pets at school and at home.
   6. Behavior and physical condition of mice fed on different foods.

E. Practical knowledge that contributes to desirable habits of health and safety
   1. Adjustment to different seasons and weather conditions.
   2. Effect of bacteria upon food.
   3. Ventilation; respiration.

4. Prevention of disease.
5. Posture, care of teeth, eyes, ears, hair, skin.
6. Use of simple antiseptics.
7. Use and repair of electrical devices.
8. Causes, danger, and prevention of short circuits.
9. Use and storage of inflammable materials.
10. Function and mechanics of fire alarm and fire extinguisher.
11. Methods of extinguishing fires.
12. Care of household plumbing in winter.
13. Construction and function of household water system: water meter, traps in drainage, connection with city systems.

F. Practical knowledge that leads to wise selection and satisfactory use of commercial products
1. General repair of household appliances.
2. Care, use, quality, and endurance of tools.
3. Choice of cloth: kinds; characteristics; limitations; values; tests for wool, cotton, and silk; tests for permanence of prints and dyes.
4. Use and limitations of cleaning agents, home-made and commercial.
5. Use of foods: kinds; values; preservation; refrigeration.
6. Care of heating systems: kinds; characteristics; advantages; disadadvantages.
7. Mechanics of pumps.

G. Construction of simple equipment and use of common products that will widen the child's range of interest, contribute to better understanding, or lead to wise selection and use of commercial products
1. Thermometer.
2. Respirator.
3. Medicine dropper.
4. Water magnifying glass.
5. Strong alkaline soap and neutral soap.
6. Dyes, bleaches, stain removers.
7. Common home remedies.
8. Window ventilators.
9. Outdoor window boxes.
10. Thermos container.

H. Experiences which contribute to desirable use of leisure time
1. Visiting museums and exhibitions of scientific interest.
2. Making mechanical household appliances and toys.
3. Collecting, mounting, and labeling specimens of trees, flowers, rocks.
4. Raising animals, birds, fish.

5. Gardening, making weather vanes, sun dials, bird baths, and bird houses.

The Arts

Experiences in the various fields of art, including both so-called fine and practical arts, have an important place in the school curriculum for retarded children. Music, dancing, dramatization, poetry; various types of play activity; drawing, painting, stenciling, modeling; household arts; pottery, metal work, leather tooling, and other handicrafts all stand side by side in offering abundant opportunity for both appreciation and creative expression. Interest and ability in these fields are among the strongest assets which retarded children possess. They constitute an emotional stabilizer, at the same time offering great possibilities for enriching the lives of the pupils. It is not to be expected that the children will ever become exceedingly adept in their performance, but they will secure emotional satisfaction and in some cases will make creditable progress, thus becoming socially more acceptable in a normal group.

In planning activities in the arts for the classroom, the teacher should keep constantly in mind (1) the social characteristics of various age and ability levels and (2) the need for differentiating the curriculum according to these age and ability levels. To secure the greatest value from the activities, the teacher should see to it that the work of the pupils is spontaneous, satisfying, and a part of the experience unit under way in the classroom.

Music The value of music in varied forms can scarcely be overestimated. Through it may come the release of pent-up emotions, the development of an innate ability on the part of some, and the sheer joy of singing, playing, or listening on the part of all. Music is a means of expression of which no one is utterly deprived, and it should be used to make the retarded child happy through appreciation and participation.

Most mentally retarded children enjoy singing, even though some may be limited to humming a tune. The child's ability in this field usually excels his academic accomplishments. Sometimes it seems best to teach songs by the rote method, no attempt being made to teach the words correctly until the melody is familiar. At other times it is quite feasible to teach words and music together,

and some groups do fairly well even in simple part singing. Accompaniment by the piano or by a band of the pupils' own membership adds to the zest of the activity.

Harmonica bands, toy orchestras, and other instrumental means have been used to develop in the children the joy of creating music and rhythm, as well as to accompany the class in singing. Wind instruments can be played by some children who are intellectually quite deficient. Music is one of the fields which seems not to show a high degree of correlation with academic intelligence. Some outstanding results have been achieved by teachers who themselves were musically inclined and knew how to secure musical expression from their pupils.

The phonograph and the radio are both valuable as means of assistance and inspiration in the development of musical appreciation and also as means of furnishing accompaniments. Good music is so frequently given over the radio that a teacher who is fortunate enough to have access to an instrument for the use of his class can employ it to good advantage. While phonographs are probably still more commonly found in schoolrooms, radios are appearing in increasing number.

Correlation with experiences of the day is desirable here, as in all other fields of art. A period set apart for music without relation to anything else may be fun while it is going on. But if it is tied up with an experience unit through the selection of songs and music that are related to the content of the unit, the message will carry over far more effectively into the life of the child.

Play Activity Play in its highest form is truly an art. It combines rhythm, coordination, and skill, and holds the possibilities of joyous creative expression. No teacher of retarded children should permit himself to think of play time merely as an opportunity of relief for himself and a means of getting the children out of the way. Even here they need guidance that, if effectively given, can lead them to new fields of conquest in social adjustment.

Rhythmical Games All types of rhythm have an important place in the lives of retarded children, since they afford a means of releasing activities that have not been possible because of faulty coordination. Let the teacher begin with the child's own natural degree of rhythm and go on from that point by fitting the music to the child's activity. After the child has developed some skill in coordination, he can fit his action a little more nearly to the correct

tempo of the music. In a beginning rhythm class, as in all activity, the teacher should be willing to accept much inferior work. If too much attention is given to faulty coordination, the pupil may easily lose interest in the performance. If the activity seems difficult or some degree of coordination cannot be learned through suggestion or imitation, the teacher would be far wiser to drop the activity for a while and return to it later than to try to teach the child step by step until he wearies of the effort. Often a rhythm game or dance which proved difficult and uninteresting when first presented will be quickly learned and enjoyed when it is tried again later. After the pupil has become familiar with the activity and has had some fun in executing it, his faulty coordination can be corrected without causing him to lose interest or to feel a sense of failure.

It is usually advisable to combine the teaching of rhythm with an interesting game. A child may be unable to skip in a rhythm class but able to skip quite acceptably in a simple singing game, such as "Farmer in the Dell" or "Did You Ever See a Lassie?" A waltz step may not be accomplished when presented as a simple rhythm, but in a folk dance having a waltz step it may be performed without hesitation. The dramatic interest in the folk dance is so great that the step comes more or less without effort.

When remedial work with apparatus or some other form of calisthenics appears to be necessary, it, too, should, as far as possible, be made a part of the rhythmical activity. Faulty posture and poor physical coordination can often be overcome in this way. Even older boys and girls of low intellectual level will enjoy and gain skill in activities which normal children of their age consider "baby stuff," provided they are not ridiculed. They do not mind repetition even at an advanced age if the activity is planned with an appealing setting.

Imitative Play Imitation is common with all young children. Mentally retarded children are no exception. A boy of 7 with an intelligence quotient of 50 frequently worked for a half hour trying to fit a flat board into a small window in a door, as he had seen a glazier fit a pane of glass. He used a small stick to tap the board in place and also made it serve as the putty knife to put the pretended putty on the edge of the pane.

The most common expression of imitative play is probably in enacting the role of some person or animal or thing with which the child is familiar. The nurse or the doctor, the mother or father are frequent objects of portrayal. Familiar stories also offer opportunities

for the child's identification of himself with some character. For example, if the leader announces "I Am Red Riding Hood. Who Are You?" it will not be long before the child becomes the wolf, the mother, the grandmother, or the wood cutter. Thus story play can be developed that will bring the joy of creation and contribute to the loss of self-consciousness.

Dramatics Dramatic expression is the logical outcome of imitative play and constitutes an enjoyable part of recreation of retarded children whether they are in the audience or acting a role on the stage. The plot must be relatively simple with much action. Situations developing from subtle actions or conversation are beyond their comprehension and should be avoided. Lines of the play should be written in their own vocabulary. Unfamiliar words have little meaning for the actor and are repeatedly mispronounced or emphasized incorrectly in the sentence.

To develop meaning, the teacher and the group should go over the play as a whole many times before the parts are assigned. The setting of the play, the roles of the characters, the scenery and costumes should be discussed as thoroughly as possible until the players have a general understanding of the play before actual rehearsals begin. Plays with many characters and major roles, each requiring few lines but much movement, seem to be most acceptable. The child may have little difficulty in automatically memorizing lines or in following cues, but too often a play resolves itself into a mechanical exchange of words. On the other hand, roles that call primarily for action or movements are quite naturally interpreted.

It is not an easy matter to find suitable plays which have meaning for retarded children and which at the same time are at their social level. Most of those available are either too "babyish" in content or too difficult in plan and vocabulary. Therefore, after the children pass the story-acting period, the teacher will often find it necessary either to write his own plays or to revise some existing play so as to make it acceptable to both the mental and social levels of development of the pupils. Best of all will be the cooperative enterprise of the pupils in writing their own play under the skillful guidance of the teacher, the content being drawn from the unit of experience in progress.

Another form of dramatic play which retarded children enjoy is the puppet show. Operators can develop such plays in the same

manner in which a story play develops, with no fixed lines in the beginning. Gradually the children make up lines in their own words to fit the actions of the characters in the story. Not only do they have fun making their puppets act in a play, but they enjoy constructing and operating them. Just to make them walk, sing, or dance in a fairly natural way seems to fascinate older boys and girls. Writing a puppet play as an integral part of a unit of experience opens up the entire field of reading, spelling, and language activities connected with the experience and at the same time offers the definite incentive of making and operating the puppets. It carries with it the development of skills, habits, and attitudes in the whole realm of activities fundamental to the education of retarded children.

Dancing After the child has mastered simple rhythms and has had experience in various types of singing games, he is ready for folk dancing. The dramatic element which makes the singing game enjoyable is then eliminated and the rhythm and complicated step alone hold the child's interest. Girls who for four or five years have had many singing games are able to do difficult folk dances with skill, ease, and pleasure. They are also often able to do clog and tap dancing with a high degree of ability. Boys, too, are eager to learn to jig, clog, and tap dance. It is amazing, at times, how efficiently they learn the more popular types of dancing, and to find what assets these are to them afterward. One boy who was shy and retiring learned to jig. On many occasions he was asked to jig before his classmates and for several school programs. Not long after he had developed this accomplishment his manner began to change. He volunteered suggestions in the schoolroom and seemed to have a greater interest in all that went on about him. When he realized that he had a social resource in dancing, he became aware that he had other abilities as well and exerted a greater effort in all of his undertakings, including academic subjects.

Form and Color Art forms, particularly form and color, expressed through picture study, drawing, modeling, and various handicrafts, give to intellectually subnormal children the same opportunity for enjoyment and creative expression that they give to normal children.

From the youngest to the oldest they can be helped to appreciate attractive colorful pictures of artistic themes, chosen to fit into the experience of the day and in keeping with their age levels.

Every teacher should have an abundance of such pictures on hand for use as occasion demands. The use of crayons, paints, brushes, clay, and other types of art materials by the children themselves gives to them concrete evidence of a certain amount of control over the things with which they are working.

Many retarded children have difficulty in differentiating colors. To them it is necessary to give much experience in color discrimination. An 8-year-old boy could not distinguish red from orange until he had had months of directed experience. Likewise it is sometimes necessary to give much practice in recognizing various shades of a specific color. This does not mean that retarded children are not sensitive to color, form, and beauty, but that their observation is less acute than that of normal children.

After a child has to some extent learned to manipulate the materials with which he has to work, his performance gradually shows keener observations. Inasmuch as his work should be as free as possible from arbitrary direction, he should be given many opportunities to exercise his own judgment and to make his own decisions. These are experiences which subnormal children need, since they are repeatedly saying: "Is this the way?" "Is this right?" "Show me how" or "Help me do it."

As a means of expression, drawing can be of very practical help. A boy of 14, with an intelligence quotient of 64, had difficulty in finding suitable words for describing a piece of equipment found in a bakery. The teacher and children were unable to supply the missing words from his meager account. Suddenly he asked for chalk, saying, "I can't say it, but I'll draw it for you." Although his drawing was crude, the name of the object was supplied and his description of the shop progressed with interest. Instead of resulting in failure, this incident gave the boy a feeling of success, since he had at his command the means of overcoming a difficult situation.

General Arts and Crafts Obviously the particular type of craftwork called for will be determined by the particular unit of experience in which the class is participating. Almost every branch of handicraft offers some opportunity for the mentally retarded child to develop creative ability in connection with the activity under way. The following experiences are among those that have been used again and again by teachers: painting flowerpots, boxes, chinaware; making candy or flower baskets; bookmaking; block printing; making lamp shades; stenciling curtains; weaving scarfs and rugs;

making posters or friezes; making favors for a party; modeling animals or articles of interest; potterymaking; tooling leather; making candlesticks; smocking; embroidering. The one thing to guard against is that none of these activities becomes mere "busy work." It must have a definite function and a related place in the classroom experiences if it is to be justified.

Even the younger children can use paper, paints, crayons, clay, plasticine, wood, and cloth with purpose and attention to details. Tin cans and glass bottles are common types of material that have found their way into the arts and crafts room. In a corn-growing community, corn husks were used for weaving mats, napkin rings, and other articles. Scraps of wood gathered here and there become trays, boxes, bookends, and shelves. As the pupil reaches the adolescent age, special emphasis can be placed upon manual experiences that not only satisfy the creative desire but are also utilitarian, with values for occupational activity.

Manual and Occupational Experiences

Children learn by "doing." In no area is this truism more applicable than in manual and occupational experiences. Mentally retarded children enjoy working with concrete materials. From the early years of gross manipulation and exploration of objects in their environment without definite purpose, there is growth toward more and more purposeful activity. The special education program has a role to play in guiding this development and aiding the individual child toward skillful use of his motor capacities.

From childish satisfaction in manipulation and play with tools and materials he grows to enjoy and take pride in constructive efforts which serve a definite end. Many of these experiences are directly related to life activities in his immediate environment, such as food, clothing, and shelter. As pupils approach adolescence, manual activities often center in laboratories and shops, as in household mechanics, foods, clothing, shoe repair, woodwork, metalwork, general repair work, electrical work, and modifications of these.

Place in the Curriculum

Mental Health Values Manual activities serve as a means of expression. The child often interprets and clarifies, through the

medium of materials, his concepts and ideas of family, neighborhood, transportation, work, sports, and so on. What he cannot put into words, he draws or models or paints. Even emotional conflicts which he will not admit or of which he may not even be conscious find relief through manipulative therapy and manual expression. We all find release from mental tension through digging in the garden or sawing wood or working at the carpenter's bench. While not always put first in the scale of values, such therapeutic effects of manual activities rank high with mentally retarded children. The sheer delight they experience in doing something, in creating something, and in thus giving vent to their emotions and longings is a real advantage in their educational progress.

Occupational Values Along with the satisfaction that comes from the sheer joy of making things, there are very practical values growing out of manual skills. By far the greatest number of seriously retarded children will earn their living in adult life through the use of their hands. Familiarity with a variety of material and equipment related to mechanical processes, together with a certain amount of skill in their use, will give preparation for the new employment situation ahead. Some experiences have definite occupational implications, as, for example, household science, cafeteria training, clothing, shoe repairing, tailoring, and gardening. Many jobs have been found in factories, hotel kitchens, cafeterias, parks, and elsewhere for boys and girls who have been industrious and conscientious in their schoolwork.

Numerous employers have emphasized the importance of securing the services of boys and girls who know how to use their hands and who have been taught at school to get along with others, to be punctual and regular on the job, and to be steadfast in work habits. When specific job training is added to these qualifications, successful occupational adjustment becomes probable.

Coordination with Other Activities The teacher should constantly be conscious of the principle of unity running through the whole school program. All too often children have made only a sample of a wooden box or a woven mat, or they have pared potatoes, without getting any real experience from the relationship of these things to the rest of their activities. What the child does with his hands in the shop or the kitchen should be a living part of the total experience to which each specific activity makes its contribution.

In other words, the teacher must be a teacher of children first,

last, and always, with full consciousness of their total lives, and not a cook or a cabinetmaker, or a worker in arts and crafts, or even a teacher of *subjects*. If the departmentalized plan is followed in the school program and a specially prepared teacher works with the pupils in manual activities, the need for integration is great. All teachers dealing with the group can plan together to make the program a unified one, centered on a common theme of interest.

Using What Is at Hand The lack of proper equipment is a frequent source of irritation to teachers who are eager to plan manual and occupational experiences with their pupils. It is, of course, necessary to have the cooperation of school administrative authorities if adequate supplies and equipment are to be on hand. No amount of inventive genius can compensate for serious lacks in this direction.

But every teacher can find ways and means of capitalizing upon the resources available. Lunchrooms and cafeterias are all too common in the schools today to disregard the opportunities they offer for various types of occupational service on the part of intermediate and advanced groups. Many a waiter or waitress, bus boy or bus girl, checker, and general clean-up man has had his first experience in the school lunchroom. Children's shoes and clothing repeatedly need mending. Scraps of dress materials, even flour sacks and sugar sacks, have their values. The young children in a school can become the charges of a class in child care. Within the community and the school, the resourceful teacher and principal, even without elaborate equipment, will find abundant opportunity to translate principles into action.

Fortunate was the teacher who found on the school grounds a long unused greenhouse. The board of education was contemplating its demolishment, but the city supervisor of special classes pleaded for its retention and rehabilitation on the basis that it could serve an excellent instructional and prevocational purpose for the special classes which had recently been assigned to the school building. The request was granted, and the greenhouse soon became the center of interest in developing a fascinating experience with flowers in which all pupils of the special classes participated. The youngest children watched plants grow and learned to recognize and to love them. The older ones learned the secrets of soil preparation, of planting, of watering, and of fertilizing. A commercial element in the project appeared when flowers and plants were ready for the market and were sold to patrons of the school.

The entire curriculum of the classroom drew its theme from

the activities in the greenhouse. The children read stories, learned poems, wrote letters, drew pictures, and sang songs of the flowers. They visited attractive flower gardens in the neighborhood. They kept accounts of costs and receipts in connection with the greenhouse activity. The vocational value of the experience appeared when several of the boys who had been most interested in the work later secured jobs in a local commercial greenhouse. Thus an enriching and a practical experience was realized for those retarded boys and girls because someone saw the possibilities of salvaging a dilapidated piece of equipment that was about to be destroyed.

Need of Careful Grading Manual activities need to be planned so as to progress from the easy to the difficult, from the simple to the complex, as do other subjects of the curriculum. Careful guidance is the secret of the good results produced by mentally retarded and even feeble-minded children, and, contrariwise, poor results sometimes are caused by a lack of careful planning or grading of the activities. The wise teacher sees to it that the pupils have opportunities for manual activities growing out of their experiences and interest, that these activities are within the capacities of the children, and that they furnish a basic experience for the activities which are to follow.

It is impossible to discuss in detail the scope of manual skills in which mentally retarded children may find employment. Two of the most common ones are considered. Others should be handled with the same general principles in mind for careful planning of work and integration of program. The content of experiences in horticulture or auto repairing or any other specific field must be determined in the light of pupil abilities and the technical aspects of the subject.

For convenience and clarity the two areas discussed in the following pages are divided into primary, intermediate, and advanced divisions. In general, the work of the primary division is planned for pre-adolescent children with mental ages from 3 to 6 years, inclusive; the work of the intermediate division is planned for pre-adolescent or adolescent children mentally 7 or 8 years old; and the work of the advanced division is for adolescents mentally 9 years old or older. There is necessarily much overlapping, since mentally retarded children, even of the same mental ages, differ in abilities, as do other children. Their personal and social characteristics aid or deter them, as the case may be, in using all of their native capacities. Previous training should always be taken into account.

More children than one would think, however, need to begin at the beginning, or near it, and proceed regularly through the various steps. If these steps are carefully planned and are based upon children's interests, the children themselves will enthusiastically choose them and eagerly look forward to reaching the next higher step as a goal of achievement.

Foods and Household Science

Primary Division Schematically the program for children who are young mentally might be as follows:

1. Household duties
   (a) Care of classroom
   (b) Attention to the appearance of the room
   (c) Sweeping
   (d) Dusting furniture
   (e) Keeping equipment in order
   (f) Washing blackboard correctly
   (g) Caring for sink in classroom
   (h) Cleaning classroom tables
   (i) Washing dishes
   (j) Caring for milk bottles
2. Laundry
   (a) Simple washing of such things as dusters and towels
   (b) Plain ironing
   (c) Care of rough-dried clothes
   (d) Sprinkling
   (e) Bluing
   (f) Shaking and hanging clothes
3. Cooking
   (a) Preparing cheese and vegetables
   (b) Preparing simple dishes such as boiled rice, macaroni
   (c) Cooking dried fruits
4. Personal hygiene
   (a) Washing hands and face
   (b) Care of nails and hair
   (c) Care of teeth
   (d) Taking baths
   (e) Care of underclothing
5. Table etiquette
   (a) Skill in handling bits of food and utensils
   (b) Good habits of eating
   (c) Table conversation

Intermediate Division The work of this division grows directly out of that of the primary division. If the foundation of good habits has been well laid, the children continue to grow in ability to do the simple everyday tasks of life and keenly enjoy the opportunity of doing real jobs for which they themselves see the necessity. The schematic presentation of the work of this division is as follows:

1. Household duties
   (a) Sweeping
   (b) Dusting
   (c) Scouring
   (d) Scrubbing
   (e) Caring for gas range
   (f) Caring for garbage pail
   (g) Caring for refrigerator
   (h) Scraping and stacking dishes
   (i) Practicing fire prevention
   (j) Cleaning window
2. Laundry
   (a) Washing, rinsing, bluing, starching, hanging
   (b) Sprinkling
   (c) Ironing
3. Cooking
   (a) Preparing fruits and vegetables
   (b) Boiling water for tea, eggs, and starch
   (c) Simple measuring: Cup, tablespoon, teaspoon; ¼, ½, and ¾
   (d) Setting a table or tray
   (e) Cutting bread and making sandwiches
   (f) Making simple candy
   (g) Making tea, coffee, and cocoa
   (h) Making sauces
   (i) Making soups, simple desserts, and hot breads
   (j) Preparing meat substitutes
   (k) Preparing salad materials
4. Personal hygiene
   (a) Washing hands before eating
   (b) Personal bathing
   (c) Personal cleanliness in all respects
5. Table etiquette
   (a) Good habits of eating
   (b) Table conversation

Advanced Division With the basic training provided in the early divisions, many of the children in the advanced division are quite able to compete with their normal fellows in the household

science departments of the high school. There are so many things mentally retarded children can do when they reach this division that a schematic presentation of the work can give but a bare outline as a guide for the teacher:

1. Household duties
   All the odds and ends of duties connected with a house, a cafeteria, or a hotel. The standard for this group should be very high.
2. Laundry
   (a) Careful laundering of more difficult pieces of clothing or household linens.
   (b) Knowledge of the use of electric washing machines.
3. Cooking
   (a) Cooking all the different types of food which would be used in a family or cafeteria situation.
   (b) Gradual growth to complete independent cooking on the basis of a recipe.
4. Personal hygiene
   Emphasis on cleanliness and good health habits in all life situations.
5. Table etiquette
   Manners which would make the children acceptable at any simple family or public table.

Woodwork Woodworking offers values for all age levels. Construction of things has unlimited interest for both boys and girls. However, along with all the fun he may have in hammering and banging, the pupil finds satisfaction in learning to make things. There is nothing more gratifying than to watch the mentally retarded child develop to the point where he realizes that out of the hammering and sawing he can produce something he wants and can use.

Primary Division In the primary division, when the children are growing gradually into the knowledge of the construction of things, woodwork is practically an activity of simple hammering, sawing, and nailing. The aim is to have the results only as good as the ability and interest of the children warrant; yet some teachers get amazingly good results and the children the keenest pleasure in attaining these standards.

For the children who want merely to be active and to make a noise there are hammers and nails. Just hammering nails into a block of wood gives the very young and mentally low-grade child much fun and at the same time leads to improvement in muscle coordina-

tion. By the time this aimless activity is losing its interest, the teacher may have ready pieces of wood of proper sizes. When the child nails them together, a box appears and he realizes that he has "made" something.

From this step, the child goes on to other steps, improving in the use of the hammer and saw, and learning the use of new tools as the occasion requires. He also learns to handle various thicknesses of wood. These early steps are very difficult, as are the beginning steps in any activity.

Intermediate Division Any good outline of work used in a regular class in the elementary school is helpful in planning work for the retarded group. Acceptable standards of work and fitness of the article for use and need should be guiding factors.

The correct manipulation of the following tools should be taught in connection with the unit of experience:

Crosscut saw	Countersink
Ripsaw	Smooth planes
Coping saw	Marking gage
Screwdriver	Tri-square
Coping-saw block	Sloyd knife
Brace and bit	Bench hook

Correct processes, such as the following, should be taught in connection with the unit of work:

Sawing	Use of screw
Sandpapering	Assembling
Squaring stock	Finishing
Gluing	Chiseling
Boring holes	

Advanced Division The children in the advanced division, with the basis of knowledge they have acquired from the activities of the intermediate division, and with the skill acquired from former practice, are able to use more varieties of the tools they already know and to learn the use of additional tools. They are also able to use a greater variety of materials.

In this division some boys may begin the more complex problems, such as the building of airplanes, motor and sail boats, book ends, and medicine cabinets. These are mentioned only as suggestions. Any problem which involves the use of the tools that the boys know and the processes they have learned is a suitable one, provided it is in some way connected with the unit of experience

in progress. The boys' interests determine the problem. Unexpected and feasible suggestions come from the children themselves. The boys of this group should be able to compete with boys of their community in the hobby show—and win some of the prizes.

But woodworking need not be only a hobby. For some it will have real vocational value, leading to work as a carpenter's helper or jobber. Utilitarian value it should have for all, making it possible to do simple repair work at home. Unless the work done at school serves this purpose, it has failed in one of its most important objectives.

27 *A Suite for Educable Mentally Retarded Children in Elementary School*

H. L. HEILMAN

THE CLASSROOM SUITE described in this article is for the educable mentally retarded children who are integrated into a regular elementary school. The normal capacity of each room is 18 to 20 pupils, or a total capacity of 36 to 40 pupils. The suite is useful in two situations. The first is that in which one teacher has one elementary school group of children in the age-range from about 7 to 14 years. While it is not uncommon to find a single-unit, wide-age-range class housed in one classroom, it is our experience that the two-room suite offers more scope for varied educational offerings. The second situation in which the suite is useful is where there are two teachers and two groups of children, with the children divided by age so that one group is approximately 7 to 10 and the other about 11 to 14. In the first situation the teacher uses both rooms. In the second, the classes alone or both teachers and classes may move from room to room.

From *Exceptional Children,* 21:8 (May 1955), 289–291, 310. Reprinted with the permission of the Council for Exceptional Children and the author. Mr. Heilman is a school consultant in Pittsburgh.

The suite as described is appropriate for the two most common arrangements found in Pittsburgh, with either one or two classes for the educable mentally retarded included as part of a regular elementary school. In all cases it is understood that some of the retarded children spend part of their school time with regular grade children in other rooms, chiefly in physical education, music, art, or auditorium activities.

It is understood that the suite has been developed to meet local needs and to match a local philosophy of education. Such a development came gradually and over a period of years, since classes for the educable mentally retarded were initiated in Pittsburgh in 1912. No doubt future developments will result in future improvements. It is hoped that the plans presented here will stimulate a further exchange of ideas in which all interested parties will participate.

The suite is made up of an academic room 24 by 32 feet, a shop or activities room 24 by 40 feet; with an eight-foot-wide room between for the storage of lumber and all the supplies necessary for the program. The ceiling should be from 9 feet 6 inches to 10 feet 6 inches high. The width and length of these rooms are based on a 4-foot module used in the design of our elementary buildings. Conditions in an existing building may vary these dimensions, as may a design involving rooms wider than 24 feet.

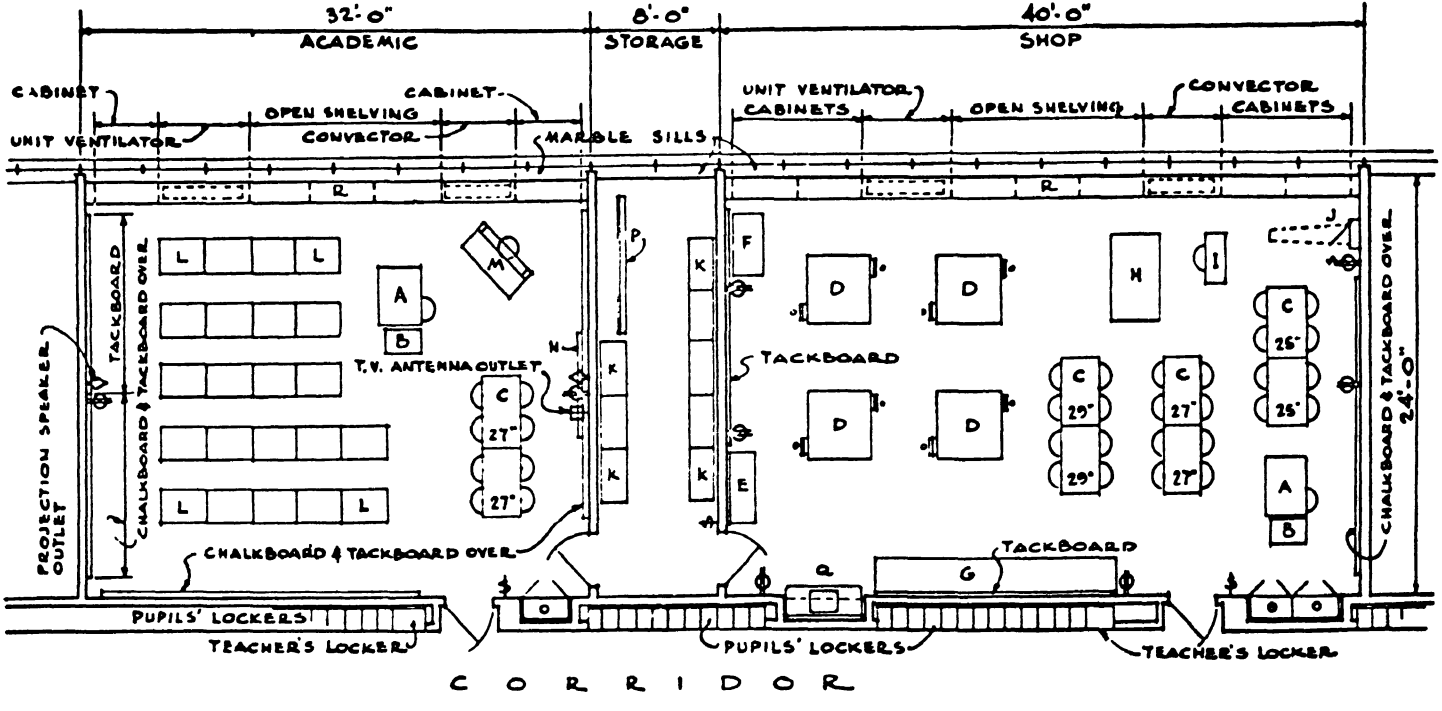
These rooms should be as bright and cheerful as is possible to make them. We use unilateral natural light, but there is no reason why bilateral light by means of clerestory or skylights cannot be used on the opposite or corridor wall. The natural light should be controlled by venetian blinds, cordless type, that can be made completely light tight to permit use of visual aids. The walls should be painted in bright pleasing colors, keeping in mind the recent experiments carried out by the psychologists at Johns Hopkins University.[1] The ceilings should be acoustically treated and painted an off-white. Floors should be light maple, asphalt tile or, if the pocketbook can stand it, the new vinyl asbestos tile. Window sills should be marble or structural glazed tile, then your maintenance problem is over. The chalkboards should be green, one of the many types now on the market, with green or gray cork tackboard, all set in aluminum trim.

Newly developed "under the window" cases and unit ventilator enclosures have brought about an ideal utilization of a heretofore

[1] Arthur H. Rice, "What Research Knows about Color in the Classroom," *Nation's Schools* (November 1953).

SPECIAL SUITE A

Scale: ⅛"=1'-0"



unsightly and hazardous condition. These units provide clean, orderly arrangement of shelving, countertops for growing plants, and enclose all the dangerous and unsightly pipes and radiators.

All equipment should be in standard light colors, beige or gray, with natural maple or light micarta tops, matt finish, to keep the reflectance ratio of the task and the working surface down to an acceptable 1 to 3 or a more desirable contrast ratio of 1 to 2.

The artificial lighting must be carefully planned to obtain uniform quality and quantity on the working surfaces. We recommend instant-start fluorescent lighting, arranged in three rows parallel with the outside wall, each row controlled by a separate switch. The color of the lamp is important in order to impart a pleasing color to the features. No less than 30-foot candles and, better yet, 40-foot candles should be available at the working level. The fixtures should be of such design that the ceiling is well lighted to give a semi-indirect light.

Equipment for this suite is listed below. The items are lettered on the plan for identification and location.

Furniture

A—2 Teachers' desks, chairs and wastebaskets
B—2 Steel files, 2 drawers high, legal size, key lock
C—8 Activities tables, micarta tops, book racks
  2—48″ x 30″ x 25″ high
  4—48″ x 30″ x 27″ high
  2—48″ x 30″ x 29″ high
32 Straight chairs
  8—14″
  16—16″
  8—17″
D—4 Laminated-wood-top woodworking benches, 48″ x 48″ x 32″ high, with 2 woodworking vises on each
E—1 Tool case
F—1 Steel table, stainless steel top, 36″ x 24″ x 30″ high, one drawer
G—1 Assembly of pupils' individual storage bins. This unit to finish 42″ high with micarta top. The number and sizes of bins to be determined by program
H—1 Carpet loom, manual

I—1 Manual sewing machine
1 Straight chair, 18″
J—1 Cabinet ironing and sleeve board, to fold into cabinet
K—8 Steel storage cabinets, each 36″ x 18″ x 78″, five adjustable shelves, key locks
L—22 Movable lift lid desks and seats, 11 size "B" and 11 size "C"
M—1 Midget upright piano and stool
N—1 All white projection screen, 6 feet x 6 feet, roll-down type in metal case. Screen to be anchored to classroom wall at proper height so that bottom of screen, when in down position, is at eye level of the pupils
O—3 Steel storage cases, each 36″ x 18″ x approx. 72″ high, set in recesses above the base and trimmed. Key locks. Five adjustable shelves in each case
P—1 Steel angle, 2″ x 2″ x 3/16″, anchored to the floor where shown, for wood strip storage
Q—1 Sink assembly recessed in corridor wall. Recess 5′-0¼″ wide and 7′-0″ high. The two side walls and the back wall of recess to be lined from floor to soffit with ceramic glazed tile, either structural or wall tile. Single bowl sink, drainboards each side, splashback, all stainless steel. Sink top 31½″ from floor. Steel base under sink with two cupboards and doors on space to valves and traps. Wall case above sink, 2—30″ wide x 30″ high x 12″ deep standard-kitchen type. Services, hot and cold water, waste and vent. Clay trap should be used on this sink
R—2 Steel unit ventilator and convector closure assemblies, entire length of rooms. Storage cabinets and open shelving units as noted. Top finished in linoleum or any suitable material to withstand abuse from plants, etc.

Pupils' and teachers' lockers are placed in the corridors in our schools; however, wardrobes may be installed opening into either or both rooms with minor changes to the plan.

Electric Convenience and Special Outlets

(a)—A combination receptacle, switch and pilot light at ironing board located 42 inches from floor.
(b)—Electric soldering irons will be used at five of the con-

venience outlets in the shop room. Two on the rear wall on one circuit, two on corridor wall on another circuit, and remainder on the third circuit.

(c)—Duplex outlet at front and rear of academic room for projectors, tape or wire recorders, record players, etc.

(d)—A television aerial jack outlet is provided at the front of the academic room, if your school is equipped with built-in aerial system.

(e)—A projection speaker outlet is provided at front and rear of academic room, both connected by a conduit under the floor. Special outlets and plugs are provided on these outlets to receive speaker at front of room, if you have that type of sound projector. This eliminates the cord on the floor, also the tripping hazard and damage to equipment.

The layout described is for one unit which is about normal for an average size elementary school. However, if more capacity is needed an additional unit would be more desirable than increasing the pupil capacity and room size of described unit.

Review of Concepts for Teaching the Mentally Retarded *

Jean Itard (early nineteenth century)
Itard emphasized sensory-motor exercises to provide competency in audition, vision, touch, and taste. Fundamental academic skills—vocabulary, comprehension, and the ability to generalize, for example—were taught from concrete examples.

Edward Seguin (mid-nineteenth century)
"The physiological method" was a refinement of Itard's ideas, which emphasized the development of imperfect sense organs, supplemented by academic and occupational training.

Maria Montessori (early twentieth century)
The program was a refinement of the ideas of Froebel and Pestalozzi, using the natural setting as a background and providing sensory-motor training. An attitude of apparent permissiveness with regard to choice of activities was emphasized, although direction for self-help was provided. It closely resembles present programs for the trainable mentally retarded.

Alice Descoeudres (1920s)
Based on Dewey's concept of "learning by doing," the program correlated subject matter around a "theme." It emphasized perceptual defects and provided individual instruction for overcoming or compensating for such defects.

Annie D. Inskeep (1920s)
The regular curriculum was modified by "watering it down." Retarded children were taught fewer skills, less material, and at a slower pace than normal children.

John Duncan (1930s)
The "project method" utilized many manual activities and correlated academic subject matter with shop work, crafts, and home economics.

Richard Hungerford and **Marcella Douglas** (late 1930s and 1940s)
The emphasis here was on preparation for employment. Occupational information was correlated with academic materials and a formal program of guidance, vocational training, selective job placement, and on-the-job placement. The method utilized a series of core curricula beginning with the central theme of the home and developing through the role of the worker in the community. The program is more widely known as "Occupational Edueation."

* See the Bibliography on pp. 18–20 for specific references to the theories summarized here.

Christine P. Ingram (mid-1930s)

The classroom became a laboratory for living through the development of "units of work" based on real-life experiences. Units were based on the developmental characteristics of children. The correlation-of-materials concept, as described by J. E. W. Wallin several years earlier, was also emphasized.

Alfred Strauss, Laura Lehtinen, and **Newell Kephart** (early 1940s)

A distinctive methodology, based on the etiological classification of "endogenous or exogenous" retardation, was developed. Experimental psychological techniques, such as cues or crutches to deal with exaggerated tendencies of brain-injured children, were used. A considerable amount of individual instruction was provided to deal with such specific problems as perseveration, hyperacitivity, distractability, and perceptual disturbances.

Elise H. Martens, Samuel A. Kirk, and **G. O. Johnson** (early 1930s and later)

(More recently elaborated by Herbert Goldstein and Dorothy Seigle.) This "eclectic method" utilized units of work based on persistent life situations and took into consideration the developmental needs and characteristics of retarded children. The program, articulated from early childhood through adolescence, emphasized personal-social adjustment and occupational competence. Retarded children were integrated with normal children in nonacademic activities.

Flora Daly, Leo Cain, and **Ivan Garrison** (early 1950s and later)

This is a secondary education program for the retarded—a recent development. The curriculum has as its nucleus experiences in the home and family living, societal relationships, and guidance, imposed upon the teaching of tool subjects with personal and occupational adjustment as the major goal. The subject matter is occupationally oriented and noncompartmentalized, and a maximum degree of integration in regular activity courses is encouraged. The complete program would include prevocational testing and exploration, in-school vocational training, and finally a supervised school-work period with job placement as the ultimate goal.

Louis Rosenzweig, Julia Long, and **Bernice Baumgartner** (late 1950s and later)

A program for the trainable retarded to develop self-help, social, motor, academic, vocational, and recreational skills. Centered in a sheltered school environment, the curriculum has as its guide the persistent demands of daily living as outlined by the Vineland Scale of Social Maturity. Academic work is based on the idea of "learning for survival purposes." Goals are training in sensory acuity, cooperative behavior, and future possible adjustment within a terminal sheltered workshop, employment under sheltered and highly supervised conditions, or possible institutionalization.

Special Programs in the Public School System

Educable Mentally Retarded: Elementary Level (CA 6–14)

The Homogeneous Special Class

Effective with a narrow range of chronological and mental ages. Nondepartmentalized program with special-class teacher providing experiences in correlated educational materials and with some degree of integration with regular-class pupils in general school activities. Ordinarily organized in school systems with a large enough number of pupils to make up classes at the lower-primary, upper-primary, and junior high-school levels.

The Heterogeneous Special Class

Invariably encompassing a great range of chronological and mental ages and usually limited to fifteen children. Nondepartmentalized and usually highly segregated program. Dependent upon the skill of the special-class teacher to provide a great variety of activities. Typically organized in small school systems.

The "Two-track" Homogeneous Class *

Similar to the homogeneous special-class pattern, except that at each level special classes are organized for upper-level educables (IQs 65–80) and lower-level educables (IQs 50–65). The attempt here is to provide special opportunities for children with greater and lesser potential for social, educational, and vocational adjustment. Probably limited to large city school systems with heavy enrollments in special classes. Also useful at the junior-senior-high-school levels.

The Special School

A highly segregated scheme. Children are transported from various areas to a center for the mentally retarded. Ordinarily organized on several levels with some degree of departmentalization. At times, classes for the trainable retarded are also included in the special school. Usually operated in large cities or counties.

Other Types of Plans

(1) Placement of one or a few educable pupils in regular classes where enrollment is small and the teacher is able to supervise individual work and to consult with a special-education supervisor.

(2) Placement in a special class for part of the school day and a regular class for the remainder of the day. The special-teacher would spend approximately half the school day providing individual instruction for educable and regular-class pupils requiring remedial instruction.

* J. Wayne Wrightstone *et al., A Comparison of Educational Outcomes under Single-Track and Two-Track Plans for Educable Mentally Retarded Children,* Cooperative Research Project No. 144, U. S. Office of Education, 1960. Conducted by the Board of Education of the City of New York through the University of the State of New York.

Educable Mentally Retarded: Secondary Level (CA 12½–18)

The Integrated Special Class

A modified plan. Approximately three periods per day are devoted to a special class with an adjusted core program of language arts, social sciences, arithmetic, and general science. An additional three or four periods per day may be spent in regular classes in industrial arts, home economics, physical education, music, arts and crafts, typing, and other activity courses, depending upon the pupil's ability, needs, and interests. Emphasis is placed on personal adjustment through guidance. The subject matter is often taught in relationship to occupational adjustment. Many secondary schools are experimenting with school-work and exploratory prevocational programs.

The "Two-track" Homogeneous Class

Similar to the elementary two-track program. The upper-educable group is given special occupational training for employment in competitive industry. The lower-educable group is guided toward low-level job placement or sheltered workshop training. The curriculum is similar to that taught in an integrated class.

The Special Occupational High School

An antique in some large cities. A "special" high school for mentally retarded pupils. The emphasis is on training for unskilled and certain types of apprenticeship jobs.

The Adjusted Regular-class Program

Pupils are placed in the "slow" sections of regular classes. They receive some individual attention in the form of personal guidance and remedial work.

Trainable Mentally Retarded

The Special Center or School

A segregated special school, providing training for all CA levels in homogeneous classes. Often includes a preschool and sheltered workshop plan to round out the total school program.

The Special Class

A class in a regular school, usually limited to one class for a heterogeneous group of trainable children.

The Community School

Similar to the special center, but operated and financed by a cooperative group, as in Ohio (operated by the State Department of Mental Hygiene, county welfare departments, and local public schools; financed by tuition charges). Another version of this plan is the parent-sponsored community school, which, in most cases, is eventually integrated into the local public school's special-education program. These schools often have preschool and postschool programs.

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6

SECONDARY SCHOOL PROGRAMS FOR THE MENTALLY RETARDED

THE DEVELOPMENT OF secondary school programs for educable mentally retarded pupils was a direct result of the recognition of the need for additional training, especially in occupational areas. Except for a few isolated instances, prior to World War II most retardates remained in elementary special classes until the age of 16. They invariably dropped out of school at that time, totally unprepared for economic and social independence. A few school districts have had high school programs for this group for many years, but frequently the retarded group was segregated or placed in purely vocational training schools.

The modern secondary school system, with its high degree of holding power, has, in many situations, accepted the challenge of developing suitable programs for mentally retarded adolescents. Oriented to the primary psychological characteristic of teen-agers —the desire for conformity and peer acceptance—the evolving program is highly integrated with regular classes and emphasizes personal and occupational adjustment.

American public schools follow three basic organizational patterns: (1) the 8-4 plan (elementary plus four-year high school); (2) the 6-3-3 plan (elementary, junior high, and senior high), and (3) the 6-6 plan (elementary plus a combined junior-senior high). Thus, one of the vexing problems facing program development is how to fit suitable special-class programs into these varying pat-

terns. A high-level secondary school program for the educable mentally retarded should include a core of common learnings that are directly related to occupational adjustment. Services must include guidance, prevocational testing and try-out periods, in-school exploratory work projects, school work plans, selective job placement, and some degree of supervision in the early phase of employment. The latter two functions are carried out in many systems in cooperation with rehabilitation services, state employment agencies, and community service groups.

Many administrative procedures are evolving. They include methods of meeting state academic requirements for an adjusted program, grading standards, extracurricular activities, and graduation. The study by Daly and Cain [1] draws attention to the need for great flexibility during the early development of the secondary program. Relationships must be developed between regular-class teachers and specialists; special-class teachers need a variety of instructional materials and free time for individual guidance, occupational surveys, and parent counseling.

In the first article, Elizabeth M. Kelly deals with the importance of proper identification and placement of secondary-school-age students in programs for the mentally retarded. The teacher's role in such a program is unique; his job demands the capacity to play many different parts. The selection by Ivan K. Garrison emphasizes the crucial part that individual programming plays in special school programs for retardates and emphasizes the responsibilities of the school, the employer, and the student-employee in school-sponsored work-experience programs. One of the major responsibilities of school programs for retardates is preparation for occupational adjustment. In their article, Herbert Goldstein and Rick Heber discuss the role of schools in providing job placement; such services as counseling, in-school work experiences, and on-the-job training and a realistic curriculum geared to vocational needs are requisites for such programs.

The last two articles describe two school-work programs. The shop-center and occupational classes developed in Baltimore are detailed by Harold M. Williams. The work-education program in Santa Barbara, California, typical of cities with a medium-size school enrollment, is described by Leonard Rogers and Thomas J. Murphy.

[1] Flora M. Daly and Leo F. Cain, *Mentally Retarded Students in California Secondary Schools* (Sacramento: State Department of Education, 1953).

28 *Are We Providing Opportunities for the Older Mentally Retarded?*

ELIZABETH M. KELLY

ARE WE CONSIDERING the needs of the mentally retarded in the organization of our secondary schools?

Communities differ in their philosophy of providing for the school needs of the mentally retarded in the school organization. Urban and rural communities with a small number of mentally retarded must adjust their existing physical and organizational structure of education to accommodate them. Metropolitan areas with a large number of mentally retarded have an unusual opportunity to offer a fuller program geared to their needs extending from early childhood through adolescence and young adulthood.

However, in any community, the best special educational opportunities possible should be planned to include the elementary, junior high, and senior high school years. No matter where a mentally retarded pupil is discovered, his programming should be deemed as important as that of any normal pupil of school age in the community.

In most cities of over 200,000, where the majority are engaged in industrial and commercial activities, a survey of workers will reveal that many are employed in unskilled and semiskilled work. A survey of the school population of these same communities of 200,000 and over will also disclose that a proportionate number of the pupil personnel fall in the IQ classification of 50–89. The implications of the findings point to a school program for these boys and girls commensurate with their abilities and one which involves selected curriculum offerings implemented by a definite guidance program. Such a program should be launched early in the school

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life of the mentally retarded and of slow learners and should reveal its meaning and purpose in the late adolescent years.

Necessary Philosophy for Good Planning

Before groupings of adolescent mentally retarded can be satisfactorily implemented in urban or metropolitan communities, the intangibles which spell school success and pupil well-being must be taken into consideration. Some of the most important of these are feelings of belonging and acceptance for these pupils in the home, in the school, and in the community. For the age range from 12–17, but particularly for those from 14–16 who are emerging into physical and emotional maturity, it is necessary that the special program is itself accepted, that the program offerings are meaningful, the teaching and guidance purposeful, and the special school a place where all vocational and emotional needs are satisfied. These criteria must be met whether the program be one in a senior academic or vocational high school or a trade or occupational school.

Further, even a program for one or a few mentally retarded (perhaps as members of a regular junior high or senior high school class) requires individual planning and guidance with regularly assigned teachers who are selected for their understanding of the needs of this type of pupil. Programming for a class of mental retardates demands definite "spadework" which is the responsibility of the principal. The spade work involves acceptance of this class by the teaching staff, the pupils, and their parents. Such a special class, operating on an integrating basis, calls for a special class teacher who will be accepted as are the mentally retarded she teaches. The teacher must be one to inspire confidence in her pupils since the program's success depends on effective coordination of the mentally retarded pupils with other classes in the school.

A program in a separate special school or in a wing of a junior high or high school without any opportunity for integrating requires the highest efficiency in teaching, the most pleasant physical appointments, up-to-date equipment, a neighborhood which lends itself to program exploration and curriculum research and a teaching staff dedicated to the task of life-adjustment education for these pupils. The parents, as well as the mentally retarded boys and girls themselves, must be satisfied that this is the best possible program

of education. It is necessary, also, for the citizens of the community to accept this program and be convinced of its worth—that it does everything possible to contribute to the maintenance of individual dignity and proper educational programming.

Planning for Organizational Grouping

There are several important factors to consider when plans for organizational groupings of the mentally retarded are made. This is particularly true for the older mentally retarded.

First, when the mentally retarded child attains a chronological age of 12½ he should be placed with pupils of similar age and intelligence. This placement will be modified, of course, by his physical and social maturity.

Then the degree and kind of intellectual capacity of the mentally retarded as well as his capacity for adjustment must be taken into account. In using the term "kind of intelligence," reference is made specifically to mental retardation which is endogenous (primary) in type, or to the exogenous (secondary) type of mental retardation. Experience with the mentally retarded indicates that the outlook for life adjustment of the endogenous (primary) type who are emotionally stable is good, generally.

This prognosis, of course, is dependent upon an early school discovery of the mentally retarded and early placement in a special education program which has long range possibilities.

The exogenous (secondary) type of mental retardation presents a somewhat different picture. Experience indicates that members of the exogenous group with acceptable emotional stability are inclined to have narrow interests and in general adjustment to be rigid and conforming. This type of mentally retarded person is usually verbal and derives his greatest satisfaction from academic achievement. He lacks, to a great extent, the functional capacity for initiative, resourcefulness, and directness. A program with emphasis on the occupational approach is not only unsatisfactory for persons in this group, but it is frustrating.

Those of the mentally retarded exogenous type who are unstable do not blend well, organizationally, with mentally retarded boys and girls who are well disposed, educationally. Such mentally retarded boys and girls are prone to distractibility, destructiveness,

and inclined to hinder the progress of those of the mentally retarded who may profit from a carefully planned program of instruction.

A solution, then, for school grouping in an educational program of all those of the educable mentally retarded who are 12 years of age and over is quite possible. Where it is feasible, the following suggested guide may be used:

Group I	Chronological age: 12 years 6 months to 14 years 5 months IQ. 50–79
Group II	Chronological age: 14 years 6 months to 17 years 5 months IQ: 50–64
Group III	Chronological age: 14 years 6 months to 17 years 5 months IQ: 65–79

The groupings allow for a "shaking down" period for those pupils emerging into adolescence in Group I. Clarification of type and sorting of types can be done effectively during this time when adolescence is becoming "full blown." This period can be followed by a refinement in groupings according to intellectual capacity and emotional stability as suggested by Groups II and III. Such groupings may be possible in urban or metropolitan areas in junior or senior high schools or in prevocational schools or occupational schools. In rural areas, the mentally retarded between the ages of 12 years 6 months and 17 years 5 months of different intellectual capacities and in various phases of emotional adjustment will need programs planned on an individual basis.

The IQ groupings of 50–64 and 65–79 for the age group of 14 years 6 months to 17 years 5 months are not to be considered as rigid or final since research has proven that individuals of the same IQ classification vary in performance and achievement. With this understanding we may say:

The mentally retarded in the chronological age group with IQs of 65–79 who have better functional ability, intellectually and socially, should be grouped separately from those of the same ages with IQs of 50–64 who do not hold as great promise. This procedure is proper since it is just as important for those in this classification of the mentally retarded (IQ 65–79) to be unhampered educationally and emotionally as it is for normal and above-normal boys and girls of the same chronological age group to be unimpeded scholastically by the dull normal and the mentally retarded.

Those of the chronological age group of 14 years 6 months to

17 years 5 months and IQs of 50–64 who are of the exogenous type and also those of the endogenous type of this same IQ grouping, will need, possibly, a different type of school organization and school planning. Since most of these will require a protective environment, it follows that program planning will, in all probability, be patterned after that offered in sheltered workshops for the trainable mentally retarded and the cerebral palsied with mental retardation.

Many choices for program grouping have been outlined in the foregoing discussion. It is the responsibility of the local school district to examine the best possibilities available for grouping and to determine how the needs of these boys and girls can be met adequately within the organizational structure of the school program.

How close do schools come to achieving the ideal grouping in actual practice?

The report of the Second Commission of Life Adjustment for Youth, *A Look Ahead in Secondary Education*, gives us an unbiased point of view. This careful study describes the extent of research and the tempo of researchers in secondary education over a period of twenty years. The Eight-Year Study, 1933–1941, which preceded it, was one of the first efforts to rouse educators in the secondary field to the need for curriculum changes. The new report discloses "that the influence of the Eight-Year Study in the Secondary School Curriculum was less than the sponsors of the Study had hoped. New functional courses did not rise to replace the traditional studies." [1]

The Eight-Year Study and the Southern Association Study as disclosed in the report shared the belief that, "the major outcomes of education when they are effective, should be recognized in changed pupil behavior." [2] Changed pupil behavior for the good of the group under discussion here cannot evolve completely from our present-day junior and senior high school programs. The most recent commission report on experimentation in the development of the comprehensive high school program reveals a balance sheet which shows educational innovation of solid and numerous gains for general education only. The report is frank to add, somewhat anxiously, that "in general, special programs for nonacademic pupils have failed." [3] This failure is attributed to the continued concentra-

[1] *A Look Ahead in Secondary Education*, Bulletin 1954, No. 4, U. S. Office of Education, Department Health, Education and Welfare, p. 72.

[2] *Ibid.*, p. 72.

[3] *Ibid.*, p. 78.

tion in the life adjustment education movement on programs for "the 60 percent." [4]

Those interested in the future of all American youth share the anxiety of this commission in their concern for a proper educational program for all boys and girls of high school age. Such concern for all youth is motivated by the forecast that unemployment in the 16–18 age group will increase and the percentage who will attend school and desire to attend will exceed the present conservative estimate of 72 percent.

The report of the commission indicated also that only 29 states were doing experimentation in varying degrees with this program. Of the remaining 19, 10 claimed no definite plans for developing life-adjustment education. Approximately 10 states of the 29 reporting progress indicated a forward-looking program.

One of the purposes of this paper is to outline suggested curriculum opportunities and program planning for the older mentally retarded who merit consideration. The capsule survey projected just previously was for the purpose of disclosing, by inference, what most secondary schools in the large cities in America *do not offer* to the mentally retarded or even to the slow learner. The purpose is to emphasize the seriousness of the situation and to make some recommendations for alleviating it, at least for the mentally retarded.

The commission analyzed the program on life-adjustment education in eight states of the 29 with specific organized programs because they revealed a variety of efforts and certain similarities in their activities. It is suggested here that eight of the unselected states of the 29 be chosen to set up experimental life-adjustment-education programs for the older mentally retarded. These programs could best be projected in the largest city of each state. Each plan would have two channels for operation, one in the senior high school taught by a certificated special teacher with the class on an integrated basis, and the other in a special occupational or trade school thoroughly equipped and adequately staffed by certificated special-class teachers. Both of these programs should have access to an adequate guidance staff equipped to offer vocational counseling, vocational guidance, and to do vocational placement and follow-up. The units essential for graduation from the high school and special trade programs would be the same with at least five of the units required (usually English, social studies, mathematics, science, and health). The content of these subjects of both programs for the

[4] *Ibid.*, p. 78.

mentally retarded would be concrete and practical, and the common learnings necessary for successful living in the modern world would be organized into a core curriculum. Elective subjects would include music and the fine arts, industrial arts, homemaking courses, school and community living, personal social adjustment, and those trade courses which would prepare the mentally retarded for jobs open to them in the industry of the particular community. Mentally retarded boys and girls with IQs of 65–79 and chronological ages of 14 years 6 months to 17 years 5 months would be enrolled in both programs. A prerequisite for enrollment should be that both groups have been well oriented in special-class programs in the elementary school. The outcomes and goals of these programs should be clearly defined so that they may be compared at stipulated periods.

Through this experimentation, standards could be established for the education of the older mentally retarded. If it was found that the high schools could offer, successfully, as much as the special trade or occupational school, then it would be proper to conclude that special schools were *de trop*. But if scientific appraisal indicated that the high schools were not ready for this challenge and the special schools were equipped to do a better job, then the mandate is clear that mentally retarded boys and girls must receive the proper program consideration in special school grouping and programming.

Today's young people cannot wait another ten years for the secondary schools to develop a program to serve the needs of all youth. Juvenile delinquency is on the increase, and much of it is due to the frustration boys and girls experience in school programming. Let us do something about reducing it, both for the mentally retarded and for the slow learner.

29 *Special Programs for the Mentally Retarded in the Secondary School*

IVAN K. GARRISON

THE SECONDARY PROGRAM should be a continuation of a developmental program which is provided for the mentally retarded throughout their school career. From a total-school organizational point of view, the secondary program is a natural evolution of this developmental approach rather than the outgrowth of a recognized need to do something for the mentally retarded who have "slipped" into high schools.

Priority for pupil placement at the secondary level should be given to those pupils who have been promoted from the next younger age group of mental retardates (in the special-education program) rather than to new candidates identified in the high school.

The setting of the program for the mentally retarded of secondary-school ages should be the same as it is for other students of this age group. In other words, if the school organization provides administrative groupings of junior and senior high schools, programs for the retarded should be found at each of these levels. Vocational schools, prevocational schools, special trade schools, or technical schools provide valuable *adjunctive* services to a program of secondary education for the mentally retarded. Students should be assigned to special programs located in these schools on the basis of an individual child study rather than on the basis of an educational label. The soundness of the educational philosophy behind the practice of starting secondary programs for the mentally retarded in these last mentioned schools, before evaluation of these

From Paul M. Halverson (ed.), *Frontiers of Secondary Education* (Syracuse, N. Y.: Syracuse University Press, 1956), Vol. I, pp. 85–95. Reprinted with the permission of Syracuse University Press and the author. Mr. Garrison is director of special education, the Jacksonville, Illinois, Public Schools.

students in "regular" high schools, is lost to this writer. From the standpoint of developing community and school faculty understandings and acceptance, the school system which is interested in starting secondary programs and which has no other choice than to start these programs in "regular" junior and senior high schools is in a better position than the large metropolitan system.

Pupil cumulative records, school "marks," progress reports, and case studies should be continuous and modified only to the extent that they conform to the changing needs of the mentally retarded rather than to an established pattern of the high school. For example, from the students' point of view it may be desirable to change the shape, size, and color of progress reports to conform to those received by other high school students. The content of the report should be specifically related to the mentally retarded students' progress and needs. The "established pattern" in this case would be articulated with the "special" reports that parents had received in previous years. This principle may necessitate duplication of effort by teachers, supervisors, and/or clerical help.

Much has been made of the principle that special education must be "a part of" and not "a part from" [1] the regular program. This valuable principle should be equally applicable to the various aspects of *a* special program. The junior high special classes, the senior high special classes, a special program in a trade or vocational school, a work-experience program (to be described later), the organizational procedures, an experience in integration, the special counselors, the special teachers, are all "a part of," and not one can be "a part from," the *total* program of special education for the mentally retarded. To try to ensure that this principle remains inviolate is idealistic but a degree of insurance may be provided if the over-all administration, coordination, and supervision of the program are centralized. Ideally and practically conceived, the program is not for administrators, nor for teachers of regular classes, nor is it primarily designed to benefit other children outside of the program. *It is for mentally retarded children* although other benefits occur incidentally.

The organizational setup for administrative and supervisory personnel in a program of special education may be varied and complex, with several elementary and secondary supervisors, voca-

[1] Ray Graham, *The Illinois Plan for Special Education of Exceptional Children—The Educable Mentally Handicapped*, Circular Series B., No. 12 (Springfield, Ill.: Department of Public Instruction, 1950), p. 5.

tional supervisors, and an administrative director. The size of the system may be such that all administrative and supervisory responsibilities for the program are delegated to one person who may be called a coordinator or director of special education. In either case "something new has been added" to the school table of organization in the division of responsibilities. Other personnel have had these responsibilities, or the new responsibilities created by the new program are such that they presumably would be assigned to assistant superintendents, curriculum directors, principals, vice principals, deans, etc.

A school system that attempts to provide a developmental program of education for the mentally retarded assumes a responsibility which includes provisions for leadership and supervision by specially trained personnel. The overlapping of responsibilities which occurs as a result of the addition to the school staff of special administrators and supervisors can be eliminated or justified with proper study. A group of directors of special education in local school systems in Illinois has attempted to describe the administration and supervision of special educational programs.[2] The results of their efforts would seem to indicate that statements of policy procedures, relationships, and responsibilities of special personnel can be evolved which are acceptable to other administrators.

The program must deserve and receive organizational status as a bona fide program of the schools. While this principle applies to the program at the elementary level, it is especially applicable at the secondary level.

Students should be classified according to general classification practices, *e.g.*, freshman, sophomore, junior, and senior. School credit toward graduation should accrue to special-education students as a result of an evaluation by their special teachers. Pupils should be graduated with the same kind of diploma that is given to other students unless present practices include provisions for different diplomas for different courses of study. The organizational possibilities for integration of students in "regular" classes should be existent if desirable from the students' point of view but not compulsory from an organizational point of view.

[2] See *A Guide—Directing the Education for Exceptional Children in a Local School District*, compiled by Local Directors of Education for Exceptional Children and Illinois Association of School Administrators (Springfield, Ill.: Department of Public Instruction, 1956).

Individual Programming and Curriculum

The secondary curriculum should be so organized that provisions can be made for the kind of learning experience that each mentally retarded student needs.

At this level, many of the students who have enjoyed a developmental program in the academic processes of reading, arithmetic, spelling, and writing can still profit from a continuation of this program. This is contrary to the rather dogmatic statement which appears in Kirk and Johnson and for which this writer accepts responsibility. "At the secondary or adolescent level, the pupils have mastered the essentials of the tool subjects which require further development in applying them to functional situations." [3] The implication, then, is that the curriculum must provide for those who can profit from a continuation program in these processes, as well as those who have very few abilities in these areas or who, at best, can be expected to make a very elementary functional use of these abilities.

The curriculum must provide for the extension of concepts that have been engendered in previous years as well as the exploration and development of new concepts. Not all concepts can be related to continuing life functions; some are related to short-term needs. The curriculum organization of "experience areas" [4] seems most adapted to the extension of concepts and the provision of opportunities for bringing new, needed concepts and social skills into view. There will be many who can use basic academic skills in extending concepts and in exploring and developing new concepts. However, there will be others, with very little formal academic ability, who can profit from additional opportunities in this area. (This would indicate the fallaciousness of achievement grouping.)

Students in both of the previously mentioned groups need to be taught some specific skills and responses at this level. There are some students who seem to have so few abilities in conceptualization that their only hope for dealing with their environment lies in their learning some specific responses.

[3] Samuel A. Kirk and G. Orville Johnson, *Educating the Retarded Child* (Boston: Houghton Mifflin, 1950), p. 206.

[4] *Ibid.*, pp. 207–208.

Many other individual differences that are related to learning characteristics of mentally retarded must be provided for in the curriculum. The writer apologizes for not covering such subjects as attention, motivation, psychophysical development, and psychosocial development. There has been some implication that at least in some instances the relationship of problems in these areas to the learning handicap is not only causal but is one of interrelation and effect as well. After recognizing this shortcoming the author submits that curricular experiences for the secondary mentally retarded may be classified under one, two, or all three of the following:

1. Reading, writing, arithmetic experiences as a continuation of a developmental program and as a means to the end of extending and developing concepts.
2. An organization of opportunities for real and vicarious experiences as a means to the end of developing concepts.
3. An organization of experiences and structural situations as a means to the end of developing specific responses.

By our definition each of these activities is a learning experience. A curriculum for mentally retarded children is an organization of opportunities for learning experiences. From a long-range point of view, the unique learning characteristics of the individual predetermine which experiences would be of the greatest benefit to him. From our previous discussion it can be seen that in any one special class there would be some children who would profit from all three kinds of opportunities. Some could profit from two kinds, but all students could profit from only one. The problem is one of providing an organizational plan to meet these varying needs.

If the program is large enough, it might be desirable to group students according to their abilities to develop concepts (not to be confused with achievement or IQ groupings). Group one would be composed of those students who could profit from all three kinds of curricular experiences. Group two would be composed of those who could profit from concept development and the teaching of specific responses. Group three would be made up of those who had a unique need for the program of specific responses (this need to be determined for individuals in the third group because of their kind of learning handicap or the immediacy of their need for specific responses).

An attempt to develop a rationale for this proposal follows:

1. By the time the mental retardate reaches the secondary program, considerable information concerning his conceptualiza-

tion abilities should be available from frequent reports, psychological assessments, teacher assessments, and cumulative records.

2. Individual differences in conceptualization abilities appear to be more pronounced at this level.
3. The mental retardate at the secondary level is nearer in time to his eventual social position. There is less "guess work" in predicting the specific social skills that each student will need.
4. It would be possible to develop more specific programs for each of the three groups.

The program may not be large enough to provide classes based on these groupings. However, one might expect to find students representing each of the three groups in one class. The easy course of action would be to provide a curriculum for all based on "an organization of experiences and structured situations as a means to the end of developing specific responses." The rationale in this case would be that this kind of learning experience is the only one of the three from which *all* could profit.

The other alternative is to attempt to provide all three kinds of learning experiences for all three groups in one class. This approach would needs be adaptable to a classroom organization based on a recognition of the three groupings. What kind of curriculum would be adapted to this organization?

The curriculum of the secondary school should consist of a continuation of the academic processes of reading, arithmetic, writing, and spelling; the continuation of a program of concept development and social skills in relation to areas of experience; a continuation of a program of teaching specific responses; opportunities for integration into regular classes; a school-sponsored work-experience program.

Academic Processes The secondary level in this area represents the ultimate projection of sequences of "basic-subject" concepts and skills for mentally retarded. The sequences are not derived from normative graded materials but rather from selected elements of the complete process. This selection is based on the immediate or anticipated need of the student. As in the elementary program, the teacher takes the student "where he is" in relation to a process and goes on from there. The special challenge to the special teacher is to decide when to discontinue the developmental program in favor of teaching specific responses.

The secondary student may be at nearly any point (in relation to the processes) from beginning skills to fairly well-developed skills and be continuing to profit from the developmental approach. In a well-developed program, materials of a secondary interest level would be provided to implement the processes of a primary or intermediate level and would not be used at earlier levels. Certain word-attack skills, sight vocabularies, and experience-area words, and certain arithmetic skills and concepts would have a place at the top of the sequence.

This part of the program must be seen in perspective to the total program as a means to an end. It can be a time-saver for extending concepts. It can be a time-killer with students manipulating numbers and words without enjoying or profiting from the experience.

Experience Areas As has been mentioned before, this writer prefers a curriculum organization of experience areas. There may be many examples of names for these areas but perhaps the most familiar are:

Physical and mental health
Homebuilding
Societal relations
Occupational education

A capsule version of this curriculum appears in Kirk and Johnson.[5] These topics seem to be related to broad areas of living. They provide a frame of reference for the development of academic processes and for an organization of opportunities for experiences for those who have academic abilities as well as those who have few academic abilities. They provide a frame of reference that makes a sequence of specific responses meaningful.

In one sense the teacher would be coordinating three curricula. In a stricter sense each student would have an individual curriculum. This statement is not original but it means something other than each student "experiencing" something different from the *same* opportunity for experiencing. It means that within the same class, and at the same time, individuals would be exposed to different *kinds* of opportunities for learning experiences. This, then, is the concept of individual programming.

[5] *Ibid.*, pp. 207–224.

Individual Programming There seems to be a trend at the secondary level to integrate the mentally retarded student into a regular class whenever and wherever he can "get along." The social values of this placement cannot be overlooked, but neither can the educational advantages and disadvantages to the mentally retarded student. This experience in integration should be thought of as "a part of" his total educational program. The decision to integrate the student should be made only after consideration of the questions, "What can be gained? What will he 'miss'? Will it help him integrate some concepts? Is he ready for this experience?"

Integration into other classes may be used to leave a more homogeneous group in the special class. It can hardly be justified on this basis. This writer's personal experiences would indicate that it is essential to establish some policies as to the number and kinds of classes that can be taken outside of the special class.

Individual programming means much more than filling in a program card for the registrar's office or planning a student's program outside of the special class. For the special teacher this should have a special meaning. It means having individual student's needs and abilities in mind when a lesson is planned. It means seeking ways to discover the most effective ways of reaching every student in the class. It means being sensitive to students' changing needs. It means adapting one's (teacher's) own "self" to each individual.

The School Work-experience Program

Many secondary schools, attempting to provide more functional educational programs for special groups of students, have developed various kinds of cooperative arrangements with industry. Such an arrangement, the school work-experience program, has been included in the curriculum of several secondary programs for the mentally retarded.

While there may be many variations, the school work-experience program as described in this paper provides an opportunity for selected mentally retarded students to be profitably employed in a *school-approved* occupational experience. The student-employee is paid at an hourly rate equal to that of other beginning or part-time employees. The work program is entered on the student's master program card and school credit toward graduation is recorded.

The approach to the development of these programs has been exploratory, rather than experimental, in most school systems. Such has been the case in this instance. The community wherein this particular program has been developed provided the first state-approved and reimbursed senior high school program for the educable mentally handicapped in the state of Illinois. During the course of eight years, a few generalizations have been developed which may be helpful to others.

Mutual Understandings of School and Industry It seems very important that the community, of which any industry and school must be a part, understands that this program is not just a high school program. It is a continuation of a developmental school program which starts at the primary level and which has as its primary objectives economic competency and social adequacy. The natural outgrowth of such a program, then, is a school-sponsored work experience which allows the student to make a more gradual transition from the responsibilities of a school student to the complex responsibilities of a full-fledged community member.

The implications are that the school and industry must cooperatively work together if they are to develop mutual understandings of what each has to offer to the total education and habilitation of the mentally handicapped. They must come to realize that they have a shared responsibility in helping students understand local community employment possibilities, working conditions, personnel practices of hiring and selection of employees, wages, etc. They must recognize that field trips of teachers and children, printed informational material concerning school and industry, and a continuous free and easy exchange of ideas concerning school and industrial theories and practices implement this understanding.

Organization of the School Program The school system in this instance provides seven developmental levels from the primary grades through senior high school. Two of the levels are designated as Senior High I and Senior High II.

The work-experience program is reserved for those students enrolled in Senior High II. One of the criteria for placement of a student in Senior High II is the possibility that the student be ready for a work experience some time during the year. In practice,

then, Senior High II is composed of juniors, seniors, and selected sophomores.

Students from the special classes may be integrated into certain "regular" classes whenever it is desirable from the standpoint of the individual student. To avoid the concept of the special class and the work program as administrative "gimmicks" whereby school credit may be given for anything that is called special education, certain scheduling principles have evolved:

1. In general, students in Senior High I are not enrolled in any courses ouside of the special class with the exception of physical education and music.
2. Senior High II students who are participating in a work-experience program and who are enrolled in physical education, are not enrolled in other courses with the exception of a continuous course such as agriculture.
3. Senior High II students who are not participating in a work-experience program are scheduled for no more than two periods outside of the special class with the exception of drivers' training for juniors, seniors, and sophomores who are seventeen years of age.

Of course, exceptions are made for individual students, but these general principles give status to the program, they make the work-experience desirable but not compulsory, and they insure the fact that the student-employee will have at least two periods in the special class for the guidance that he surely will need and that these principles are understandable to the students.

The Work-experience Program in Action

The Special-class Program As has been stated before, the work-experience program is a natural outgrowth of the curriculum of the special class. Much of the curriculum content is concerned with the exploration and development of occupational information, and the development of the social skills and responses that are essential to the objective of economic competency. The organization of the curriculum must be such that it provides information for those students who are not employed, as well as for those who may be needing individual guidance because of their work experience.

The Role of the Teacher Regardless of the size of the pro-

gram or the number of other personnel who may have a part in placing student employees, *the role of the teacher cannot be minimized.* He is the key person in evaluating a student's occupational readiness and in correlating classroom experiences with work experiences. He is directly concerned with attempting to bring about changes in negative attitudes that have been reported by cooperating employers. He is also in the best position to interpret the student's strengths and weaknesses to employers, whether this is done directly or through some other school personnel.

Occupational Readiness Evaluation of readiness for a school-work experience is a matter of individual assessment. There is little to go on in the way of "predictive" techniques. A complete personality study by a psychologist who has had considerable experience with mental retardates seems to provide the best single evaluation. However, there is no substitute for the personal knowledge of each case that is gained over a period of years. The occupational readiness of a student must be predicted in terms of a specific job.

At the inception of a program, and until a working understanding is developed with new employers, student-employees must be selected with a great deal of care. Work experiences "in school," such as cafeteria work and janitorial work, personal service jobs of short duration, give some indication of a student's readiness for an "out-of-school" work experience. The teacher and immediate supervisor confer on each case and make a joint decision as to a student's "occupational readiness."

Selection of Occupations Nearly every known industry has employment opportunities for the mentally retarded. The main concern of the school is to know the general personnel requirements of these industries so that students are not "overplaced" or "underplaced." Knowledge of employment practices in the community is essential to placing student-employees where a reasonable degree of understanding may be expected.

Identity as a School Program It is important that the employer, student-employee, and school recognize that this is a school program. It is not a program where a student is working part time and going to school part time.

There must be recognition by employer and student that a "specific" job has been approved for a certain individual.

All work-experience programs must be administratively approved if the student is to be excused from school and receive school credit toward graduation.

The Student-employee It is important that the student-employee have a complete understanding of his responsibilities. He is responsible to the school for attendance. (If he is not working, he must be in school.) He must understand that his work will be evaluated, that this evaluation will be used in the special class to help him, and that his tenure on the work experience and school credit are dependent upon this evaluation.

The interests and desires of the student-employee should be considered. There is no reason why these students should be pleased to have "just any kind of job." (In distributive occupations a student elects to take a course of study which includes a work experience. A student is *placed* in special education.)

A student may be "occupationally ready" but he may be so involved in school activities which are making a contribution to his social adjustment that it would be inadvisable to give him a work-experience program.

Liaison with Employer The school person or persons responsible for placing student-employees must develop a close liaison with the employer. This person must have a good understanding of the problems of mental retardates as well as a personal knowledge of each case.

Frequent personal contacts are necessary. The school's responsibilities do not end with finding a work placement. The employer as well as the student-employee needs to know that the school has a continuing interest in this work experience.

General Principles

1. Don't start the work program too early.
2. Adhere to child labor laws.
3. Develop policies and procedures that are understandable to employers, student-employees, and the school.
4. Provide a procedure for individual evaluation of student-employees in school and on the job.
5. Maintain personal contact with the employer.
6. Emphasize the identity of the program as a "school" program.

Generalizations

In 1948, this writer developed the framework for a secondary educational program for the educable mentally handicapped. The curriculum organization was based on the four experience areas:

physical and mental health, home-building, societal relations, and occupational education.[6] As the program was first conceived, considerable over-lapping of emphasis and content of the areas existed and was thought to be desirable. The same organization was later suggested as a basis for a "total" developmental school program. In renouncing the traditional subject-matter curriculum, the focus was on the mentally retarded child.

An attempt was made to formulate an experience-oriented program as the most theoretically sound way of discovering and providing for the learning characteristics of the mentally retarded at different developmental levels, their need for certain concepts, and their need for specific social skills. The content of the curriculum was not "spelled out"; the implication was that it would be teacher-prepared or adapted from commercially prepared materials. Methodology and teaching procedures were not "spelled out"; the implication was that trained teachers would be able to take the philosophy of the program, the generalized principles of learning theory, and their basic understandings of mental retardation and develop methodology and procedures.

From a very practical point of view, when one considers the differences in teacher preparation, the "turnover," and addition of teachers and supervisory personnel, the "wishfulness" of this thinking becomes apparent. There is a pressing need for complete, integrated expositions of educational programs for the mentally retarded. To insure some continuity of practice within a school system, underlying theories, concepts, and principles must be stated in "black and white." There must be more specificity of curriculum content, and methodology, and enough examples of teacher-prepared materials and adaptable materials that implement the theories to give some direction to a new teacher.

[6] This program was developed after a year's study of classes for the educable mentally handicapped. During the year the author observed special classes and developed some ideas as to the kind of program needed at the secondary level in Jacksonville, Illinois. The classes were not a part of an integrated program. The actual integration of these ideas occurred during the summer of 1948 under the guidance of Samuel A. Kirk and G. Orville Johnson at the University of Illinois. The curriculum organization of this program became the basis for the *Educating the Mentally Handicapped in the Secondary Schools*, prepared by a committee (Samuel A. Kirk, chairman, G. Orville Johnson, Martha E. Black, Russell M. Diffin, and Ivan K. Garrison), published by the Superintendent of Public Instruction, Springfield, Illinois.

30 *Preparation of Mentally Retarded Youth for Gainful Employment*

HERBERT GOLDSTEIN and RICK HEBER

EXPERIENCE SEEMS TO show that the successful habilitation of mentally retarded youth into competitive employment and independent living is probably too extensive and complex a task to be carried out effectively by any one agency. It is, rather, a task which may require utilization of total community resources for the achievement of maximum results.

In communities where effective cooperation has not been established among the various agencies, the burden of effort in preparing and placing mentally retarded youth has quite characteristically fallen on one agency—the public schools. In recognition of these considerations, an increasing number of community agencies are augmenting the work of the schools by contributing their specialized services. Chief among these agencies, especially from the point of view of specifically delegated responsibility, is the Vocational Rehabilitation Agency. Together, the school and the rehabilitation agency have a clear legal mandate to carry out this responsibility.

It is understood, of course, that all activities must function within the structure of existing federal, state, and local laws regulating the operation of the various agencies as well as laws affecting health, education, and welfare of children and youth. These include such matters as compulsory school-attendance laws, provisions regarding work permits, and other labor legislation as well as the regulations under which rehabilitation services may operate.

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Within the two basic agencies, it seemed desirable that the personnel actively engaged in services to the retarded have ready access to the community agencies which can be of assistance to them; likewise, that other community agencies should have close lines of communication with the school systems and the rehabilitation agency if they are to contribute to the sum total of services which will adequately meet the needs of mentally retarded youth.

It does not seem possible to set forth here a single blueprint of community organization, since communities vary so greatly in available health, education, welfare, rehabilitation, and other resources. Such groups, however, as public and private employment agencies, business and industrial leaders, civic and fraternal organizations, the parent-teacher organizations specifically interested in the retarded, recreational and religious groups, unions and other employee organizations, public and private health and social agencies, can all be of assistance to the schools and the rehabilitation agency, each in its own particular way.

Preparation for Job Placement

It was the consensus that preparing retarded youth for job placement is an extensive undertaking both in terms of time and subject matter. Implicitly, preparation begins in the child's preschool years where the family and community can exert a critical influence on his intellectual and personality development. It is during the child's school years, however, that he is introduced to the complex elements involved in socio-occupational adjustment.

The School Curriculum and Preparation for Employment Although consideration of the total school curriculum for the retarded did not fall within the scope of the present conference, it was recognized that the major focus of the school program is on preparation for life in the family and community. Consequently, there are many aspects of the curriculum other than direct work-training and experience which contribute to the student's preparation for occupational adjustment.

Ideally, preparation for social and vocational adjustment continues from the day the child first enters school. Helping the primary level child to understand the "whys and wherefores" of getting to school on time, for example, is a first step in the develop-

ment of the concept of punctuality as an obligation of an employee to an employer. By continuously interpreting the social implications of school learnings and activities and by adjusting the curriculum as changes in social conditions dictate, the public schools can help set the stage for ultimate placement of the individual into employment.

Throughout the school years, preparation for employment should be considered as one of several major objectives in curriculum building. In practice it is, of course, not possible to keep the activities aimed at these various objectives entirely separate. The area, *Democratic Group Living*, has implications for *Vocational*, and vice versa. Nevertheless, thinking of the vocational as one of a group of major objectives will have the effect of helping to maintain an adequate balance of the curricular offerings of the school. It will also alert the teacher to the possibilities that lie in the interrelation of the various objectives. This still makes it possible to shift the *emphasis* as the child progresses, while retaining the *balance* which is essential.

Research has demonstrated job failure to be as much a function of difficulty in the accessory adjustments to the job as inability to perform the manual skills required by the job itself. Perhaps most important are the student's skills in interpersonal relationships. Special classes at the secondary age level are therefore finding it profitable to include in the curriculum: teaching units on health and safety, social development and adjustment, personal grooming, family living, community living, and occupational information and requirements. The integrated secondary school programs being developed by many communities are, in great measure, based on the needs of mentally retarded students for interpersonal experience with the normal peers who will later become their coworkers and supervisors.

Many schools provide training in the accessory vocational skills through a unit or course which may be entitled occupations, vocations, or employment. An example is one program which includes a unit on employment in which the student learns about the qualities of a good worker, requirements for work permits, how to complete various kinds of employment application; characteristics of various job areas, qualifications required for jobs available in the community, problems and laws regarding wages, what deductions are made from wages and why, responsibilities of both worker and employer, and health and safety factors in employment. In addi-

tion, the student is assisted in a self-evaluation of vocational goals and is given practice in job interviewing. Formal classroom instruction is supplemented by role playing, by tours of businesses and industries where students may become employed, and by visits to employment and other relevant community agencies.

In the later years of the student's school career, agencies, such as the Employment Service, more directly in contact with the labor market and the complex problems of employment can contribute materially toward the preparation of the student. It is at this stage that coordinated planning between the school and the rehabilitation agency should be stressed. Other agencies can contribute indirectly by helping to acquaint employers with the availability of this type of employee and by helping to banish from the public mind many of the misconceptions concerning the mentally retarded. Direct contributions can be made when personnel from community agencies meet with students to discuss the range and nature of jobs available to them, by conferring with school personnel to establish an efficient system of screening for employment, and by providing information on current occupational practices for the school curriculum.

The Role of Counseling in Preparation for Employment Counseling is accepted as an integral part of the total program of education and vocational preparation of retarded adolescents. Effective counseling and guidance can occur through both formal and informal contacts with students and thus all persons engaged in the education and habilitation of the mentally retarded have some degree of counseling responsibility.

Informal Counseling Informal counseling occurs when the teacher takes advantage of incidental opportunities which arise in relation to classroom activities to assist students in coping with personal, social, academic, or vocational problems. For example, during a unit on occupational information, a student may express an unrealistic vocational aspiration. The teacher, by providing the student with an opportunity to explore a broad range of possible occupational pursuits along with various job requirements is, in reality, engaging in informal counseling.

In most situations at the primary through the intermediate levels, the teacher will be the person of greatest influence in the personal and social development of the child, since he is the one who will develop the most intimate relationship with the student.

The teacher is engaged in counseling to the extent that he deliberately promotes growth or works toward desirable modifications in the personal and social development of the child.

The counselor role of the teacher will less often be fulfilled through so-called formalized sessions, than through his sensitivity to the individual personal and social needs of the children and his ability to meet these needs in the classroom situation as they arise. Much of the counseling of the teacher will be of the preventive type, inasmuch as he is in a strategic position to help insure that minor problems do not develop into more serious ones.

The effectiveness of the teacher's counseling, as well as his teaching generally, will depend upon his understanding of the social and cultural ramifications of mental retardation and its impact on personality development. Teachers who have received instruction in personality development will be better equipped to understand and cope with the various behaviors which a mentally retarded student may exhibit as a reaction to his intellectual limitations. A knowledge of the sociocultural aspects of mental retardation will enable him to understand better the values and cultural background of his students. These prerequisites to effective counseling can best be acquired as part of teacher preparation.

The teacher-trainee should receive an overview of counseling techniques and effective methods of dealing with the personal and social problems of students which arise in relation to classroom activities. Because of the demands in the teacher-training curriculum for preparation to fulfill the more traditional functions of the teacher, there will no doubt be insufficient time for the acquisition of the principles, techniques, and experience necessary for counseling students with more complex personal and social problems. An overview of principles of counseling, along with adequate personal-social skills, will enable the teacher to deal effectively with many minor behavioral and attitudinal problems. Steps are being taken in teacher-preparation institutions to strengthen this aspect of their programs.

The teacher's counseling training should also include an orientation to vocational guidance. This will enable him to make better use of the curriculum in acquainting students with potential job opportunities and realistic vocational choices. His orientation to vocational guidance should include information and practice in the utilization of relevant community resources and in working with other specialists as a member of a comprehensive team.

Formal Counseling In contrast with the informal counseling carried on by the teacher within the classroom situation, formal counseling implies the services of professional persons with a specific background of training and experience in counseling and guidance who work in schools or in rehabilitation agencies or both. Formal counseling directed at the more complex problems presented by students, requires skills and a background of training not usually held by the classroom teacher. It is therefore essential that the teacher have available for support and assistance the services of the school counselor, school psychologist, and school social worker.

Even with respect to formal counseling, however, there must be close cooperation between counselor and classroom teacher. The teacher is often able to complement the counselor's work by making it possible for the student to implement new values and principles of behavior acquired during counseling. The work of the counselor is often directly related, for example, to the academic performance of the student in the classroom.

The services of the professional counselor become an especially important adjunct to the school program for retarded adolescents where major personal, social, and vocational problems arise as a result of the impending integration into employment and community living. Even with the more complex problems of this period, however, the teacher will be able to complement the work of the counselor. With some kinds of problems, a teacher's intimate relationship with a student may render his informal counseling very effective. An example of cooperation between counselor and teacher can be seen in the relationship between vocational counseling and a teaching unit on occupational opportunities. While the counselor is helping the student to achieve a realistic assessment of his abilities and limitations the teacher is providing him with an opportunity of measuring these abilities against the requirements of specific jobs. It becomes increasingly essential, however, at the secondary school ages, that the skills and services of the teacher be supplemented by the provision of specialized services for the vocational, personal, social, family, placement, and postschool follow-up counseling.

Resources for Counseling Service There appear to be a number of methods by which the needed professional counseling services are being provided. Some school systems employ counselors for specific kinds of counseling activities. A common example of

this is the school placement counselor who contacts employers regarding job opportunities, orients them as to the needs and abilities of prospective mentally retarded employees, assists employers in obtaining necessary adjustments regarding labor laws and other requirements, and attempts to match students to appropriate available positions. In some communities the placement counselor also does the follow-up counseling with the employee while in others this task may be assigned to one of the special class teachers.

Reports of school programs for the adolescent mentally retarded indicate that many schools in addition to their own resources are requesting and receiving assistance from various community agencies in the provision of certain types of counseling service. Most frequently mentioned as sources of counseling services are Vocational Rehabilitation and the State Employment Service. Leaders from business and industry and personnel specialists are also assisting school personnel by serving in a consultative capacity to school-work programs for retarded adolescents.

There probably will be many patterns by which schools and vocational rehabilitation agencies cooperate in meeting the counseling needs of mentally retarded students. The most effective pattern will probably depend on the resources of both the school and rehabilitation agency in the particular community, local conditions, and the particular needs of the students included in the program. In some situations, the school counselor may carry the responsibility quite far. In others, the rehabilitation agency may serve the school in a consultant capacity by assisting school personnel in charting the direction toward employment for individual students, and by providing the student with direct vocational rehabilitation services when needed. In other situations rehabilitation personnel may participate more actively in the school program by working and counseling directly with students in addition to serving as a consultant to the teacher. In a few communities, the rehabilitation agency has assigned a staff member to work full time in cooperation with the schools in meeting the needs of students. Such a person may serve as an effective liaison between the school program and the services of the rehabilitation agency.

Reports indicated that school placement counselors and rehabilitation personnel often find their work handicapped by the insufficiency of information available in the cumulative record folders of mentally retarded students. Placement counselors have indicated, for example, that motor coordination and manual dex-

terity are often critical factors in job placement. Although the teacher cannot be expected to administer objective tests of eye-hand coordination or finger dexterity, etc., it would be helpful if he would note in the student's records significant motor disabilities and above-average motor competencies which he may observe. Such information would enable the counselor to take these factors into consideration in screening students for jobs where motor coordination and dexterity might be important. Working together, the teacher and counselor can map out matters of this type to observe and record.

Students' interests and parents' aspirations are important factors in vocational counseling. If these are made a part of student records, they may well assist the counselor in gaining a better insight into a student's motivations with respect to job choice. Should the counselor find it necessary to work with the parents, he can do so more effectively if he has some previous idea as to the aspirations they have held, or now hold, for their child. Pupil interests and parent aspirations may well, therefore, become a part of the student's cumulative records. Certainly, teachers should record any occupational experiences which their students have had, since such data can be invaluable to the vocational rehabilitation counselor. A description of the jobs held, along with an evaluation of the student's performance and attitude, will assist the counselor in his exploration of placement possibilities.

An intelligence test score acquires greater value if it is supplemented by achievement test data and by the teacher's observations of the student's intellectual behavior in the classroom situation. Teachers, counselors, and other school personnel might well collaborate in determining the type of data which should be included in student records. In this way cumulative records will acquire greater meaning to both teachers and counselors.

The development of adequate cumulative records is only one phase of the cooperative relationship between counseling and teaching personnel. Other areas of cooperation are of comparable importance. Among these are collaboration in the development of the occupational aspects of the school curriculum, the formulation of a screening and testing program, streamlining of referral techniques, and the development of strong lines of communication.

In-school Work Experiences In certain matters, cooperation is predicated upon the individual efforts of each agency. An example

of this is the in-school work experience aspect of the program for mentally retarded adolescents. This feature of the program is predominantly a responsibility of the school. It is, however, a prelude to community placement, much of which may become the responsibility of other agencies.

In-school work experience can be an important culmination of the series of carefully planned experiences provided by the school for the development of attitudes and behaviors relevant to vocational adjustment. The in-school work program provides school personnel with an excellent opportunity for an exploration of student incentives and attitudes in relation to employment. It also creates an additional opportunity for the further development of occupational information and desirable job attitudes. The student's experiences on the job can be utilized by the teacher to supplement classroom instruction.

Occupational training within the school will probably be the more effective the more it simulates a real work situation. School personnel must stay alert to the fact that changing employment opportunities and labor needs have implications for the kinds of jobs provided in the in-school setting. Experience in hand washing of dishes in the school cafeteria, for example, will be of little benefit to students if restaurants are converting to automatic dishwashers. The development of any work-experience program within the school setting must recognize this and be sufficiently flexible so that it can be adjusted to changes in community needs and labor conditions.

In-school work programs have been criticized for being too limited in the job experiences provided and for being so sheltered that they do not provide students with realistic work experiences. These criticisms do not apply when the in-school program is structured, not for the purpose of teaching specific skills, but rather to give students the experiences preliminary to direct occupational placement in the community where they will learn whatever specific job skills are required. The in-school program is most useful when it stresses attributes which may be generalized to any job situation such as the relationship of the worker to the employer and vice versa, concepts of punctuality, socialization, and task completion.

Though the in-school job program has the disadvantage of being sheltered and of failing to cover some of the problems which the student will face in community placement, it does have the advantage of lending itself to control. The advantage of this

control can be seen in the possibility for changing the kind of supervision which the students receive. If the coordinator of the program wishes to see how the students react to various kinds of job supervisors, he can periodically change the "foreman," in each case instructing the new "foreman" in his role. Thus, school personnel and job counselor are able to observe how the student performs under various kinds of supervision. How such observations might contribute toward the ultimate placement of the student is apparent. Other advantages of being able to control and manipulate the work program are that students can be moved from one job to another at a rate commensurate with their needs and abilities, and work can be halted as needs for specific instruction or for evaluation are observed. These and many other advantages are only possible in an in-school or similar type of work-training program.

There are hazards involved in this type of program that must not be overlooked if it is to facilitate the successful placement of the student in the community. Prominent among these hazards is the possibility of misinterpretation of the role of the student by personnel involved in the work program. For example, cafeteria employees under whom the students work may look upon them as helpers and spend little time in instructing or observing the students. The students themselves may get proficient at one job and not wish to rotate to other jobs, losing sight of the reasons for their participation in the in-school job program. To avoid these hazards there must be a constant re-evaluation of the function of the in-school program and its effectiveness in facilitating the later adjustment of the student in the community.

On-the-job Training The on-the-job training program is one of the outgrowths of the expansion of specialized public school programs. Finding that many mentally retarded adolescents were unable to maintain themselves in competitive employment upon termination of school attendance, many school systems have begun to develop extended school programs to age 18 and in some cases to age 21. An integral feature of many of these extended programs has been the inclusion of on-the-job training designed to facilitate successful transition from school to employment.

In the on-the-job training program, the student usually spends part of a day or week in acquiring work experience and learning specific job skills. The remainder of his time is spent in school.

A few programs have been organized so that the student spends full time for a period in the job training program, and then alternates this with a period of full-time school attendance. The nature of the work experience obtained in the job training program is, of course, dependent upon the prevailing economic conditions in the community and the range of occupational opportunities available. Individual work experiences must take into consideration the ability of the employer to accept and be a positive factor in the development and training of the students.

A close liaison should be maintained between school and employer so that the student may receive careful supervision in the work-experience program. Many schools accomplish this by appointing a counselor to work full time with student-workers, employers, and as a liaison with classroom teachers. In other schools, teachers' schedules are set so as to permit time for working with employers and observing their students on the job. Since employers and fellow employees vary so greatly in the demands they make, and in the manner in which they react to mentally retarded workers, it is desirable that students obtain several kinds of work experiences in the on-the-job training program.

Selective Placement

Carefully planned programs of vocational preparation of mentally retarded youth should be culminated by selective placement. Experience has shown that probability of successful adjustment is increased when students are given assistance in locating and adjusting to suitable jobs.

Helping mentally retarded students to locate and adjust to employment will probably not prove to be the province of any one agency in the community. Rather, it is more likely to prove essential that all agencies having the ability and inclination to cooperate in this task do so by bringing to bear the particular services they are able to provide. Placing a mentally retarded youth on a job involves many professional services. Selective placement is comprised of an extended sequence of activities which precede and follow actual job placement. These include evaluation, exploration of job opportunities, job placement, postplacement counseling, and other postschool services.

Evaluation The objective of formal evaluation is to enable professional personnel to make a placement which will match the capacity and characteristics of the student with the demands of a particular job. It is essential that a thorough evaluation of the student be carried out well ahead of the time when actual job placement is to be made. The first aspect of evaluation is to determine the student's need for placement assistance. In some cases, this assistance may not be immediately needed as, for example, when the student will be employed by or through a member of his own family. Those who do require placement assistance should undergo an evaluation to ascertain the nature of the placement services they will need. In this stage of evaluation it would seem desirable that school personnel and the vocational rehabilitation counselor work together. Through their cooperative efforts they can determine whether the student should receive the services of a placement agency, such as the State Employment Service, or whether he should receive further training and/or remediation and preparation for a specific job through the Vocational Rehabilitation Agency. Where testing is required to determine the eligibility and feasibility for agency service, the rehabilitation counselor will be able to indicate the procedures for obtaining this service.

It should be recognized that, in many instances, student needs may change following termination of school attendance. For example, a student who has indicated that he has been promised a position with a friend or relative may find that the job does not materialize. Another youth may show all the signs of needing only placement service and not training. With a trial period of employment it may become evident that he requires further rehabilitation service. Cooperating agencies should therefore make provisions for follow-up and periodic re-evaluations of the services needed by a particular student.

Exploration of Job Opportunities Explorations of job opportunities in the community should, no doubt, ideally be a cooperative activity on the part of all agencies concerned with the vocational placement of the mentally retarded. These explorations should be coordinated so as to avoid repetitive, time-consuming interviews. In some communities this confusion has been avoided by the appointment of a coordinating committee which assumes responsibility for gathering all necessary occupational information and communicating it to the various agencies involved.

Information gathered in this way is used by each agency according to its needs. The school, for example, may use data on available job opportunities in revising its subject matter on occupational adjustment. In this way the subject matter of the classroom becomes more closely related to actual conditions in the community. Employment agencies can use this information for job classification and listing of services. This information is also used directly in working with those students who are ready for immediate job placement. Rehabilitation agencies can use this information in planning rehabilitative services that will be most appropriate to available job opportunities. In addition to knowledge of available job opportunities, vocational exploration can provide information concerning facilities and skills of the employer for training mentally retarded workers. This knowledge will be helpful to placement personnel in working out a plan for on-the-job training of the new worker.

Job Placement Actual placement on the job can be most effectively achieved by careful preparation of student and employer. The actual placement will often be made by the agency most involved with the student. For example, a student who does not require special training prior to placement on a specific job may be served by an agency confining itself only to placement. A student requiring such services as training, treatment, or prosthesis would probably be a client of the vocational rehabilitation agency for both the service and placement. In some cases, the schools may have an established backlog of jobs that have been used in the on-the-job training program. Where indicated, it might be advisable to permit certain students to extend their part-time experience into a full-time job.

It was not the function of this report to go into a detailed description of jobs into which the educable mentally retarded can be placed. The usual lists of jobs reported as suited to retarded workers might be a somewhat outmoded and rather restricted sampling today. The rapid technological changes which are occcurring are creating new job possibilities for the mentally retarded while some existing ones are being eliminated. The possibilities will vary considerably from one community to another depending largely upon what kinds of businesses and industries happen to be located in a particular area. Community surveys conducted in an attempt to discover what kinds of work the mentally retarded might per-

form have often turned up surprising possibilities which are not mentioned in the classic lists of job opportunities for the retarded. Retarded persons are reported as working in a large range of occupations, except the highly professional.

Postplacement Counseling Job placement should include plans for follow-up if optimal adjustment is to be achieved. Placement personnel have found that many seemingly minor incidents or misunderstandings can be ameliorated early in the employee's and employer's experience, thereby preventing undesirable consequences. A girl placed as a bus girl in a cafeteria, for example, interpreted her job to be that of only clearing tables and carting the dirty dishes to the dishwasher. By accident, a customer dropped a bowl of soup on the tile floor. When the manager asked the girl to mop up the debris in the interest of safety, she became confused and somewhat defensive, since she could not see the relationship between this request and her duties. She was about to make an issue of this simple incident, but fortunately decided to talk it over with her placement counselor who helped her to see the logic in the assignment. Without assistance from a postplacement counselor this girl might have forced this minor event into a situation that cost her the job. It might possibly have closed this avenue for job placement for a long time to come, for this girl as well as others.

The employee should be encouraged to discuss a wide range of problems, since many factors not directly related to employment can have an effect on job adjustment. Time should be taken to discuss the employee's work with the person who is the immediate supervisor. If there are deficiencies in the employee's work or adjustment, the counselor may be in a position to effect a favorable change in the employee. Placement personnel have found that it is often better and easier to counsel with an employer and employee in order to maintain the worker on the present job than it is to find a new job for him. In some instances, supervisors, in an attempt to reward good service, have unwittingly "promoted" their mentally retarded employees into jobs which were too complex. In one case, a mentally retarded youth was made foreman of a crew. Counseling with the supervisor would have prevented the resultant failure and avoided the frustration which occurred on the part of both employee and employer.

Postschool Services Because of their handicap in vocational and social adjustment, postschool adjustment and educational services can be most helpful to mentally retarded young adults. It has been found that educable mentally retarded employees change jobs about as frequently as their normal peers during the first few years following their leaving school. The reasons underlying change are many, including dislike for the work, changes in the requirements of the job, changes in the work site, etc. A continuing adult education program will facilitate the transition from one job to another or from one job locale to another.

An adult education program also contributes to continuing progress in community adjustment. A program that offers continuing education beyond the general school program will upgrade the efficiency of many students and render them more effective as citizens. At the same time, those mentally retarded young adults who fail to reach their potential in academic achievement before leaving school would have an opportunity for further progress in the area. The experience of the few communities with adult education programs for the mentally retarded indicate that it is at this level that many of these students become motivated to improve their skills in the traditional academic areas.

Vocational rehabilitation as well as other community agencies have a stake in postschool services. They may assist in establishing a sheltered work environment for those mentally retarded individuals who are not immediately able to function independently in the community. Protected work experience of this type should be a responsibility of the interested community agencies if a continuing program of training, counseling, and placement is to be achieved. Some communities have found the sheltered work-experience program to be the answer to the problem engendered by the mentally retarded student who indicates a potential for ultimate placement in competitive employment but who is not immediately ready for this upon termination from the formal secondary school program.

31 *Shop-center and Occupational Classes*[1]

HAROLD M. WILLIAMS

THE BALTIMORE PUBLIC SCHOOL PROGRAM for mentally retarded adolescents is a two-track plan of *shop-center classes* and *occupational classes.* The two types of program, although separately organized, have much overlap of curriculum and permit interchange of such pupils as show marked changes in development.

At age 13, the *shop-center classes* become available for children of 50 IQ and over and a school achievement of less than fourth grade. These children come from the elementary special classes and elementary grades of the city schools, and from private, parochial, out-of-city, out-of-state, and residential schools. A typical median chronological age for the groups in these classes was 14–8, with a range of 12–11 to 17–0. A typical median IQ was 73, reading achievement, 3.1, and arithmetic achievement, 3.8.

Also at age 13, the *occupational classes* begin. These are primarily for slow learners who have an achievement level of fourth grade or more at this age. The children come from junior high schools, elementary schools, and special classes, private and parochial schools, out-of-city and out-of-state schools, and residential schools. A typical median chronological age for this group was 14–1, with a range of 12–11 to 17–0. A typical median IQ was 78, reading achievement, 4.8, and arithmetic achievement, 4.9.

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[1] This report was checked for accuracy with Harrie V. Selznick, director of special education, Baltimore Public Schools, and members of his staff.

Basis of Selection of Pupils

Intelligence test score is the most important single factor in placement, although achievement scores in reading and arithmetic are also stressed as criteria. In addition, emotional instability, poor school attendance, physical immaturity, poor health, sensory defects, and adverse social and economic factors in the home are given consideration. These criteria are basic in both programs. The primary distinction between the two facilities, therefore, is that of the mentally retarded versus the slow-learning child. All pupils are evaluated by the Educational Testing Bureau of the public schools before admission. The final placement is cooperatively determined by the parents, the principals of the sending and receiving schools, and the Division of Vocational Education.

Location of Classes

Of the approximately 86 shop-center classes, some are housed in elementary schools or in adjacent buildings under the same principal and others in special schools. Of the approximately 76 occupational education classes, about 40 are housed in separate buildings, about 5 in junior high school buildings, and 31 in elementary school buildings.

Curriculum

Shop-center Classes The curriculum includes academic work in language arts, mathematics, science, health, and social studies. These are, in some measure, related to the industrial arts and home economics programs, but are carried on basically in an "all-around" curriculum setting.

Shop and home economics are treated largely as cultural and occupational activity rather than definitely vocational in character.

In-school work experience without pay includes work in the cafeteria as well as experience in the fundamentals of job training, such as filling out applications, filing, wrapping, assembly-line work,

stock-taking, and cashiering. These are "job-training" aspects of the regular school curriculum.

Physical education, music, art, assemblies, and other activities are offered as enrichment objectives.

Occupational Classes The academic curriculum resembles the shop-center program except that it is carried on at a higher level of basic skills and with a broader base.

The contrast in range of experiences in shopwork is illustrated by:

SHOP-CENTER CLASSES	OCCUPATIONAL CLASSES
General metal	Mechanical drawing
Woodwork	Woodwork
Arts and crafts	Sheet-metal work
	Shoe rebuilding
	Arts and crafts
	Elementary machine shop
	Junior commercial practices
	Painting and decorating
	Art metal work
	General metal work

The home economics programs are similar but more comprehensive and with more depth in the occupational classes. For both groups the home economics experiences include:

Foods	Home nursing
Child care and training	Consumer education
Home management	Safety in the home
Home furnishing and decoration	Personal and family relationships

Physical education, intramural athletics, music, arts, and other activities are also offered.

These are illustrative of the program of preparation for employment and how it is integrated with the total curriculum. Unit teaching is freely used. The aim for both boys and girls is a well-rounded program, with the preparation for employment a related objective in the curriculum as a whole.

On the basis of performance and achievement, pupils may be transferred from shop-center to occupational classes, and vice versa.

From occupational classes they may be transferred to general vocational schools, which form the next highest level of the multi-level program.

Depending on the criteria mentioned above, shop-center classes are terminal for some children. With parental consent some students 14 and over from both shop-center and occupational classes may be placed on a school-work program. Some students, aged 16 and over, may be placed in full-time employment.

The Baltimore program is designed to integrate vocational preparation with the total curriculum. The aim for all students is a well-rounded program, with preparation for employment a related objective in the curriculum as a whole.

The School-work Program

One of the characteristic features of the Baltimore plan is the school-work program. The basic organization of the program is simple. The students working in pairs, alternate two weeks on the job and two weeks in school. One student of the pair is in school while the other is holding down a job to which the first student will return at the end of his two-week school cycle.

The main purpose of this program is to help shop-center and occupational pupils bridge the gap between school and employment in order that they may have a better opportunity for securing jobs acceptable to them and that are within their ability to render satisfaction in service. This in turn works toward helping them to become useful, self-supporting, and socially acceptable citizens. It has been found that careful placement in suitable jobs, with continuous supervision, greatly facilitates the total adjustment of these pupils. Every child is carefully evaluated in terms of his ability to meet the requirements of the job, his temperament, and his social and physical maturity.

The program is administered by two full-time coordinators, working under the supervision of the supervisor for Shop-center and Occupational Education. Some of the immediate objectives of the school-work program are:

1. Providing situations for emphasizing the duties of a good worker.
2. Imparting knowledge of the qualities of a good worker.

3. Imparting first-hand actual knowledge of and experience with the execution of duties.
4. Giving pupils an incentive for thinking about and preparing for work.
5. Assisting the pupils by direct and personal experience to test their aptitudes for various types of employment.
6. Enabling the pupils to adjust themselves to the requirements and conditions of an occupation by gradual and easy transition from academic pursuits and modes of life, and
7. Having the pupils realize that there are opportunities for advancement in our democratic way of life.

Some basic learnings provided in the school-work program are:

1. Trying to have the student become aware of himself as an individual who soon will seek employment.
2. Providing situations for emphasizing good character traits.
3. Studying the qualifications of a good worker.
4. Determining, in so far as possible, which jobs he might be qualified to hold.
5. Learning the mechanics for obtaining a social security number.
6. Filling out of various types of application blanks.
7. Learning how the Labor Bureau operates in giving the permit, the summer permit, the Saturday permit, and the newsboy badges.
8. Learning the meaning of age verification and how the form is procured.
9. Studying how working illegally harms both employer and employee.
10. Understanding of the wage and hour setup. (Work in arithmetic is done with this in mind.)
11. Studying employee-employer relationships.
12. Studying employee-employee relationships.
13. Studying employee-customer relationships.
14. Studying of jobs with attention to need for reading and arithmetic required in each.
15. Providing activities for training in specific jobs and related jobs.
16. Placing the student on the Coordination Work Program for actual experience.
17. Having workers give reports of their jobs.
18. Keeping progress charts of the "coordination-students" as to whether or not the work has benefited them and carried over into their school life.
19. Giving training of a repetitive nature and training in store procedures.

Placement Service

This service is offered by the Division of Guidance and Placement. A counselor is assigned to the Placement Service to secure jobs in business and industry for the boys and girls of the occupational and shop-center classes at the time when they leave school. Emphasis is placed on explaining the service to those pupils who have let it be known that they are leaving school on their sixteenth birthday. Care is taken not to encourage job-seeking by those pupils whose parents might object to job placement, or those pupils who are willing to remain in school and could profit by further education.

32 *A High School Work-education Program*

LEONARD ROGERS and THOMAS J. MURPHY

THE SANTA BARBARA HIGH SCHOOL work-education program for mentally retarded students is a program that presents a realistic approach to the education of mentally retarded students on the high school level by developing a curriculum in terms of the experiences encountered by the student on real work situations in the community.

This program attempts to give the student the status of belonging to an accepted school program while at the same time preparing him for his ultimate role in society.

Students in this program are allowed and urged to participate in all regular school functions. They are members of the student

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body, attend assemblies, join special-interest clubs, participate in school sports, and engage in all school-sponsored activities. Students assigned follow a definite course outline, approved by the local board of education, which meets the state's requirements for graduation. The 10th-grade students in this program do not participate in an outside work experience. Their program is designed to prepare them for the work-education program in the 11th and 12th grades.

It must be remembered that as in all such programs, class titles are kept as similar as possible to the titles given the classes of regular students at high school. These titles do not limit the content of this course; in actual operation, the program is operated as a core program and cuts across many subject areas.

Students at the 11th- and 12th-grade level attend class for four periods in the morning and are on work assignments in the community for two to four hours in the afternoon.

One teacher in this program is given the responsibility for job finding, placement, and supervision of the student on the job. He is released from teaching duties in the afternoon to carry out this assignment. Since this requires considerable travel, he is given a travel allowance in addition to his salary.

How Jobs Are Acquired

A large percentage of the jobs are found by the teacher through personal contact with prospective employers. Local employment agencies are contacted, but generally are able to give very little help.

The type of jobs sought are according to the interests and abilities of the student. For example, one student, with second-grade reading ability, was placed in a job in a gas station. He was unable to make change correctly when he began, so he could only service cars. As he learned in school how to make correct change and the answers to many other problems he had encountered on the job, he was gradually given many additional duties, until by the end of the school year he was pumping gas, making change, washing cars, changing tires, parking cars, and assisting the mechanics.

Caution should be observed in obtaining jobs that defeat the purpose of the school program. It is desirable to find jobs that have definite routine requirements, that provide some type of super-

vision, and that will be of the same level as the type of job the student will find when he finishes high school. A large percentage of the work is on a paid basis; however, the learning value of the work experience is emphasized rather than the salary. In fact non-paid experiences are encouraged when the student enters the program, so that he can explore various fields of endeavor to find the work in which he is most interested. The pay scale of the students on the various jobs has ranged from $0.75 to $1.25 per hour.

How Students Are Placed

The teacher begins making contacts for employment before school starts in the fall. Many of the students are still on the same jobs from the previous year, so when school commences in the fall, four out of six students are placed on a job the first afternoon. These students ride with the teacher in the teacher's car. The students remaining at school are placed in a study hall for the two afternoon periods until they are employed. By the second week usually all but a very few of the students are placed on jobs. Those remaining ride with the teacher in his car while he seeks jobs for them. This is an important aspect of the program, since those who are not yet placed are often those who need an intensified counseling program in relation to their attitudes about work, school, community, etc. This had not been planned as a part of the program, but experience has taught us that this close, intimate sort of contact of riding in a car together has opened up opportunities for counseling often not available to the student.

If an employer is available when the teacher makes his first contact, and the employer is receptive to having a student work at his place of business, only one or two employer contacts are necessary. However, since it is not usually possible to see an employer on the first call, it generally requires three or four contacts before a student can be placed.

During the first contact with an employer the teacher inquires as to whether or not a part-time job is possible. He explains the program to the employer and outlines the capabilities, description, and other pertinent information regarding the student for whom he is seeking work experience. If the employer is possibly interested, the student is brought for an interview. It is important to note that the student is not sent on his own. It is felt that this is one of the

strengths of the program, since it has been our experience that these students usually are not willing or capable of making the first interview on their own.

Length of Stay on a Job Since the major emphasis is job exploration of a work situation rather than a permanent job placement, students are generally given a number of work experiences throughout the school year. Length of stay on a job will vary from the student who immediately finds a job that suits him and the employer to the student who will require a number of job experiences throughout the school year.

Reasons for changing jobs are numerous. One boy worked for two months in a laundry until he was no longer needed. He then went to work in a garage as a mechanic's helper, but after three weeks the employer felt he was still too inexperienced to continue. However, he was placed in another garage where he was assigned to assist with car radio repairs and he worked there for a number of months. His next assignment was in a service station where he remained on the job until summer vacation.

Supervision by the School Periodic conferences with the employer are part of the planned program. No definite schedule is maintained; however, each employer is contacted at least one time each week. A definite schedule would restrict the teacher from taking care of occasional problems that require immediate attention. These are generally pupil misunderstandings in terms of the job requirements.

Spot checks of the pupil are made at a more frequent interval than the employer conferences. These are made to keep the student aware of his responsibilities to school and employer, and to provide the teacher with information regarding the needs of the pupil on the job so that these needs can be met during the school class session.

Employers are asked to complete a job evaluation form on the students four times a year. This evaluation form lets the teacher know what progress the student is making and enables him to work on any problems the student might have.

Classroom Program The students spend their first three periods in the morning with the special training class teacher.

Although these are listed as English, mathematics, science, and/or social studies, actually they are treated as a core program,

with the experiences from the work situation as a basis for the program.

Pupils are encouraged and given opportunities to share and tell of their work experiences. They list the various tasks their jobs demand and explain sometimes with demonstrations, how a task is performed.

As they begin to earn wages and work by the hour, mathematics takes on a new meaning. Ray, who worked servicing cars in a gas station, felt uncomfortable because his boss had to make change for him. He immediately informed the teacher that he wanted to learn how to make change. Varying working hours, changing jobs, and salary increases make the figuring of wages a continuing problem which all are eager to tackle. A few students who have made over $25 a week are anxious to learn about filing income tax returns.

Many parents reported on the changes in their child's attitudes toward homework. One couple stated "Raymond seems to have 'grown up' this year." Ray's mother stated that his interests had changed from television to his job and car. She further stated that she appreciated the fact that he worked overtime until 6:00 P.M. each day, because she didn't have to worry any more about what he was doing between the time school let out and dinner time.

The English program is based upon everyday needs of living, and includes such things as filling out job applications, income tax forms, money orders, or bank deposit slips; reading about job openings, bus schedules, union requirements, city maps, telephone directories, books and pamphlets related to their jobs; making tape recordings of descriptions of their jobs, and observing movies on job requirements. One of their greatest interests is in letter-writing. Scores of letters are written to various sources for free materials related to a pupil's specific interests. As the materials requested are sent to the pupils' homes, they in turn are brought to school and shared with the class, so this forms the basis for their oral English reports.

The work-education program lends itself to exploring at school many areas that are normally difficult to discuss in the typical school situation. Some of these areas are: personal hygiene and cleanliness, manners, and courtesy, civic and family responsibilities. Judging from the reaction and reports of the parents, students, teachers, and employers, it is believed that a work-education type of program comes closer to meeting the needs of these mentally retarded high school students than any other program before attempted at one high school.

7

SCHOOL PROGRAMS FOR THE TRAINABLE RETARDED CHILD

THE PHENOMENAL GROWTH of public school programs for trainable mentally retarded [1] children is the outgrowth of three factors: (1) an awareness on the part of the parents of these children that psychologically it is better for the child and the family unit to avoid or delay institutionalization; (2) the questionable programs and the crowded conditions at many institutions, and (3) financial data which tend to show that it is more economical for society to keep retarded children in the community. There is no question that institutional care is a necessity in some cases, but current thinking leans toward giving the trainable retarded child every possible opportunity prior to institutionalization.

Initially, school programs for the trainable child were parent-sponsored. As permissive and mandatory educational legislation was developed in many states, the public schools have gradually assumed the responsibility for these classes. In 1953, there were approximately 5000 trainable retarded children enrolled in special public schools and classes. By 1960, it was estimated that 12,000 children were enrolled. In most places there are waiting lists for placement in these classes because of the teacher shortage and the lack of school facilities.

As programs for the trainable retarded child have developed, there has been serious controversy over which state agency should have primary responsibility for them. Public school personnel tend

[1] In this section "trainable" and "severely retarded" are used interchangeably to indicate a pupil with an approximate IQ range of 25–50 with some potential for *acquiring social maturity skills.*

to feel that assistance in some form should come from other state agencies, such as departments of mental hygiene and social welfare. On the other hand, these agencies feel that mental retardation is primarily a community problem and should be supported through educational funds. The controversy can best be resolved by a state coordinating committee [2] which theoretically should be able to develop a rationale for support.

The criteria for determining the eligibility of children for placement in classes for the trainable retarded have been subject to much discussion. Drawing a fine line between lower grades of educable retarded and upper grades of totally dependent children is an extremely difficult assessment problem. The table in this section prepared by the editor provides a set of standards for judging eligibility. Goldstein [3] has suggested the possible use of the Kuhlmann Intelligence Test scores. He maintains that children with IQs below 25 on this test will usually be ineligible; that children with IQs between 25 and 35 are questionable cases and other criteria must be considered, and finally, that children with IQs above 35 stand a very good chance for making a suitable adjustment. No single criterion in itself is adequate. Complete assessment and a trial period is warranted in most cases.

What are the major characteristics of trainable retarded children? Bernice Baumgartner [4] indicates that most have some form of physical handicap, and that their mental development and speech and language abilities are distinctly limited. Although they are usually incapable of learning academic skills beyond a rote memorization basis, they do have the capacity to learn to live cooperatively and to develop good personal habits, and under supervision, they have the potential to make a marginal adjustment socially and economically in a sheltered environment.

The opening article in this section, by J. E. Wallace Wallin and Harold M. Williams, is a historical review of programs for the trainable retarded. The second article, by the late Arthur S. Hill, an early proponent of such programs, is a comprehensive picture of the objectives and nature of school programs for the trainable

[2] See Section 12 on National, State, and Local Programs.

[3] Herbert Goldstein (ed.), *Report Number Two on Study Project for Trainable Mentally Handicapped Children* (Springfield, Ill.: State Department of Public Instruction, 1955).

[4] Bernice B. Baumgartner, *A Curriculum Guide for Teachers of Trainable Mentally Handicapped Children* (Chicago: Illinois Council for Mentally Retarded Children, 1955).

child. In addition, Mr. Hill includes thumbnail sketches of some typical programs in New York City, Detroit, Houston, and Cincinnati. A short table, prepared by the editor, summarizes the general criteria for selecting children for such classes. In the final article, Samuel A. Kirk summarizes the results of evaluative studies of special-class programs for trainable retarded children in Minnesota, Illinois, Michigan, and Los Angeles. Similar studies are now underway in New York, California, and Tennessee. Unfortunately, as Dr. Kirk notes, most of the evaluative studies have been short term; comprehensive, longitudinal research in this field is still to be done.

33 *Education of the Severely Retarded Child*

HAROLD M. WILLIAMS and J. E. WALLACE WALLIN

THE HISTORY OF the education of the severely retarded child goes back at least as far as 1801, with the publication of Itard's report on the "Wild Boy of Aveyron." During the period before 1850, residential school programs began in several European countries and in the United States. By 1900 many states had residential institutions for the retarded, and many of these had school departments. There was also a fairly large number of private residential schools.

During the period from 1850 to 1900, it was usual for the middle grade, or severely retarded, and the moderately retarded to be grouped together in school, since no clear differentiation had been made between them. The lower limit for school training was at about the level represented by an IQ of 30. During this period, most

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of the educational opportunities for the severely retarded were to be found in these residential schools.

In the closing years of the nineteenth century there developed considerable interest in individual differences in school children. This was a period of rather widespread experimentation in educational planning for rapid and slow learners, and many "plans" were tried out. Out of this experimentation the special class for retarded learners (the Mannheim plan) developed. About the turn of the century special classes for the retarded in public school systems were initiated and have shown a steady growth ever since.

These classes were quite heterogeneous at first, due in part at least to the lack of measuring devices. From about 1908 on, however, the Binet-Simon Test and its many adaptations came into general use. By 1920 the individual mental test was quite generally used as a principal criterion for the selection of children for special classes. (This was, incidentally, the purpose for which it was originally devised.) Mental tests gave relatively finer distinctions among degrees of mental retardation than was formerly possible; they helped stabilize, therefore, the concepts of the three broad ranges of mental retardation, upper, middle, and lower (IQs 50–75, 25–50, 0–25, approximately) which came into rather common usage in education as in other fields during this period.

In education, these gradations eventually came to be rather closely related to a concept of "educability." There was, for example, the old dictum that "the idiot never learns to talk, the imbecile never learns to read, the moron never learns to think." On the basis of this type of reasoning, a distinction gradually arose between "educable" and "uneducable" which received considerable acceptance. The dividing line became rather generally (as expressed in IQ terms) at about the level of 50. The basic special class for the retarded came to be, therefore, largely composed of children in the uppermost of these three general IQ ranges, *i.e.*, those who could "learn to read." The concept of the "uneducable" came, in many instances, to be applied to the two lower ranges, and educational provision for them in day schools lagged far behind. While in some programs no specific provision was made for them, in other programs they tended to become rather specifically excluded from school as uneducable. Serious question was raised in many quarters as to whether or not they were a public school responsibility at all.

This rule was probably rarely administered rigorously. Many schools admitted children with IQs below 50 if the children showed

good social adjustment and minimal physical and behavioral stigmata. Nevertheless, the situation was such that a rather large number of severely retarded children living in their own homes and communities were not included in the school program.

An increasing number of parents and others felt that this was unjust. Gradually from about 1930 on, local parent organizations began to appear. About 1950 these groups consolidated into the National Association for Retarded Children. This group, together with a number of interested professional groups, brought the whole problem of the needs of the retarded into clearer focus. Although the Association's program, as it developed, became very broad and included many aspects of the betterment of the lot of the retarded, a school program for those children previously not provided for in the community became one of the major planks in their platform.

During this period, it is interesting to note, effort became concentrated on the middle range of the retarded, whose need was the most apparent, and who were the most numerous of the group not having educational provisions. As part of the process of identifying this group more exactly, new and often confusing terms arose.

One of these terms, the word "trainable," came into rather general use. It seems to have developed primarily in relation to the "educability" concept. Most probably it represented an attempt to bridge the gap between the terms "educable" and "uneducable." Other equivalent terms are, "severely retarded," "semidependent" and "middle grade." The term "middle range" or "middle grade" seems on the whole preferable, because it indicates most clearly that there is a group above and below it. The term "severely retarded" is used here primarily because it avoids the questionable implications of the term "trainable" and because it is probably more commonly used at present than "middle range." The IQ equivalent is about 30 to 50.

As a part of the renewed interest in this group of children, classes especially designed for them began to appear. Here again, the need had been anticipated in a few cities. St. Louis had established special classes for the severely retarded beginning in 1914; New York City, about 1930; St. Paul, about 1934, for example. More and more, however, local parent groups established special classes for them on their own initiative.

Gradually, the interest of local schools became enlisted, and classes jointly sponsored by the parents and the schools or financed

entirely or largely by the schools began to appear. About the same time, state legislatures began to recognize the problem. The year 1951 witnessed passage of legislation for a state-wide community school program by several states. Other states followed rapidly; at the present time about two thirds of the states have recognized the problem either through specific legislation or by administrative interpretation of existing legislation.

Several hundred school districts now report that they have special programs. The total number of children in late 1956 had grown in cities of over 50,000 to something on the order of 9000 in public day classes, about 7000 in parent-sponsored groups, and perhaps 6000 in residential schools.[1]

The many special needs related to this program are also becoming recognized. Special sequences of courses in teacher preparation are under consideration in colleges and universities. Teacher certification standards are under consideration in several states. Illinois has established a special credential. Curriculum guides are being developed. The results of experience in the practical details of transportation, finance, and housing are all beginning to appear in the literature.

Community educational programs for the severely retarded introduced many new problems in administration of services, transportation, housing, and so on. Parents assumed a relatively more significant role as partners in program planning. In problems such as diagnosis, counseling, early childhood training, and eventual school readiness and placement, several agencies may have participated before the child enters the classroom. All of these factors must be welded into a smooth working sequence as the child comes to school.

It is still too early to try to predict all of the potentialities of this new development. By no means have all the possible objectives been explored or all of the methods. Many of the serious questions today await research findings. For example, how soon can one expect to get results with such a program? The studies available have been on a very short term basis, usually two years. One question now is, then, what might a five- or ten-year accumulation of experiences do for the child? There is also the question of what kind of teacher preparation is required to do this new job well. What is the im-

[1] I. Ignacy Goldberg, "Some Aspects of the Current Status of Education for Training Mentally Retarded Children," *Exceptional Children*, 23 (December 1957), 146–154.

portance of counseling and agency cooperation in this situation as compared with other special education situations? Research activities in many parts of the country, including the Office of Education research program, under Public Law 531, may be expected to contribute to many phases of these important questions.

It should be pointed out, too, that these studies have implications for residential school programs quite as much as for day-school programs. As residential school populations have shifted in the direction of a smaller proportion of the higher range children, their school programs have tended to emphasize educational procedures more suitable for the middle range group of children.

It should be noted again that, as has so often been the case in special education, this new program has developed around a particular group of children as their needs have become recognized and differentiated. The current organization in classroom programs is in terms of separate special classes for the upper and middle ranges of the retarded. Whether these distinctions will persist in their present form is an open question as yet. Already there are studies going on of methods of grouping which are quite different from the present program.

The real significance of the movement lies in the fact that this is the first time this hitherto neglected group of children has. been singled out on a large scale for intensive educational attention, research, and service. In the long run, these studies will clarify the understanding of mental retardation as a whole, as well as of this group in particular.

Finally, one does not always have the opportunity to observe democracy in action in as neat a package as this, sufficiently condensed in time and content to be relatively easy to follow. The concern for every individual in our society, the impact of civic groups with a zeal for betterment of our way of life, the open forum for public debate of an issue from all points of view, the concern at all levels, family, community, state, and national, and all types, legislative, administrative, public, and private, and the translation of what began as a firm conviction on the part of a few into a program of action by general consent, are all apparent here. Each component has made its own particular contribution to the whole. To those who do not understand how a democracy operates, or whose faith in it sometimes wavers, this story is a truly inspiring lesson.

34 *The Severely Retarded Child Goes to School*

ARTHUR S. HILL

THE PURPOSE FOR maintaining special classes for educable retarded children is to afford those pupils who cannot profit from the general educational program opportunities to develop self-independence and vocational competence. However, the purposes for establishing classes for the more severely retarded trainable child may be somewhat more involved, excluding considerations of economy and unavailability of institutional school space. Nevertheless, they may be summarized in the following manner:

1. While a very small percentage of the more severely retarded group, even under optimum training conditions, may be able to achieve a limited degree of self-direction (and a few may be able to participate in sheltered workshop activities when these are available), a larger number will achieve a moderate degree of personal and social development and become economically useful in their own homes. For these children the class will provide training experiences that will enable them to develop to the fullest extent possible the limited abilities which they possess.

2. Lack of responsiveness because of severe conflicts, social immaturity, physical involvements, or speech retardation may result in inadequate measurements of intellectual ability and influence the examiner to reserve his judgment relative to the potentials of a number of mentally retarded children. These children may respond more adequately to repeated testing procedures after effective socializing experiences have been provided. A few may eventually become candidates for the regular special class groups for edu-

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cable children. For such children the training class may afford opportunities for observation and further study.

3. Another purpose of the class for the severely mentally retarded will necessarily involve its screening functions, for not all of the children assigned on the basis of initial tests and preliminary observations will prove capable of training and personal adjustment in a public school situation. Only observation over an extended period during which stimulating experiences are provided will allow the teacher and psychologist to render an adequate evaluation of certain pupils' potentials for training. Undoubtedly, a substantial number of the children referred for training-class placement will require eventual institutional care. A corollary of this purpose is that the training class must provide opportunities for the counseling of parents in regard to institutional placements in those instances in which pupils do not indicate the necessary capacity for growth and development. This will be discussed at greater length in a subsequent section, but it is important to recognize that the purposes of the training class go beyond what it can offer the pupil and extend to the needs of parents for understanding and guidance.

If the class is to serve the needs of all these children, it must necessarily offer a rather wide variety of classroom experiences. For those pupils who are accepted on a trial basis, it will be important to include activities that will provide for maximum stimulation and growth in the development of adequate speech, acceptable personal habits, self-control, group adjustments, sensory discriminations, and coordination. The final evaluation of the pupil in regard to his training potentials may depend upon his improvement in these areas of achievement.

For the pupil who, as an adult, may be expected to adjust to modified or sheltered conditions, the training program will need to be channeled into more specific learnings. Experiences in group and family living, knowledge of the community, recognition of necessary symbols and signs, the practical application of muscular coordinations, the development of recreational interests, and the acquisition of satisfactory work habits and attitudes will be of great importance.

The possibility that some children may demonstrate unusual improvement makes it necessary to stimulate readiness and provide for beginning instruction in reading and number work in a limited number of instances. Therefore, while the classroom program for severely retarded children will be built around habit formation and

social training, it must be broad enough to meet the needs of the unusual pupil who is capable of improvement and eventual transfer to a class for educable children.

The goals to which training programs must be directed include:

1. *Adequate habits of personal behavior.* The pupil should be able to control his behavior according to acceptable standards. Habits of cleanliness, health, and eating should not be offensive when he is observed by others. He should be able to remove and put on his clothing.

2. *Efficient communicative skills.* The pupil must be responsive to ordinary conversation and able to communicate his needs and interests to others.

3. *Useful coordinations.* The development of coordinations will include a normal walking gait, the maintenance of a healthful posture, and the ability to perform common tasks with his hands.

3. *Acceptable habits of work.* The pupil must learn to enjoy useful and satisfying occupations. Being helpful to others and willing to perform common tasks will be essential if he is to achieve any degree of independence and economic usefulness. In addition, he must develop the ability to see a very simple project through to completion. Pride in the achievement of simple tasks is as essential to the adequate adjustment of the severely retarded child as is the satisfaction growing out of greater achievement enjoyed by more capable children.

5. *Adjustment to social situations.* The severely retarded child cannot perform as an isolate if he is to achieve any degree of competence for social living. He must learn to respect the rights and property of others, become able to tolerate the behavior of other pupils, and be willing to participate in simple group activities. Whether his participation is to be limited to the family group and the immediate neighborhood or to a larger world in which he will be employed in a useful occupation, his adjustment will be inadequate unless he can learn to enjoy social participation.

6. *Willingness to follow directions.* The severely retarded child will be constantly under the supervision of others who are capable of guiding his activities. Unlike his more normal peers who can accept responsibilities for independent action, he will be subject to much direction. Responsiveness to direction necessarily must be one of his most valuable attributes. Therefore, the program must put particular emphasis upon this type of training.

There may be other goals to be reached in the training pro-

gram for severely retarded children, but the foregoing are basic to the development of characteristics needed by these children if they are to adjust to family and community life. Unless progress toward achievement in each of these areas can be observed, it is probable that the pupil should be recommended for permanent care and placement in a suitable institutional school.

Approaching the Classroom Situation

Considerable stress upon "training" as distinct from "education" appears in both professional and parent-association literature pertaining to more severely retarded children. What is meant is that the personal and social behavior, speech, and muscular efficiency of the very retarded child may be conditioned by experiences that do not involve insight or the knowledge gained from mastery of basic academic skills. The training program primarily is one involving habit formation.

In reading some of the current literature, it is easy to obtain the implication that being "trainable" is synonymous with being "uneducable." It may be quite unreal to interpret education without recognizing its training aspects. It is doubtful if a true dichotomy exists, for much of the education of normally intelligent children includes training in personal habits, social behavior, and even specific skills. Whether training the normal child in certain manipulative skills differs greatly from training the severely retarded child in the use of acceptable eating habits might be subject to some question. It has also been suggested that the achievements of severely retarded children might be described best in terms of "conditioning." From a practical point of view the choice of terminology seems relatively unimportant.

It is essential to recognize that much of the personal and social progress made by severely retarded boys and girls must be on a habit-formation basis. Furthermore, good habits of work and social participation will be formed most effectively under conditions in which the pupils feel a bond of friendship and trust between themselves and their teacher and in which they are inspired to imitate the teacher. In this respect they will differ to no great extent from children of average intelligence.

Organizing Classroom Experiences

The first problem that will be faced most frequently by the teacher of severely mentally retarded children will concern the pupil's attitude toward himself. Because of overprotection, rejection, or lack of experience in group situations, the child will often come to school as an unhappy or asocial individual. He may be lacking in self-esteem and confidence, completely egocentric in his attitudes, or extremely fearful. The primary objective of all classroom experiences during the initial period of schooling may necessarily be to build up the pupil's sense of security by developing feelings of acceptance, first toward himself and then toward others. Unless there can be developed self-esteem and personal confidence, the pupil's progress may be both limited and warped.

Much of the learning of the severely retarded pupil will grow out of play experiences, and while these activities are usually considered of most importance for their social implications, they will contribute also to the pupil's individual adjustment. Learning the rules of the game is especially important to the severely retarded child, and since he will live in a world in which he will be subject to considerable authority, learning to follow or obey directions in the initial stages of school experience may be more essential for him than democratic participation. Nevertheless, willingness to respect authority should not be brought into conflict with independence of action, and in those activities in which he is competent to perform independently, the severely retarded child must learn to enjoy the exercise of his own judgment and initiative. Wingertszahn, in an address before the American Association on Mental Deficiency in 1951, explained that the severely retarded pupil develops gradually increasing interests in tasks that he can complete successfully, first in attending to his own personal needs and later in serving others. She mentioned such specific activities as going to the lavatory, washing for lunch, eating, serving, acting as host or hostess, assembling lunchroom trays, etc. In these and similar simple tasks the severely retarded child can be taught to exercise conditioned judgment and to accept personal responsibility. Through successful achievement he may gain considerable self-respect and confidence in his own ability to perform.

The resourceful teacher may also be successful in developing

in her pupils at a very simple level a certain degree of ability to plan their daily schedules and to exercise choices of learning experiences. Such activities may be restricted in comparison with the planning of less severely retarded pupils, but it is probable that this aspect of the daily program should not be entirely neglected.

The second general type of learning that will be essential to the life adjustment of severely mentally retarded boys and girls concerns their participation with other individuals and in group situations. Many children who become members of classes for the severely retarded will have had few prior contacts with other children or adults outside of the family constellation. Because of their unusual developmental immaturity, some of those who have had social experiences will be functioning at an extremely inadequate level of interpersonal and group behavior. And yet, in spite of these handicapping conditions, much of the severely retarded child's prognosis for successful life adjustment will depend upon his ability to acquire skills in satisfactory social relationships and to conform to approved social behavior. Much of the emphasis of his school training program must, therefore, revolve about socializing activities. Among the objectives in the social training of the severely retarded pupil will be:

Development of respect for the rights and property of other members of the group
Ability to work and play with other children in simple group activities
Willingness and ability to share privileges and responsibilities
Willingness and ability to accept the role of a "follower"

These characteristics will develop as the result of experiences in well-planned group projects, play and recreational activities, and the sharing of classroom materials and responsibilities. Most children will need to participate, first, in small group situations and later, if possible, in activities involving larger groups of children.

If the severely mentally retarded child is to achieve any satisfactory degree of social competence, he must necessarily develop the ability to communicate in an understandable manner. A large number of the pupils who will be assigned to training classes will be defective in speech, as well as intellectual development. Making speech more understandable and increasing the vocabulary of the pupil will constitute important aspects of teaching severely retarded children.

The services of a speech correctionist should be made available

to children who have involved problems of inadequate speech and who require clinical services. Gens [1] considers that speech specialists can contribute in a twofold manner to the welfare of mentally deficient children, first, by contributing remedial measures that can improve the speech efficiency of pupils, and, second, in improving the developmental status of children who have been incorrectly diagnosed. It is important to recognize, however, that speech-correction services for the severely mentally retarded pupil must be provided by a specialist who is adequately trained in the understanding of mentally retarded pupils.

The classroom teacher will set the stage for many opportunities for speech improvement, although the advice and counsel of the specialist in speech frequently should determine her procedures with individual pupils. The use of conversation in group situations, dramatization, and the assignment of duties such as greeting and introducing visitors, answering the telephone, and delivering oral messages may be employed along with many other activities.

Many severely mentally retarded children are handicapped in the efficient use of the extremities as well as in posture. Defects in physical development are not uncommon. Their gait may be shuffling or awkward, posture may be slouching; movements may be arhythmic; finger dexterity and eye-hand coordinations may be inferior. Nevertheless, in so far as muscular development is concerned, many severely retarded children seem to be capable of improvement with suitable training, and the activities of the class should be planned to provide the necessary training. Exercise to improve large-muscle coordinations should precede those designed to train eye and hand coordinations. In the beginning, activities such as walking up and down steps, bouncing a ball, stepping between spaced blocks, skipping, and other exercises employing large-muscle coordinations are important. Rhythmic activities, including the use of rhythmic instruments, involve coordinated body movements and should play an important role in the classroom program. The ability to walk without attracting undue attention or impeding the progress of others may be a very important achievement for many severely mentally retarded children.

For the development of the more involved and exacting hand-eye coordinations and the improvement of finger dexterity, using peg boards, stringing beads, assembling picture puzzles, tracing,

[1] George W. Gens, "The Speech Pathologist Looks at the Mentally Deficient Child," *Training School Bulletin*, 48 (April 1951), 19–27.

ıcing and buttoning, modeling with clay, and coloring pictures will rove valuable. Older children may be able to work with a simple ɔom and to engage in other constructive activities which a re-ɔurceful teacher may provide.

In developing the school program for the severely retarded hild, considerable emphasis also will need to be placed upon sense-aining experiences. Learning to identify colors, objects, and shapes, ıatching pictures and symbols, and listening to sounds should be nportant aspects of the program, especially in the early months nd years of the training period.

The school program for the trainable retarded child is not only ɔncerned with the development of attitudes, speech habits, and ıuscular efficiency, it is also concerned with the development of ‹ills fundamental to health, safety, and community participation. ome of these learnings may necessarily be very simple and learned t a habit-forming level. The Detroit pre-special A program pro-ides opportunities for health inspection, care of clothing, and reparation for the serving of the mid-day milk. Knowledge of the ɔmmunity often is obtained through field trips, and in the Detroit re-special A groups interpretation of community happenings takes lace during the "conference" period. In all well-planned programs ɔr retarded children many opportunities are given for the develop-ıent of good housekeeping habits. These may be through the ıaintenance of a play house or through delegating responsibility ɔr the care of the room. Neatness, cleanliness, and orderliness may evelop concomitantly from almost any type of classroom activity.

The place of so-called "academic learnings" in the class for ɛverely retarded children has been a subject of considerable con-'oversy. The answer may depend upon the interpretation of what ɔnstitutes academic learning. The severely retarded child may be ble to understand and use considerable quantitative language. Cer-ıin number symbols and common expressions of size and propor-on may be well within the range of his learning; the use of money ı smaller denominations may often be understood. Whether or not nowing that a nickel will buy a candy bar and a dime a bottle of hocolate milk represents an academic learning is in itself an ɛademic question. Likewise, while useful reading may be beyond ıe achievement of severely mentally retarded children, the recog-ition of some words and signs may be possible—and very impor-ınt. Recognizing the sign that says STOP, for instance, may be

successfully achieved, but whether or not this constitutes "reading" is an unimportant consideration.

Many of the experiences of children in training classes will not be too different from the reading- and number-readiness experiences of children in kindergartens and first grades for normal children. Nevertheless, participation in these experiences cannot imply that a child will develop ability to read, for it is quite unrealistic to assume that useful reading abilities can be developed by the severely retarded pupil. However, the teacher of the training class may necessarily venture into beginning reading work in order to explore the learning possibilities of her more advanced pupils. Children who progress sufficiently to be successful in reading should probably be moved to a group of educable mentally retarded pupils as soon as their social adjustment warrants the transfer.

Evaluating Progress

One objective of all education is to provide pupils with maximum opportunities for growth and development. Therefore, the measurement and evaluation of pupil progress is as important a function of school personnel as is the provision of learning opportunities. When the school accepts the responsibility for providing training facilities for severely retarded children, it must also assume the responsibility of frequent appraisals of their progress and development. This responsibility may be greater as it applies to handicapped children than it is in the case of normal pupils.

The evaluation of pupil growth has especially important implications for severely retarded pupils who are accepted on a trial basis and for those who are improvable to the extent that they may become candidates for transfers into educable groups. Because a few children with undetermined diagnosis may be expected to be found in most classes for trainable pupils, it is essential that evaluations should be frequent as well as professionally sound. For the greater number of children who will continue indefinitely in the classes for trainable children, frequent assessments of pupil progress are important inasmuch as these evaluations will become guides for the adaptation of the daily program to meet the pupils' individual needs.

While most teachers of severely retarded children will prob-

ably keep informal anecdotal records on a continuing basis in addition to objective data for each of their pupils, a more formal evaluation of developmental progress should be made at least four times each school year. This report should include a summarization of the informal day-to-day observations and should be interpreted in terms of growth in individual and social adjustment, speech fluency, and muscular efficiency. The evaluation should be discussed with the parents, preferably in individual conferences, for parents are entitled to know about their children's progress in school—and the teacher, in turn, cannot evaluate the pupil's progress adequately unless she is acquainted with the extent to which his school achievements carry over into the home and community environment.

Some school systems may wish to devise a form for the teacher's evaluation of pupil progress. The Detroit pre-special A teachers use a form upon which progress in physical coordination, writing, number, and reading readiness is recorded. In addition, a rating scale is provided for the evaluation of sociability, participation in class activities, consideration for others, tenacity of purpose, trustworthiness, and reaction to authority.

The evaluation of pupil growth must be supplemented by objective measurements at certain intervals. For those whose diagnosis is uncertain or who are making unusually poor or rapid progress, the services of a psychologist should be available at any time. Certainly pupils admitted on a trial basis should be re-examined by the end of their first year of attendance. For the pupil whose evaluation of school progress bears out the original diagnosis of trainability, objective measurements may occur less frequently. It is the policy in some school systems to retest educable mentally retarded special-class pupils at two- or three-year intervals. There seems to be little reason to set up a different policy for severely retarded children who are adjusting well to the training class.

Typical Programs

It would be a mistake to assume that the more severely retarded child has been entirely rejected or ignored in public school special education programs. In many school systems providing for educable retarded pupils, considerable leeway is made for those falling somewhat below the usually accepted level for special class placement. In one state in which about 6000 are enrolled in special classes for

Criteria for Placing Trainable Retarded Children in Special Classes

Eligibility *

1. A child who is not eligible for placement in classes for the educable mentally retarded.
2. *Physical condition:* A child who (*a*) is able to hear and see well enough to engage in special-class activities without undue risk; (*b*) is ambulatory to the extent that no undue risk to himself or hazard to others is involved in his daily work and play activities; and (*c*) is trained in toilet habits so that he has control over his body functions.
3. *Mental, emotional, and social development:* A child who (*a*) is able to communicate so that he can make his wants known and can understand simple directions; (*b*) is developed socially so that his behavior does not endanger himself and the physical well-being of other members of the group; and (*c*) is emotionally stable enough so that group stimulation will not intensify his problems unduly, that he can react to learning situations, and that his presence is not detrimental to the welfare of others.

Ineligibility †

1. A child whose problems will be accentuated by group stimulation or whose behavior is detrimental to the group.
2. A child whose lack of mental, physical, or emotional maturation or whose physical condition would not warrant placement in a public school class.
3. A child who, after a reasonable trial in a class for severely handicapped pupils, has shown that he cannot adjust to or profit from activities of the group of which he is a member.
4. A child who, upon adequate psychiatric diagnosis, has been found to be mentally ill (psychotic or prepsychotic). Considerable caution must be exercised in applying this criterion. It must be recognized that intellectual behavior may be adversely affected by emotional conflict. The exclusion of mentally ill children needs to be preceded by careful evaluation by educational, psychological, and psychiatric personnel.
5. A child who cannot comply with the chronological-age standards required for school entrance by the state. (While early training programs may be desirable for many mentally retarded children, some states do not modify the legal ages for school acceptance of handicapped children.)

* See the California Administrative Code, Title 5, Article 21, Section 197, and Jerome H. Rothstein, "California's Program for the Severely Retarded Child," *Exceptional Children*, 19:5 (February 1953), 172.

† See Arthur S. Hill, *The Forward Look; The Severely Retarded Child Goes to School*, Department of Health, Education and Welfare Bulletin 1952, No. 11 (Washington, D. C.: Government Printing Office, 1952), p. 26.

educable mentally retarded pupils, it is estimated that about 5 percent fall below the level of 50 IQ. This percentage is rather high in view of the relatively small number of children who measure below an IQ of 50. It is probable that in other states and local communities similar relaxations in entrance standards have been made and that a small but significant percentage of the nearly 90,000 mentally retarded pupils enrolled in special education programs in 1948 fell below the usual IQ standards descriptive of the "educable" group. However, it is equally probable that a large proportion of these children are admitted to presently maintained special classes "on trial" and that many of them are eventually excused from public school attendance and recommended for institutional school placement. Nevertheless, it should be recognized that most school psychologists and special-education administrators are extremely reluctant to make arbitrary judgments on the basis of measurements that indicate moderate deficiencies in observable intelligence. Hence, when standards for special class placement are expressed in terms of IQs from 50 to 75, it is not uncommon to find in the special classes children who may range from IQs of 40 to 79.

Separate "subspecial" classes for lower-grade mentally retarded children have been maintained in some school districts for many years. Examples of these school-initiated facilities are found in New York City and Detroit. The classes now operating in Houston, Tex., and many other school districts are also entirely school-sponsored, but are of more recent origin than those maintained in New York and Detroit.

New York City In New York City, classes for children in the 40 to 50 IQ range have been a part of the special-education program for a long time. At present there are more than 30 such groups. These classes are units of regular elementary schools and operate on a full-day schedule. However, since the noon lunch is considered a part of the training program, the afternoon dismissal hour is set forward accordingly. The program is planned with the assistance of the supervisory staff of the Bureau for Children with Retarded Mental Development and consists of experiences in social living, personal adjustment, and habit training. Only minor consideration is given to the so-called academic learnings. However, opportunities for the recognition of simple words, phrases, and directions, and the use of numbers are offered to the more capable pupils. Classes are restricted to an enrollment of 18 pupils.

Detroit, Michigan The Detroit "pre-special" classes have also been maintained over a period of many years. However, the criterion for assignment to these classes is on a mental age rather than an IQ basis. Only children whose mental ages are under 5 years may be admitted to pre-special classes. Of the 89 children enrolled in the six classes now maintained, 35 (about 40 percent) are in the IQ ranges below 50 or have received "deferred" diagnosis. A deferred diagnosis is usually indicative of an intellectual measurement below the accepted standard for special-class placement, but nonintellectual factors have caused the psychologist to reserve judgment relative to the pupil's actual potential. During the period of pre-special class placement, it is possible to observe the pupil's developmental progress and arrive at more adequate conclusions regarding his intellectual ability.

The Detroit classes provide for children between the ages of 5 and 13. At the age of 13 the progress of pupils is evaluated by the psychologist and the teacher. Those indicating sufficient growth are promoted to a regular special class for mentally retarded pupils while those indicating insufficient ability for progress in the regular special classes are excused from further attendance. For the severely retarded child these groups provide a "proving ground" for observation and trial placement up to the adolescent years.

In some classes the children are divided into beginning and advanced groups and attend only a half day. Such classes may enroll up to 20 pupils. The beginning group has the smaller enrollment. Classroom activities include those designed to further personal adjustment, habit training, social experiences, rhythmic games, speech development, and beginning reading and number work for those capable of doing academic work. Pre-special classes are located in regular elementary school buildings.

Houston, Texas The Houston classes for severely mentally retarded pupils are provided for children who are between the ages of 6 and 12, whose IQs are under 50, and whose mental ages are between 2 and 5. The applicant must be continent and able to respond to simple directions group. All pupils are admitted on a trial basis. In cases of doubt as to the trainability of the applicant, a trial in the class is given. The teacher in charge has had training in the teaching of the mentally retarded and in the teaching of children of nursery school ages.

The chief objectives of these two classes are to provide oppor-

tunity, through selected activities, for these youngsters to grow to their maximum potentials in ability to help themselves in the routine activities of daily living to live happily with other children and adults and to communicate with others. Emphasis is also given to the development of the motor skills and to the stimulation of intellectual activity through such media as simple stories and dramatizations, limited excursions, and conversation about the significant happenings in the child's immediate environment.

Classes for severely retarded children, maintained by public schools in cooperation with parent associations, are found in a number of communities. Cincinnati, Ohio, and Berwyn, Ill., have included such groups as units of their general school program.

Cincinnati, Ohio The Cincinnati public schools have a rather extensive program for educable mentally retarded children. In addition, an "experimental class" enrolls 15 children (ages 10 to 15) with IQs ranging between 40 and 50. This class is not reimbursable under state regulations for slow-learning retarded children.

The class meets from 9:20 to 2:30 with a rest period of one hour and a noon lunch period which is regarded as a part of the training program. Classroom activities are quite similar to those provided in New York City, Detroit, and Houston, with major emphasis being placed upon social living and personal adjustment. Some small amount of experience is provided in simple reading and number work.

The operation of the Cincinnati class is supported by public school funds, supplemented by a substantial amount provided by the Hamilton County Council for Retarded Children. In addition, a contribution for diagnostic and counseling services is received from the local Jewish Vocational Service. The parents of the children enrolled in the class meet once each month as a group, and the teacher schedules individual conferences with parents twice each school year.

Berwyn, Illinois During the summer of 1950 a parents' association of the Berwyn, Ill., area established a class for severely retarded children in rooms rented from a local church. At the beginning of the school year this project was taken over by the Berwyn school district, and at present two groups of children who are drawn from several contributing districts are provided for. The classes continue to meet in rented church quarters. IQs of the class members

range from 30 to 50, the only qualification for membership being the pupil's ability to communicate and to care for his own physical needs. Interested service clubs assist in the provision of equipment; the parents' organization pays for the rental of the quarters; but the local schools contribute teaching, psychological, and supervisory services and teaching aids.

Public schools have also contributed toward the organization and maintenance of parent-initiated and controlled classes. In these instances the schools provide some assistance to the parent groups which assume the major obligations for the operation of classes. In Milwaukee, Wis., a parents' organization class occupies two rooms of a community house owned by the board of education. One room is devoted to classroom activities for nine severely retarded children. The other is reserved for the use of parents who meet regularly each morning while the class is in session. All operational expenses other than the rental of space is obtained from the fees charged to parents of the enrollees.

Variations of the plans described might be multiplied many times. It is obvious that many public schools have made successful attempts to deal with the education and training of severely mentally retarded children.

Nevertheless, not all public-school provisions for severely retarded children have been successful. Both Cleveland and Toledo, Ohio, report that classes for severely mentally retarded children were discontinued for various reasons. In Cleveland one contributing factor was poor attendance of the pupils, while in Toledo problems of securing a qualified teacher, suitable space, and the extremely high costs involved entered into the decision to discontinue the program. However, the Cleveland experiment was partially successful in so far as it indicated the desirability of relaxing admission standards for placement in the regular special classes for slow-learning pupils.

It would be unrealistic to accept the point of view that the training of severely retarded children can be undertaken only by the public schools. In the state of Ohio recent legislation has placed the responsibility for this program upon the Department of Public Welfare; in New Jersey a program of home instruction and parent education is successfully maintained by the State Department of Institutions and Agencies. Nevertheless, it is possible that even

when plans similar to those described above have been developed the public schools also may participate in the training program.

In discussing the New Jersey program, Cianci states [2]:

. . . home training cannot be the complete answer to the problem of mental deficiency. The communities must be aroused to an awareness of the needs and rights of these children and must provide classes or day centers for children of school age. . . .

A recent interpretation of the Ohio legislation by the attorney-general of that state indicates that public school units may be reimbursed by Department of Welfare funds, while in New Jersey the parents' organizations are seeking a review of the various laws pertaining to handicapped persons in order that the schools and other agencies may work together for the welfare of all handicapped children. Several New Jersey school districts are already maintaining classes for severely handicapped children.

35 *Effectiveness of Training Programs for Severely Retarded Children*

SAMUEL A. KIRK

FUTURE PUBLIC SCHOOL PLANNING of efficient programs for the severely retarded will be partly dependent upon the results obtained in previous programs. So far the programs have not been functioning long enough for the different states to report longitudinal research. There have been, however, a few short-term evaluative studies which show both trends and difficulties in evaluation.

From *Public School Provisions for Severely Retarded Children,* Special Report to the New York State Interdepartmental Health and Hospital Council (Albany, N. Y.: July 1957), pp. 70–77. Reprinted with the permission of the New York State Interdepartmental Health and Hospital Council and the author. Dr. Kirk is professor of education, University of Illinois.

[2] Vincentz Cianci, "Home Training for Retarded Children," *Training School Bulletin* (November 1951), 139.

The Minnesota Study

Reynolds and Kiland [1] reported on studies in Minnesota. An evaluation of four classes in St. Paul and Minneapolis which had been in operation for periods ranging from six months to six years showed the following facts:

1. The children in the classes ranged in age from 7–6 to 20–7. Their IQs were generally around 40.
2. Efforts to train the children in reading, writing, and arithmetic were not fruitful.
3. The parents tended to lessen their expectation for academic learning after the children had been in the class for some time, but also showed more dissatisfaction with the classes.
4. There was a definite relationship between tested intelligence and the degree of participation in the class.
5. Parents and teachers reported progress in social adjustment, in speech, and in work habits.

In a study by Lorenz [2] a long-term project is reported. St. Paul had maintained classes for the severely retarded since 1934. Of the 84 children graduating from these classes, 66 were still in Minnesota and could be followed up. This group of individuals had remained in the special class an average of five years. The average of their latest IQs was 36. The individuals had left the class for varying reasons. Seventeen were excluded after a trial period. Forty remained in the school until they reached the upper age limit of 16 to 21. The others dropped out for differing reasons. The follow-up study of these individuals may be summarized as follows:

1. Forty-seven percent of the children were institutionalized immediately after leaving the special class. Boys had a higher percentage of institutionalization than girls.
2. Ten percent of the children were deceased.
3. About 45 percent (40 children) were at home.
4. In general, those who remained at home came from families of higher socioeconomic status. Those institutionalized tended

[1] M. C. Reynolds and J. R. Kiland, *A Study of Public School Children with Severe Mental Retardation*, Research Project No. 8, Statistical Division (St. Paul, Minn.: State Department of Education, 1953), 89 pp.

[2] *Ibid.*, pp. 32–38.

to come from average or below average socioeconomic levels.

5. Of those who remained at home, two thirds of the children were reported to be well accepted in the community. Ten were reported as making few contacts.
6. Ten of the individuals (all males) had some history of employment in their home community. Only four of them, however, were working at the time of the study. Two males were working full time, and the other two, part time. One full-time worker was employed washing pots and pans in a department store. His IQs tested earlier were 62, 55, 48, 44, and 46. Another male was working as a janitor with a friend. His IQ was 55. The two part-time workers were doing yard work and golf-caddying.

Follow-up studies like this one—one of the few specifically with the severely retarded—are needed on a larger scale. This study indicates that half of the children in the classes will later be sent to institutions. It also indicates that few will find and hold community jobs, and that of those who will hold jobs most will probably be borderline cases between educable and trainable.

The Illinois Study

In 1953 the Illinois General Assembly requested the Superintendent of Public Instruction to investigate, by organizing classes and evaluating results, the feasibility of public school classes for trainable children over a two-year period. The last report summarizes the two-year study.[3] The basic problems to be answered in this study were (1) incidence, (2) costs, (3) attitudes of school administrators, (4) the development of the children under training, and (5) the attitudes of parents. Since incidence and costs have been reported earlier only the results of the other evaluations will be reported here.

One of the difficulties involved in evaluation of the classes was the lack of accurate and objective measures of intelligence and other factors for this type of child. Behavior scales or measures of

[3] Herbert Goldstein, *Report Number Two on Study Projects for Trainable Mentally Handicapped Children*, issued by Vernon L. Nickell, Superintendent of Public Instruction, Springfield, Ill., January 1956.

parent attitudes were lacking. Improvised scales and measures were used in the evaluation. During the course of the first year of the study, data were obtained on 22 classes with 24 teachers and 173 children. During the second year, because of drop-outs and changes of residence, data on 125 children for a two-year period were obtained. Some of the results of the study may be summarized as follows:

1. School administrators were sympathetic to community provisions for, rather than institutionalization of, the trainable child. They were not in agreement, however, regarding what department—education or welfare—should administer the classes.
2. On psychometric tests the children showed no acceleration in mental growth during the two-year period over and above their usual rate of development. Children of this level of intelligence generally show a slight decrease in IQ as they grow older.
3. Parents and teachers rated the level of development of the child on an extensive check list of behavior traits before and after training. The children made some progress during the first year of the program, but did not show gains during the second year.
4. Approximately 7 percent of the children admitted to the classes were transferred to classes for the educable mentally handicapped after one year. These were children who had IQs that averaged 52 upon admission, and whose IQ was higher at the end of the study. They tended to show more gains than the rest of the group.
5. Twenty-two children were excluded from the program after a trial period of from six weeks to two years. These children tended to have IQs below 35, mental ages below two years, and social quotients below 35. Practically all of the children with Kuhlmann Binet IQs below 25 were later excluded as not profiting from the program.
6. Mongoloid children constituted one third of the children enrolled in the classes. Their progress or lack of progress was the same as that of the non-Mongoloid children.
7. The parents tended to become more realistic about their children's abilities and limitations. While they felt that the children improved in self-care skills, they did not continue the expectation that the children would become self-supporting.

The Michigan Study

A three-year project was conducted in Michigan with the support of the Kellogg Foundation.[4] The project was administered by a board of trustees consisting of the four state departments of education, health, social welfare, and mental health, and representatives of the local projects. A coordinator and a technical consultant designed, administered, and reported on the project.

The purpose of this project was to study three aspects of the problem through the operation and evaluation of (1) a school for a heterogeneous age group in a relatively rural community, (2) a school for young severely retarded children between the ages of four and eight in an urban area, and (3) a program for adolescents and adults (ages 16 and above) for training in economic usefulness in the home or in a sheltered environment under supervision.

The rural school was located in a farmhouse several miles from a city of 6000 population. It served a county of 27,000 population. Of the 27 children referred to the school, six were considered educable, and two were considered untrainable. Fifteen children were enrolled; the others were admitted but did not attend for various reasons. Two teachers were employed for this group of children which ranged in age from five to seventeen and in IQ from 24 to 52. A study of the cases showed that:

1. Out of the 15 children admitted nine remained in the school for over two years.
2. Six of the 15 children were Mongoloid.
3. Ten out of the 15 children were residing on farms.
4. According to the teachers' reports and behavior rating scales, all of the children made from slight to considerable progress in the school.
5. Only one child, who had an IQ of 52, was given a prognosis of ability to work in the community on part-time routine jobs under supervision. The others were believed to be children who might help at home but who would require supervision throughout their lives.
6. The school was considered successful because it did not pre-

[4] Richard J. Guenther, *Final Report of the Michigan Demonstration Research Project for the Severely Retarded* (Lansing, Mich.: Department of Public Instruction, 1956).

sent any major problems in administration and operation except the cost, which amounted to over $1000 per child.

The school for young children was much more difficult to manage. Thirty-two children were referred to the center. Of these, eleven were considered untrainable. Sixteen children were enrolled but four of them were later excluded because they were unmanageable in a group situation. Over a three-year period only nine remained for more than one year. The turnover in this school and the number of children referred who were classified as custodial made the operation and management difficult. It raised the question of the feasibility of operating schools for young severely retarded children in small communities.

The attempt to increase the economic usefulness of severely retarded individuals over 16 years of age at home proved to be an interesting venture. The community was interested in the problem and the newspapers had reported figures of 750 at one time and 104 at another time of such individuals in the community.

A teacher was employed to survey the community, to find severely retarded adults at home, and to see what could be done in making them more economically useful at home, or in the community. The results of this study which lasted for over two years may be commented upon as follows:

1. Of 24 referrals, 10 were found eligible for training. Eleven were rejected because they were found to be of higher grade. Many of them already were working at routine jobs. Three were rejected because of reasons of health or emotional instability. No custodial cases were found at this age level probably because they were already institutionalized.
2. Seven of the 10 cases selected were females. This raises the question of whether the males are more frequently institutionalized and the possibility that the female is easier to care for at home. It is likely that economic usefulness for severely retarded adults is a problem of the severely retarded female. The male may be more disruptive of family life and is also expected to work outside the home. These factors may lead to greater chance of institutionalizing the male.
3. The program of help to the home and the individual from outside sources did not change the situations perceptibly. Only two of the individuals obtained small remunerations from their efforts. One helped in a school for trainable children by arranging the materials and sweeping and dusting the floor and assist-

ing the teacher in the care of the room. The other assisted the mother in home duties and also made and sold stoles with her mother's assistance. She also obtained a dishwashing job and retained it because of a sympathetic employer.

Los Angeles County Study

David Fils [5] attempted to study the progress made by a group of 20 children in classes for the severely retarded over a period of one semester. He reported that the general improvement in the social, emotional, and physical functioning of the group of 20 severely retarded children attending a special public school training class suggests the feasibility of continuing the program.

In addition to the studies already reported there are several that are now in the process of being completed, but so far no results have been issued. The Tennessee Department of Education, in cooperation with Peabody College for Teachers, is attempting a controlled study of the effects of training in special classes. Children attending these classes are being compared with similar children in communities which do not have special classes for the severely retarded. The Commissioner of Mental Hygiene in New York State, in cooperation with Syracuse University, has been conducting a study of the effects of such classes on the development of the severely retarded child. This study will be reported shortly.

Comments on Evaluations

There are many evaluations of programs for classes for the severely retarded that are being made by teachers, supervisors, and parents. Most of those people dealing directly with the children feel that the children are progressing significantly as a result of the program. It is natural that those dealing with the children should feel that their efforts are not in vain. At the same time, their judgments are not to be discarded as invalid.

In an all-day conference with 20 teachers of trainable children

[5] David Fils, *A Pilot Study of a Public School Educational and Training Programs for Children Who Are Severely Mentally Retarded,* mimeographed and issued by C. C. Trillingham, County Superintendent of Schools, Los Angeles, California (January 1955), 35 pp.

on evaluation of a year's program, all teachers interrogated about the results felt that the class was very worthwhile. They described individual children in the class by comparing their behavior in the initial stages of the program with their behavior at the end of the year. They attempted to describe the changes that occurred in these children, and ascribed the change to the classroom program. At the same time the behavior ratings of the same teachers, which were filled out in the fall and again in the spring, did not show the progress that was given by the teachers as over-all impressions.

The discrepancy between objective ratings by teachers for each individual and the group and their over-all judgments about the progress of the children gives some clues to the reasons for differences in results.

In every class some children show progress and some do not. When a teacher describes the progress which the children have made she tends to select the successes in the class and forget about the failures. An objective rating of both the successes and failures results in an over-all figure of little or no progress for the group as a whole.

But there is some validity to counting only the successes. If 50 percent of those admitted to a class later remain at home, instead of being institutionalized (as indicated in the Minnesota study), the efforts may be worthwhile. If 7 percent to 10 percent of the children, who had been refused admission to classes for the educable mentally retarded, are later transferred to such classes as a result of attendance in the class for the severely retarded (as indicated in the Illinois study) that also may be a significant gain.

If a drug were developed which would cure or improve the condition of cancer patients in 25 percent of the cases, we would not consider the drug as either the final answer to cancer or completely valueless. We would raise the question of whether the 25 percent would have improved without the drug or would have had spontaneous recovery. We would then proceed to use a control group to ferret out these variables.

The same question could also be raised with the mentally retarded. Would the 50 percent that remained at home have done so anyway without the benefit of school? Or would those later transferred to the classes for the educable mentally handicapped have been placed there anyway if they had been examined at the same time?

Research leading to an evaluation of final results with the se-

verely retarded is a difficult task. What is needed to answer many of the questions is longitudinal research over a period of ten or fifteen years with adequate control groups. Until we have such a study, general conclusions about the effects of educational programs on the development of the severely retarded child are speculations based on pieces of evidence from short-term studies.

8

POSTSCHOOL PROGRAMS FOR THE MENTALLY RETARDED

ONCE THE HOLDING POWER of special classes for the educable mentally retarded and for the trainable mentally retarded had been demonstrated—many retardates remain in school to the ages of 18 and 21—it became apparent that a postschool program was the natural next step.

It is significant to note that of all those eligible to receive social security benefits at the age of 18 because they are totally and permanently disabled, 67 percent are mentally retarded. Considering the fact that a conservative estimate of the incidence of retardation is 3 percent of the total population, there are probably five million mentally retarded individuals in the United States. A goodly portion of this number need postschool services if they are not to become an awesome burden on the community.

There are five alternatives for mentally retarded individuals when they reach early adulthood: (1) competitive employment in semiskilled and unskilled occupations; (2) vocational rehabilitation for those who are eligible and where feasible; (3) sheltered workshops; (4) remaining at home, and (5) institutionalization. A realistic approach toward life adjustment would encompass the first three alternatives, but, even so, many factors are at work to make adult adjustment for the retarded individual difficult. Only about 60 percent of the educable mentally retarded can achieve vocational adjustment. Even with the extension and improvement of secondary school programs for the educable, about 25 to 40 percent of the educable group can neither be placed in jobs nor hold them if they are placed.

Trainable retarded adults pose an even more serious problem for society. At present, most of the trainable retarded receive little or no vocational training, and, except for isolated instances, job opportunities are nonexistent. In an interesting study, Saenger followed up almost 3000 trainable retarded individuals who had attended public school classes in New York City during the period 1929–1955.[1] Of this group, 66 percent lived in the community and 26 percent were institutionalized (the remaining 8 percent had died). Almost 80 percent of the group living in the community had never found employment and spent their time around the home. The group that did manage to work was employed primarily by relatives. While, as a group, they did not create serious trouble for the community, their contribution to society was negligible.

For about 40 percent of the educable group and the entire trainable group, then, the answer appears to lie in extended educational-rehabilitation services and sheltered workshop facilities.

State vocational-rehabilitation programs, encouraged by federal legislation in 1954 which included provisions for services for the mentally retarded, are beginning to provide training for retardates. At present, however, only a pitifully small percentage (3 percent) of all individuals accepted for state vocational-rehabilitation services are mentally retarded. In 1959, of the 80,739 persons rehabilitated, only 1750 were mentally retarded. Many factors have impeded vocational rehabilitation for the retarded: (1) insufficient state budgets for these services; (2) lack of trained personnel to work with the retarded, and (3) a woeful shortage of facilities for postschool training purposes. Indeed, truly operative vocational rehabilitation for the mentally retarded is a long way off.

Federal support for vocational-rehabilitation services, is administered by the U. S. Office of Vocational Rehabilitation. In the first article, Salvatore G. DiMichael, New York City regional representative of the Office, presents a frank appraisal of the issues and programs relating to vocational rehabilitation for the mentally retarded. He discusses the purposes of state rehabilitation agencies, school work-study programs, sheltered workshops, and rehabilitation counseling. His classification of the retarded according to their over-all vocational prospects is a useful guide. Included in this article is a tabular summary of his classification system.

[1] Gerhart Saenger, *The Adjustment of Severely Retarded Adults in the Community* (Albany: New York State Interdepartmental Health and Hospital Council, 1957).

In the second reading, Bernard S. Niehm, chief of educational services of the Vineland Training School, discusses sheltered workshops. He describes the physical features of good workshops, admission standards, the vocational and avocational needs of trainees, counseling techniques, administrative aspects, and the relationship between the community and the workshop.

Two more resources round out the section: a brief classification of the mentally retarded according to their employment potential, and a flow chart illustrating the handling of cases referred to the Aid Retarded Children Workshop in San Francisco.

36 *Vocational Rehabilitation and the Mentally Retarded: A Statement of Issues*

SALVATORE G. DIMICHAEL

ALTHOUGH THE MENTALLY RETARDED have been with us as long as civilization itself, the development of a community program for them is one of recent times. The program of special education had its beginning just before the turn of the century, about 60 years ago. With the enactment of Public Law 113, in 1943, the mentally retarded became eligible for vocational rehabilitation services on the same basis as other disabled persons. The inception of the National Association for Retarded Children in 1950 signaled a movement of parents and citizens who were resolved to form a private national group to further the welfare of the retarded, their families, and friends. Within this relatively brief period of time, real progress has been made. Nevertheless, a meeting such as ours signifies a healthy attitude of constructive dissatisfaction with the current level and quality of efforts to meet the complex needs of the retarded.

From *Preparation of Mentally Retarded Youth for Gainful Employment*, Department of Health, Education and Welfare, Bulletin 1959, No. 28 (Washington, D. C.: Government Printing Office, 1959), pp. 10–19. Reprinted with the permission of the Department and the author. Dr. DiMichael is the New York City regional representative of the U. S. Office of Vocational Rehabilitation.

Current Status of Rehabilitation Efforts for the Retarded

Before launching into the issues now before us and in order to clear pathways for substantial further progress, it may be well to present a thumbnail sketch of the current status of vocational rehabilitation in dealing with the mentally retarded. The brief summary will make a good backdrop by which to understand better the major issues confronting us.

Since 1943 there has been a constant, gradual growth of services for the retarded. For example, in the years 1945–1950 inclusive, a total of 2091 mentally retarded individuals were rehabilitated into gainful employment. In the years 1951–1956 inclusive, a total of 3628 such persons were rehabilitated. In 1957, state vocational rehabilitation agencies prepared and placed into gainful employment 1094 retarded persons. It is anticipated that 1250 will be rehabilitated during 1958, probably at a cost of about $1 million of state and federal funds.

The Vocational Rehabilitation Amendments of 1954 added important weapons to the resources of the total program, not only in additional money for services, but for extension and improvement projects, expansion projects, long- and short-term training programs, and for the powerful potentials of demonstration and research. For example, during 1958, there will be four extension and improvement projects providing specialized services solely to the mentally retarded at a total cost of about $100,000; and special training programs for vocational rehabilitation workers, dealing with methods and techniques for the retarded, will amount to $9000 in federal money (and do not take into account the training efforts of the state agencies.) During the 1957 fiscal year, the special "expansion" projects, now terminated by law, made it possible to establish or expand 33 sheltered workshops and service projects for the retarded and an additional 11 projects for the mentally retarded and cerebral palsied at a total cost of about $250,000. In the area of research, two major sheltered workshop projects are in operation at a cost of $113,500, and ten selected demonstration projects are being conducted at a cost of $280,000. In over-all financial terms, the U. S. Office of Vocational Rehabilitation, in 1958, is spending $1,079,500 exclusively for the mentally retarded, while state agencies are spending an additional $450,000. These figures

refer to exclusive efforts for the retarded. The rehabilitation of the physically handicapped and emotionally disturbed undoubtedly includes some persons with a secondary disability of mental retardation, but to mention all activities helpful to the mentally retarded would take us far afield.

Issues Involving Education and Vocational Rehabilitation

The vocational rehabilitation program is made up of many services, each of which could be explored for issues dealing with the retarded. These services include:

1. Individual evaluation with medical, psychological, and social-vocational assessments.
2. Medical care and hospitalization.
3. Artificial appliances with training to use them.
4. Personal adjustment, prevocational and vocational training.
5. Provision of maintenance during rehabilitation, including transportation costs.
6. Occupational tools and equipment.
7. Selective placement and follow-up in employment.
8. Counseling throughout the process.

The counseling services, including counseling of the family as it relates to the individual's rehabilitation plan, are the underlying foundation for the total program. We may note that counseling adds many complex dimensions to rehabilitation work by virtue of its role in the over-all team effort. As a result, the counselor has sustained contacts with school counselors, teachers, physicians, psychologists, social workers, and employers, as well as with many community agencies such as welfare, public assistance, social security, hospitals, clinics, and private community groups. You may easily understand, then, why I choose to present a statement of issues limited to those which overlap the fields of education and vocational rehabilitation. The chosen scope of issues is appropriate to the composition and plans for this conference.

The fields of education and vocational rehabilitation are fruitful major avenues for the stimulation of progress in work with the retarded for two major reasons. First, mental retardation is a disability which usually appears in childhood, highlighting the importance of education as a program of individual development. Second, the crucial years of early adulthood will set the patterns of adult

living, highlighting the importance for vocational rehabilitation to help the retarded make the transition from school to work and adult living. Although the program is called Vocational *Re*habilitation, it believes completely in the significance of Habilitation. The difference in words should present no difference in meaning either to education or vocational rehabilitation.

Although we fully recognize the vast individual difference between the mentally retarded, making it a most heterogenous group, I would like to propose a classification to serve as a practical guide to the personnel of vocational rehabilitation and education agencies as they work together. The classification guide is based on over-all vocational prospects of retarded adolescents:

1. *Directly placeable group* (from school to job). This is composed of young adults for whom special education proves sufficiently effective as preparation for employment, and who may become employed in competitive jobs directly from school. These persons may be assisted in finding suitable employment by counselors, employment services, family, or friends, and the vocational rehabilitation counselor only in special cases.
2. *Deferred placeable group* (post-school preparation to job). These are young adults in need of additional services beyond those offered by the school. They need further preparation and assistance, such as prevocational and vocational experiences, physical or psychiatric evaluation, treatment, on-the-job training, counseling, or personal-adjustment training, before they may be placed in competitive employment.
3. *Sheltered employable group.* These are young adults who are capable of partial self-support in the carefully supervised environment of a sheltered workshop, after preparation services beyond school.
4. *Self-care* (nonself-supporting group). These include persons who may partially care for themselves in the home and may be able to participate in a "social therapy center" but who are not capable of engaging in productive employment even in a sheltered workshop.

As for the *directly placeable group,* there is one major issue: should vocational rehabilitation be directly involved in individual cases, and if so, to what extent. I believe that this group is fairly large and that the efforts of school and employment services coupled with efforts of an understanding family and friends are usually sufficient to assure reasonable vocational adjustment. If so, there should be common agreement among us that, in principle, such young adults, with few exceptions, should not be referred to rehabilitation agencies. In the practical situation, one may show that school counselors are not available, that employment services are

ineffective, that evaluation of the person is not satisfactory because of shortcomings in school services. Do these shortcomings force a responsibility upon Vocational Rehabilitation, or should there be a frontal push upon society to see that the agencies with primary obligations are provided with appropriations and personnel to do their job? I deliberately choose to pose this as the only major issue for the directly placeable group because it is of basic, crucial importance to clarification of interagency functions.

Let us turn, then, to the *deferred placeable group.* We already have sufficient experience to know that some retarded young adults are in need of postschool services in order to "graduate" into competitive employment. A list of numerous studies give us considerable insight into the characteristics and values of vocational rehabilitation services for the deferred placeables. One important issue before us is whether the vocational evaluation of the adolescent or young adult is the responsibility of vocational rehabilitation, or education, or both. Since the school has, or should have, an individual guidance inventory on each student, the full and complete record should be made available to the rehabilitation counselor. The latter, in fact, might be regarded by the schools as a professional associate so that he has ready access to guidance information. The vocational rehabilitation agency may be responsible for arranging for a medical examination, a psychological assessment, and for making a social-vocational evaluation of the retarded person. Perhaps we may advocate a flexible arrangement from one school district to another whereby the medical and psychological evaluations are obtained by one or the other agency, according to available resources of the school, rehabilitation agency, and community.

Another important issue is the availability of sufficient counselors in each agency. We could assert our convictions that the schools should have full responsibility for the student while he is in school, and that it is the student's right to have a competent and skilled school counselor available to help him gradually formulate a plan for school, out-of-school, and future adult living. Similarly, there should be an ample number of rehabilitation counselors who may serve the retarded in preparing for and assuming their places as productive wage earners and citizens. If there are not enough school and rehabilitation counselors, the community and the responsible administrative group should be informed so that they in turn can obtain the needed support of the boards of education, boards of vocational rehabilitation, and legislatures. Each agency—

school or rehabilitation—should bolster the community efforts of the other in this important sphere of action. Then the lack of personnel may be tackled openly and constructively without either agency being defensive or deprecating the other, a situation which would only serve to undercut the over-all effort to help the retarded. At the present time, neither education nor vocational rehabilitation is adequately staffed with counselors, and it seems foolhardy to ask either one to make up for the shortcomings of the other.

Is it possible and desirable for us at this conference to delineate the joint responsibilities of school and rehabilitation counselors, who must dovetail their efforts? If we accept the proposition that the school counselor has primary responsibility for the student while he is in school, experience has shown the wisdom of having the rehabilitation counselor actively involved at least one or two years before the student leaves school. The rehabilitation counselor should be in the position of a consultant to the school and, at times, an ancillary counselor to the student in the formulation of decisions for both in-school and postschool vocational plans. Thus the student's closing years of school are arranged to make for a smooth transition to the rehabilitation agency and its services, leading to employment and a fuller life. When the individual leaves school, the rehabilitation counselor assumes a primary responsibility, with the school counselor assuming a consultative role. The school must willingly invite and encourage the participation of rehabilitation counselors as professional associates; the rehabilitation agencies cannot force this viewpoint upon them.

Another important group of issues revolves around the delineation of responsibilities of the schools and the rehabilitation agencies in the establishment of vocational training facilities. Some suggestions have arisen because the Vocational Rehabilitation Act of 1954 makes it possible for state rehabilitation agencies and the U. S. Office of Vocational Rehabilitation to make grants-in-aid for vocational training facilities, through *extension and improvement* and *demonstration.* State rehabilitation agencies report that they have received requests from school districts for financial aid in purchasing, for the classroom, vocational training equipment, such as power sewing machines, drill presses, kitchens, agricultural equipment, duplicators, and work benches. The requests also include applications for funds to renovate classrooms housing such equipment. These requests raise the problem of responsibility to assume

the sponsorship and the costs by education, rehabilitation, or other public or private groups.

It seems clear to me that the schools should assume responsibility for education in general and sponsorship and costs for academic and vocational training within the age ranges ordinarily regarded as the "school years." This principle is clearly accepted for "normal" students, and the physically handicapped, but not as yet for the mentally retarded. In the zeal to help the mentally retarded, is it fair to ask the rehabilitation agencies to assume costs not expected of it for physically handicapped students? Should not the schools provide general education and vocational training for the retarded at least up to 17 or 18 years of age, or the equivalent in years of a full high school program for students of normal intelligence? These issues are closely related to the establishment and administration of sheltered workshops, to be mentioned more explicitly later.

Another nest of issues of pressing importance is involved in the current work-study programs which seem to be gaining proponents among educators. The central idea in such programs is to have students devote half time to schoolwork and half time on a paying job. Several variations of this general idea are being practiced around the country. The programs assume that retarded adolescents have little or no more to gain from school, that experience on a job is a better form of training for adult living than *any* curriculum the school has to offer, or could possibly devise. I personally feel that a strange, unexplained contradiction exists in some communities where certain educators are pressuring normal students to stay in school, while, at the same time, these same educators are convinced that school is not the best place for the retarded adolescents. The problem is compounded by the fact that the retarded admittedly possess less personal, social, and intellectual maturity than the normal. Despite this fact, the young retarded are encouraged to take jobs where there is far less supervision than the schools can offer. One of our vocational rehabilitation agencies reported recently that there is a "scarcity of employers willing to take the immature retarded," and yet the same agency is participating in a work-study plan with a spirit of real hope. You may agree with me that developments in work-study programs bear close objective scrutiny. We probably will become better aware of its values for some students and its disadvantages for others.

Our limitations of time make it advisable to turn our attention to major issues related to the third group, adolescents and young adults with potential for partial self-support in productive employment in a sheltered workshop. As educators may view this group in school, it will be made up of (1) educable students with no prospects for competitive employment because of emotional maladjustment, lack of "common-sense intelligence," severe social-familial problems, or accompanying physical disabilities; and (2) more promising "trainable" students with ability for routine independent travel, good social adjustment, and more favorable family conditions.

The establishment of sheltered workshops for the retarded has had a major impact on rehabilitation, due to the availability of financial assistance under the Vocational Rehabilitation Act and the appearance of parent-sponsored community groups for the retarded. However, the impact derives its force from the promising values of such workshops and not from the large numbers established. The MacDonald Workshop in Florida made a study of the potential retarded population which could profit from the short-term personal adjustment and vocational training, and/or the long-term services, of a workshop. The study estimates that about 10 percent of retarded young adults could benefit from such a facility, or a projected guess of about 100,000 persons over the country. Yet, it is likely that less than 2000 retarded persons now have such an opportunity. The establishment of a training center and workshop is an expensive undertaking and its continuing operating expense is such as to demand considerable philanthropic funds from the community. As compared to the cost of institutionalization, however, the workshop seems to require less community money to serve the retarded, although we must hasten to add that the humanitarian aspects must demand a heavy stake in the over-all evaluation of values. As yet, the best administrative and training arrangements for a sheltered workshop are in the early experimental stages of being formulated. Nevertheless, their promise is great and it behooves us to think about drawing up realistic plans to increase their number in substantial measure.

The appearance of the training center and sheltered workshop is one which affects education as well as rehabilitation. It is obvious to me that no clear set of principles and practices can as yet be discerned with respect to the school's handling of "sheltered employable" students. However, the rapid appearance of sheltered workshops has forced new issues into the open and they must be enjoined.

For example, should sheltered employable students be taken out of school at age 14, 15, or 16 and sent to the workshops for training? Should the schools advocate a combined school and sheltered work program for sheltered employables? What are the responsibilities for administrative and financial sponsorship of vocational training of sheltered employable students from 14 to 18 years of age? Should the schools be obliged to furnish such vocational training facilities, or is it a responsibility for vocational rehabilitation, or both?

Several school districts and private organizations have applied to the U. S. Office of Vocational Rehabilitation and to state rehabilitation agencies for financial aid in establishing training centers and sheltered workshops for retarded persons of 14–18 years of age. Is it an appropriate function for vocational rehabilitation to assume? Should such workshops serve adults over 18? Is it appropriate for state rehabilitation agencies to pay training costs for retarded adolescents from 14 to 17 years of age?

I have purposely left a most important area of work almost to the close of my paper, since it cuts across all groups of the retarded and has such a deep effect upon the quality and completeness of education and rehabilitation. I refer to the family of the retarded and its consideration in our total efforts. If the adjustment of normal children so vitally depends upon the understanding guidance of the parents, the fate of retarded children and adults does so to an even greater extent. Rehabilitation counselors have found it necessary to devote far more time in counseling with family members of the retarded than with many of the physically handicapped. Retarded clients with promising possibilities become hopeless or unfeasible of rehabilitation when the family acts as a drag rather than a strength in making vocational plans. The attitudes of families have become fairly well fixed by the time the retarded reaches young adulthood. The rehabilitation counselor cannot be expected to refashion drastically the attitudes of family members.

It would seem to us that the education of the parents is as important as the education of retarded students. Preventive counseling must be applied early in the childhood of the retarded, and sustained, and the school counselor must prepare the family for the transition to the rehabilitation counselor. Since the family plays so crucial a role in the adjustment of the retarded, this conference should express the issues and attempt to enunciate principles or guides for effective action. Our experience with retarded clients of sheltered workshops has dramatized in another setting the fact that

Rough Classification of the Intellectually Handicapped on the Basis of Intellectual Capacities (After DiMichael)

Classification Term			
Mentally defective or idiot	*Borderline defective or imbeciles*	*Mentally retarded or morons*	*Functionally mentally retarded or borderline subnormal*
Degree of Self-sufficiency			
Incapable of taking care of selves, should be institutionalized	May be able to care for selves; very few at upper range capable of very simple work in sheltered workshop or outside work	Able to take care of selves; many can do unskilled work, rarely semiskilled	Able to care for selves; most can do unskilled work, some semiskilled, very few skilled
IQ and MA Guides			
IQs to 25 MAs to 4 years †	IQs to 50 MAs to 7½ years	IQs, 50–75 * MAs, 7½–11½ years	IQs, 75–85 MAs, 11½–13 years
Rehabilitation Conditions **			
Eligible but not feasible	Eligible but rarely feasible	Low moron: Eligible and sometimes feasible High moron: Eligible and often feasible	Feasible but rarely eligible

* The 50–75 range is used because it follows the practice prevailing in most public school systems.

† The MA (mental age) is based on the use of a chronological age of 15 years in the IQ formula for adults, according to the method of Terman and Merrill. The MA shown is a rounded-off figure.

** This is based on an idea contributed by R. A. Peckham, psychologist, Michigan Office of Vocational Rehabilitation.

SOURCE: William Sloan and Jack W. Birch, "A Rationale for Degrees of Retardation," *American Journal of Mental Deficiency*, 60 (October 1955), 263.

rehabilitation of the retarded person involves and depends upon rehabilitation of the family.

The fourth grouping of the retarded, the *self-care group*, is of no less importance from the individual and social viewpoint than the others. However, vocational rehabilitation is not directly involved in a program for them, although it is anxious to urge that rehabilitation principles be applied to their care. It is obvious that our four groupings are not mutually exclusive. Individuals may develop beyond expected potentials and shift upward, or they may retrogress and shift downward. The present armamentarium of knowledge and skills in working with the retarded is admittedly limited, and further experience and research in prevention, amelioration, education, and rehabilitation may be expected to prove advantageous.

I should like to close my brief statement of major issues with a thought which ought to enter our deliberations. Our efforts in education and rehabilitation of the mentally retarded involve all of society. We must inform society about the mentally retarded and instill a feeling of brotherly concern for their dignity as individuals. Similarly, public acceptance is the very basis of financial and moral support for our efforts. We in rehabilitation must especially try to win the enlightened support of employers and employees. The schools must try to win the understanding of the nonhandicapped students who will become the employers and employees of future years. Our deliberations should attempt to set up guidelines for practical action in these important areas, and must encourage the evaluation of experience coupled with research, which will produce a firm foundation for the future.

37 *Study of Sheltered Workshops for the Mentally Retarded*

BERNARD F. NIEHM

DEVELOPMENT OF sheltered workshops for the mentally retarded is relatively new, although the idea of sheltered workshops is not new. Sheltered workshops for the handicapped have been in existence and have proven successful over a long period of years. As early as 1840 sheltered employment for the physically handicapped existed in the United States, but their real rise in prominence did not come until the early part of the present century. Today there are many sheltered workshops, primarily for the physically handicapped. While aid to the physically handicapped was given wide attention, little was being done to help the mentally retarded. Even with state recognition and aid to schools for the establishment of special classes for the mildly retarded (educable IQ 50–75 on Stanford-Binet), little thought was given to what these children would or could do when they became adults.

As recently as the last ten years the group of children now considered trainable and classified as moderately retarded (IQ 30–50 on the Stanford-Binet) were excluded from public school on the basis of not being educable or trainable and therefore not able to benefit by a school program. The only course of action the parents of these children had in many states was (1) to keep the child at home without benefit of school or group training; (2) to place the child in private training schools, if the funds were available and the child were accepted by the school; or (3) to attempt to place the child in already understaffed and overcrowded state institutions. Even many of the retarded children who were labeled "educable" were destined to sit in classrooms without special help

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until they became old enough to drop out of school or presented a problem and were dismissed.

Recent years have demonstrated a tremendous change in society's attitude and approach to the problems of mental retardation. Local parent groups have sprung up all over the country. National and state parent associations have added impetus to the movement to help the mentally retarded. Public and private agencies and institutions have proven to society through research programs that many of these children can live happy, useful, and productive adult lives within their community (under sheltered conditions) or within residential and institutional homes if they are given the necessary training and opportunities to live and work with others. Only a few will be able to live and work with others. Only a few will be able to take their place in competitive industry, but many can learn to do simple manual skills. Thus, with a meaningful school and vocational program during the school years and a planned adult work program, these children might find it possible to live satisfying adult lives.

Purpose of Study

Assuming that a school and prevocational training program is or can be provided for most retarded children, the next step must be to provide a program to meet the needs of these children when they reach adulthood. A sheltered workshop may be at least a partial answer to providing a program for the mentally retarded adult. The sheltered workshop would be a place where these adults would have an opportunity to work and feel they are useful members of society. For many the workshop would be terminal employment. For others it would be additional vocational training to gain the necessary work experience and skills which might equip them for employment in the community.

Thus within recent years the tremendous growth of interest in helping the mentally retarded adult has resulted in attempts to establish workshop centers. However, sufficient time has not elapsed to allow a complete evaluation as to how effectively the sheltered workshop has been or how well it will meet the needs of these children. Many community groups have organized or are in the process of organizing sheltered workshops, but to date there is

relatively little literature on the success or problems involved in planning and organizing a workshop.

It is the purpose of this study to (1) gather as much data as possible about existing workshops; (2) evaluate this information with the purpose of finding how successful they have been and discover basic factors and problems involved in the organization of this type of program; (3) set up a list of criteria and steps deemed necessary to the successful organization of a sheltered workshop; and (4) use this information as a guide in initiating a sheltered workshop.

Procedures Employed in Securing Data

What are some of the problems involved in the organization and operation of a sheltered workshop for the mentally retarded? Are they successful? What type and size of building is needed? What type of equipment is necessary? What are the qualifications necessary for admission? Are the workers paid and how much? What are some of the types of work successfully carried on? Where does financial support come from?

These are a few of the questions that must be answered before a workshop can be successfully established. Because of the lack of literature, the procedure used in this study has been to gather information (from groups who are actually operating sheltered workshops at the present time) which will answer some of the above questions and indicate problems involved. The method of research used can best be described as the normative-survey method.

Two types of agencies conducting sheltered workshops were contacted: (1) those having a workshop primarily for the mentally retarded, and (2) those having a workshop primarily for the physically handicapped but also serving the mentally retarded. Other sources of information were individuals and organizations that are or have been concerned with the mentally retarded and the problem of providing sheltered employment for the handicapped.

Since it was physically and financially impossible for the writer to visit each place and observe first hand, two techniques for securing data were used: (1) questionnaires were mailed to all sheltered workshops for the mentally retarded that were known to the writer and a number of other sheltered workshops which might include

the mentally retarded in their program, and (2) interviews of staff members in a limited number of situations.

Limitations of the Study

As had been previously mentioned, there is a very limited amount of factual information available concerning sheltered workshops for the retarded. The sheltered workshops established primarily for the retarded are few in number. Another very important limitation of the study has been the time factor. Many of the workshops primarily for the mentally retarded have only been in operation a short time, some of them less than a year. Therefore, it is difficult to evaluate whether some of the practices now in use are of real value. The study will cite some of the needs and problems that did arise and must be solved.

Type of Questions Used

The basic problem here was to determine what questions should be asked to obtain the necessary data on the planning, organization, and problems involved in the establishment and operation of a sheltered workshop. Twenty-nine items were finally chosen as the minimum number that could be used to cover the major areas important to the study. The major areas were: (1) information about the physical features (size, equipment, type of building); (2) occupational information such as kinds of work, number of workers, hours, wages; (3) guidance and counseling of workers, admission requirements, (4) administration; (5) community aspects; (6) transportation; and (7) recreational facilities, if any.

Summary of the Findings

A study of the information compiled indicates there were three types of workshops involved in this study. They are identified as to type by letters *A, B,* and *C.*

Type A workshops were primarily for the mentally retarded and consisted almost entirely of the mentally retarded.

Type B workshops were not established primarily for the mentally

retarded but have provided special arrangements and facilities within the workshop to meet the needs of the retarded.

Type C workshops were established primarily for the physically handicapped. They accept the mentally retarded into their program but did not make any special provisions for them.

Type *A* workshops have been on the average in operation for the shortest period of time. Type *B* and *C* on the average have been established for a much longer period of time.

With the exception of a few, all served an area of over 200,000 population. While the majority owned the buildings housing their workshop, the others rented the buildings being used.

The amount of floor space used by the workshops varied from 480 square feet to 15,000 square feet. Type *A* workshops were on the average smaller. The type of buildings used to house the workshops did not follow any specific pattern of construction but were in most cases one- or two-story concrete or brick construction. Some used an entire building while some of the smaller workshops were confined to one or two rooms of a school, church or similar building.

The type of equipment needed in any specific workshop was dependent upon the ability of the workers to do different types of work. Hand and power tools for craft and carpentry work, painting equipment, and sewing machines were mentioned with the greatest frequency.

The number of workers and trainees in any one shop ranged from seven to thirty while the average number in any one shop was approximately seventeen. The majority of the Type *A* workshops had mostly trainees (they were not yet considered workers). This may have been due in part to the short time of actual operation. The payment of tuition by trainees varied with some not requiring tuition and others charging tuition ranging from $15.00 to $40.00 per month.

The workshops, almost without exception, had a five-day work week with the hours per day worked ranging from three to eight depending on the individual and the amount of work available. Some workshops were only able to pay $.10 per hour while others, which were well established, paid as high as $1.00 per hour (the high-paying shops generally had a high percentage of physically handicapped workers). Many of the workshops used piece-work rates as well as hourly rates.

Requirements for admission varied. The minimum age requirements ranged from fourteen to eighteen years. The majority of work-

shops had no minimum age requirements. Intelligence requirements also varied. One Type *A* workshop gave minimum mental age of three years, while five Type *B* and *C* workshops specified 60 to 70 IQ as the minimum requirement. In general, the main requirement seemed to be the individual's ability to profit and get along with others. Most of the children in Type *A* workshops were 60 IQ or below.

This study shows that approximately one half of the workshops having both the physically and the mentally handicapped favor keeping the mentally retarded grouped as a separate unit within the workshop, while the other half favor integrating the mentally retarded with other types of handicapped persons. Some of the returns from workshops solely for the mentally retarded state that the workshop should be limited to the mentally retarded; otherwise the mentally retarded will gradually be pushed out in favor of the more intelligent and able physically handicapped person because of their greater productivity and lesser need of supervision.

The lunch program varied, with some workshops having cafeteria service and others requiring that workers bring their lunch. Some type of recreational activity was supplied by all workshops either during the noon hour or after work. Picnics, parties, dancing, musical enjoyment, and games were most frequently mentioned. Many of the workshops depended on volunteer help in providing recreational activities.

Transportation seemed to be a problem in the larger cities and where long-distance travel was involved. Workers were transported by public transportation facilities, workshop bus or station-wagon service, and parents. No one method seems to be superior to the others. There was a difference of opinion as to whether supervision is necessary. Some found supervision to and from work was unnecessary if a short training period is first provided.

The work done in the workshops can be divided into three groups: (1) subcontract, (2) repair or salvage, and (3) production of new products. Subcontract and new production were carried out most successfully when they were of a simple repetitive nature. Subcontracting was done by more workshops than any other type of work. Some of the major problems related to the work were keeping enough subcontract work ahead, availability of materials, and inability to get a fair price for the time spent on handmade articles. Most of the workshops had their own sales outlet.

Provisions for counseling and placement are not yet adequate.

Some of the workshops have trained staff to do counseling, others depend upon local and state agencies for help. Clinics, hospitals, schools, health and welfare departments, and family physicians were some of the other sources of assistance.

The size of staff needed depended on the kind of work carried on and the number and type of workers and trainees in the workshop. The ratio of workers and trainees to staff members is approximately one staff member to every seven workers or trainees. Most of the workshops also had volunteer help. Qualifications listed as important for staff members to possess were: (1) professional training and education, (2) background in business and industrial work, and (3) love, patience, consideration, and understanding. Competing financially with industry and business establishments for professional help seemed to be a major problem. Finding persons who were interested in this type of youngster was a problem as was the shortage of social workers and occupational therapists.

It is impossible to know the yearly cost of a proposed workshop program or the extent of self-support before a workshop has actually been in operation. Factors such as number of workers, degree of handicap, kinds of work that can be carried on successfully, and availability of work will help determine how self-supporting the workshop will be. The study indicates that few of the workshops were self-supporting, and these usually were workshops that had physically as well as mentally handicapped workers. Workshops limited only to the retarded were usually only able to meet the cost of material and the workers' payroll. It may be that while Type *A* workshops are only self-supporting to a limited degree at the present, perhaps as they become better established in the communities they will become more self-supporting.

Principle sources of funds for the operation of workshops were tuition from trainees, sale of products, subcontract work, contributions, public drives (such as Community Chest and Easter seals), and civic organization projects. While Type *A* workshops obtained most of their financial support from tuition, contributions, public drives, and civic groups, the majority of Type *B* and *C* workshops obtained the bulk of their financial support from the sale of products and subcontract work.

The importance of community support has been evident throughout the study. All questionnaire returns were answered with "yes" to the question of whether they felt their workshop had community support. When asked for additional comments, many stressed

the importance of parent and community cooperation and understanding if the workshop were to be a success.

Conclusions and Recommendations

Present practices and opinions concerning sheltered workshops vary considerably. The data presented in this study indicates a need for research studies of experimental workshops for the mentally retarded. A review of the available literature and the data obtained from this study indicates that many of the mentally retarded can be gainfully employed if given the necessary help and training. (It is important that we do not jump to the conclusion that this is the answer for all children. There are perhaps as many who will not benefit to the point that they can be considered gainfully employed.) Many of the problems of the retarded are of an emotional or social nature. An important part of any workshop program will be to give them opportunities for social growth. A recreation program should be included in any workshop program. Many social skills can be learned through well-planned recreational activities.

The study indicates that a joint workshop plan where the workshop would have facilities for both the mentally retarded and physically handicapped would be most feasible from the financial standpoint. Under a joint plan both groups would get the benefit of the same staff of specialists. This type of program would seem especially suited to the smaller cities where there are not enough of either the physically or mentally handicapped individuals to organize separate programs. The major drawbacks to a joint program would be: (1) the difference in the kind of complexity of work each group would be capable of, which in turn would influence the kind and amount of tools needed; and (2) care to ensure that the mentally retarded are not forced out in favor of the more productive workers found in the physically handicapped group. This could happen if production and financial gain are allowed to become the major objectives.

All means of transportation posed some difficulties with no one means being the best. Supervision in traveling was considered unnecessary by many if the worker is first given a training period in going to and from work.

Provisions for counseling and guidance are not adequate and there is a need for more specialists.

Understanding and love of the retarded child was considered as important a qualification for staff members as educational and industrial background.

Workshops reached a higher level of self-support when the physically handicapped were included in the program.

The success of any workshop program seemed to be dependent upon the amount of community interest and support. Before any workshop program is organized, the community must be made aware of the existing problems and the need for this type of program within the community.[1]

Recommendations

The recommendations are based upon the data obtained in this study and will be subject to change as time and further studies of experimental workshops give us additional information upon which to base a workshop program.

1. The workshop program is not the answer for all mentally retarded persons. Many will be unable to meet the requirements of the workshop or unable to profit by the program.
2. The first step necessary in workshop planning is to present the idea to as many community groups as possible. Members of business, industry, medical, health-welfare, and other service organizations need to be brought into the planning phase. Success hinges on their interest and support.
3. A survey of the community to be served should be made to determine the exact number of persons who are in need of a sheltered program and what their capabilities are.
4. Studies should be made to determine the types of work available in the community which could be successfully carried on by the mentally retarded.
5. If a joint workshop for the physically and mentally handicapped is contemplated for financial or administrative reasons, care should be taken to treat each group as a separate unit with its own supervisor and any special facilities necessary.

[1] For a complete list of sheltered workshops for the mentally retarded, see National Association for Retarded Children, *Directory of Sheltered Workshops* (The Association, 1961), and National Institute on Workshop Standards (1028 Connecticut Ave., N. W., Washington 6, D. C.), *Standards for Sheltered Workshops* (The Institute, 1960).—Ed. note.

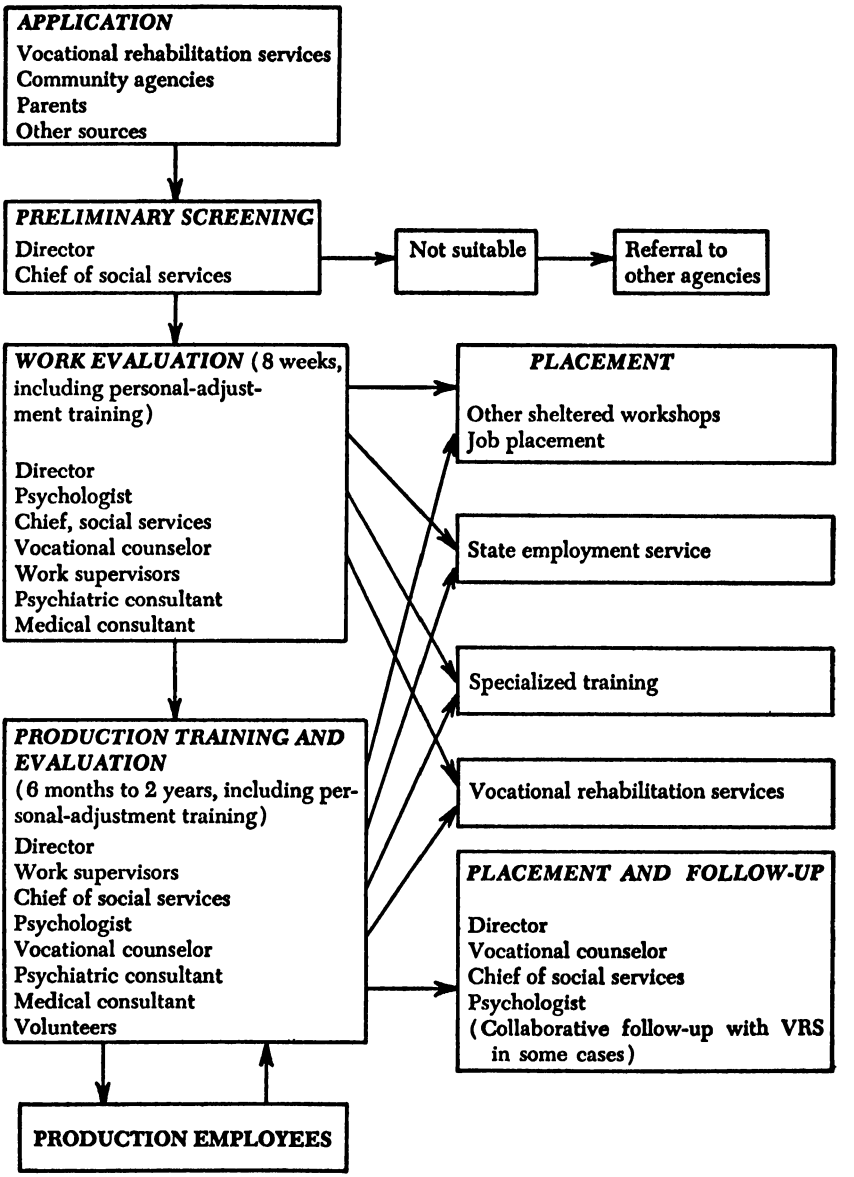
6. Work for the mentally retarded must be less complex than that for the physically handicapped.
7. Subcontract work and production of new materials will meet with the greatest success if it is of a simple, repetitive nature.
8. Hand tools for craft and carpentry work, painting equipment, and sewing machines have been mentioned as most frequently used in workshops, but final analysis of the type of tools and equipment needed will depend upon the ability of the workers to use them.
9. Candidates for the workshop should have prevocational training. However, this may not always be possible.
10. The trainees and workers should be on trial at all times and subject to removal if they become a danger to self or others.
11. A minimum age requirement should be eighteen, with preparatory training for the sixteen to eighteen year old group.
12. Time worked per day should not exceed seven hours. This time should include a supervised lunch period and recreational activities. These lunch or rest periods should be used to further social skills and behavior.
13. Intelligence requirements should not be based too extensively on an IQ rating but upon the ability of the person to profit from such a program.
14. Many of the workers may be able to travel without supervision, but a training period in traveling from home to work should be given.
15. Tuition would seem advisable for trainees.
16. The cost of the program will be high and must have community financial support. Seldom are workshops able to meet all their expenses (at least this seems to be the experience so far).
17. Staff-pupil ratio should be kept small. The average in present workshops seems to be about seven to one. Volunteer help is also needed.
18. Qualifications for the staff should include professional training, experience in business and industry, and, most important, an understanding of the retarded person.
19. The workshop should have as a secondary aim the opportunity for social growth.

Classification System for Employment Potential

← Employable Outside → (Easier to Place)	I. A. Employable with minimal workshop evaluation and training. Evaluation and placement are primary requirements for achievement of competitive status with workers at comparable levels. B. Capable of achieving employable status with workers at comparable levels *after* evaluation, training, and placement.
← Employable Outside → (Hard to Place)	II. A. Trainable for employment but in need of special placement and supervision because of physical, including neurological, anomalies. B. Trainable for employment but in need of special placement and supervision because of degree of mental retardation, immaturity, emotional instability, or similar psychological deficiencies.
← Employable in Work-training Center →	III. A. Capable of productive work in a special employment situation where the nature and degree of handicap is understood and accepted.
← Employable in Work-training Center →	IV. A. Capable of only minimal productive contribution and requiring only moderate supervision. B. Capable of only minimal productive contribution and requiring *close supervision* because of psychological or physiological handicaps.
Not Employable in Work-training Center	V. A. Not capable of productive work contribution but responsive to direction, requiring only moderate supervision. B. Not capable of productive work contribution and requiring close supervision because of severe psychological and physiological handicaps.

SOURCE: Reprinted with the permission of the Aid Retarded Children Workshop, San Francisco, California.

Flow of Cases in Work Training Center



SOURCE: Reprinted with the permission of Elias Katz and the Aid Retarded Children Workshop, San Francisco, California.

9

EDUCATIONAL PROGRAMS IN PUBLIC INSTITUTIONS

INSTITUTIONAL PROGRAMS in the United States have been marked by periods of development and decline. With the help of Edward Seguin, a French *émigré,* model facilities were established during the mid-nineteenth century. Unfortunate circumstances, such as the selection of isolated locations for buildings, undue political interference in their administration, and the names selected for them ("schools for the feeble-minded" and "asylums for idiots and imbeciles"), led to their eventual loss of prestige. As public confidence in them wavered, institutions assumed more and more the role of purely custodial centers. Society is to blame for its apathetic attitude over the years. It is remarkable that many administrators and staff members remained dedicated and active under these circumstances.

In the last fifteen years, parents of the retarded and other groups working closely with professional staff members in the field have brought about a complete modernization of most institutional facilities. There are still a large number of residential schools, however, that are operating under archaic conditions and offer little in the way of constructive programs.

Currently institutional programs stress both treatment and training, with emphasis on habilitation and returning to community life as many retarded individuals as are capable of making the adjustment. There will always be a need for a hospital environment for totally dependent individuals.

Institutions are beset by many problems. First, their physical plant cannot be easily converted for new programs. Older institu-

tions were usually built to house large numbers of people. Today, modern therapeutic communities are built for smaller homogeneous groups and are smaller in size. Second, the task of staffing isolated facilities is difficult. Low salaries, few opportunities for advancement, and locations remote from population centers make poor inducements for employment. In spite of all these problems, great advances are being made in institutional care.

At present there are approximately 150,000 mentally retarded patients in public institutions and a fairly large number in private facilities. The per capita cost of maintenance in state facilities is approximately $1800 per year. A staff of some 50,000 is required for these institutions. Many states are carefully assessing the role of institutions and are evaluating methods for their improvement and for the development of intermediate types of community-centered programs. Since the development of public school programs for trainable mentally retarded children and community rehabilitation and sheltered workshop programs, many potential institutional cases are remaining at home. During the last few years, many institutions have been developing into short-term intensive training facilities and research centers. The possibilities for change and improvement have never been greater.

In the first article, the late Gale H. Walker presents a statement of the fundamental principles and standards for public training schools as developed by the American Association on Mental Deficiency. Dr. Walker describes in specific detail the departmental organization and requirements and the type of staff, its proper training and responsibilities, for such schools.

The development of educational services for the institutionalized mentally retarded has lagged far behind the development of treatment services. Most institutions are medically oriented. They have become custodial institutions without an appreciation of the value of educational programs geared to potential individual learning levels. A survey of 45 public institutions, conducted by Samuel Levine, shows that such programs, especially for preschool and adult retardates, is dismally lacking. Dr. Levine develops guidelines for a creative educational program for the institutionalized.

An exception to Dr. Levine's distressing data, the Columbus, Ohio, State School has developed a comprehensive program manual for its educational program for retardates. The final article is a brief overview of the school's program, its educational objectives, and the school resources used to implement it.

38 *Standards for Public Training Schools*

GALE H. WALKER

THE AMERICAN ASSOCIATION on Mental Deficiency presents this statement of fundamental principles as essential to proper institutional care of the mentally deficient.

The standards set forth, based on these fundamental principles, represent currently attainable goals, acknowledge the current professional attainments of the respective disciplines involved in the care of the mentally deficient, and are set forth with the recommendation of the American Association on Mental Deficiency as a guide for administrators of schools for the mentally deficient, for legislators, for parents of mental deficients, and for all others interested.

Whether these standards can be adhered to is ultimately a matter for decision by administrative bodies and in legislative halls.

Believing that the underlying objective of every institution for the mentally retarded is to provide sheltering protection for the retarded individual, to provide opportunity for him to grow physically, mentally, emotionally, and socially to his full limits of growth, to restore and rehabilitate him both within his limitations and the limitations of the knowledge and culture of his times, and to train and educate him in so far as his capacities permit, with the goal in mind of permitting him to live his life, whether in the institution or returned to the community, with as much dignity, happiness, and usefulness as may be inherent to him, we set forth the following fundamental principles:

From the *American Journal of Mental Deficiency*, 57:3 (January 1953), 361–372. Reprinted with the permission of the American Association on Mental Deficiency. The late Dr. Walker was superintendent of the Polk State School, Polk, Pennsylvania.

Fundamental Principles

1. A modern physical plant, free from hazards and properly equipped for the comfort and scientific care of the patient.
2. A competent, well-trained executive officer or administrator with authority and responsibility to carry out the policies of the institution as authorized by the governing legislation concerning mental deficiency in the state in which the institution operates and without hazard of political interference or retribution.
3. An adequate number of efficient personnel, competent in their respective duties and conforming to proper physical, mental, educational, and character standards for the duties they are to perform, and under competent supervision.
4. An adequate medical staff of ethical, competent physicians for the efficient care of the patients and for carrying out the professional policies of the institution in keeping with the accepted minimum therapeutic standards as established by the American Medical Association and competent, well-trained staff in the fields of psychology, education, dietetics, and social service to assure adequate diagnosis, study, training, supervision, and rehabilitation of the patient by contemporary standards in these various disciplines.
5. A systematic program of preparing patients for return to the community when advisable, or supervising them in the community, and of collaboration with community services in connection therewith.
6. Accurate diagnostic and therapeutic facilities with efficient technical service under competent medical supervision.
7. Accurate and complete records promptly filed in an accessible manner so as to be available for study, reference, follow-up, and research.
8. An organized formal in-service training program for institutional personnel adequate to insure the maintenance of a high standard of patient care, training, supervision, and opportunity.
9. Group conferences of the administrative and professional staffs to review regularly and thoroughly their respective ac-

tivities in order to keep the service and the scientific work on the highest plane of efficiency.

10. A humanitarian spirit in which the best care of the patient is always the primary consideration.
11. The availability of professional skills in the institution for out-patient service and other problems.

It is important that each service of the institution, within the limits of their need and the demand of the local conditions, have certain features in common as follows:

1. *Administration and supervision.* Competent trained head with sufficient executive ability and an adequate number of assistants and other personnel to carry on the work of the service efficiently.
2. *Coordination.* The coordination of effort among members of each service with the other personnel of the institution to promote desirable teamwork and a highly efficient service of the institution as a whole.
3. *Location.* Each department or service should have adequate space and located in that area of the institution which will most conveniently permit efficient service.
4. *Equipment.* The equipment should be sufficient and adequate to permit satisfactory performance of the usual scope of work without undue hardship.
5. *Protection and safety.* Proper protection of the worker and patient against the usual hazard of the operation.
6. *Records.* A complete system of accurate records on carefully developed forms to permit day by day efficient operation and to provide means of tabulation and evaluation at a later date.
7. *Training.* Opportunity for repeated attendance at conferences and in consultation to insure continued professional growth of the personnel and technical advancement.

Definition

The word "institution" is used within the limitations of the meaning of an institution for the mentally deficient.

Public schools for mental deficiency are defined as institutions provided by the community, regardless of the governmental division, for the treatment, training, care, and custody of the mentally deficient. Most institutions of this group are generally referred to as

state or provincial schools. It is recognized that variations in the size of the institution and the intellectual range and age of patients cared for may cause variations in the type of services required and rendered. It is felt that the proper institutional care of mental deficients requires placement in an institution specifically designed for the care of the mentally deficient and not combined with mentally ill patients in the same facilities. It is believed that the standards herein provided can be applied to institutions for the mentally deficient by individual interpretation.

I. Functional Units of the Public School for the Mentally Deficient.

The organization of the Institution should provide essentially the functions named below:

OFFICE OF THE SUPERINTENDENT

1. Superintendent (manager or director)
2. Assistant superintendent
3. Clinical director
4. Business manager
5. Director of education

A. *Professional Services*

(1) Medical Services
- A. Medical and surgical
- B. Psychiatric
- C. Pediatric
- D. Neurologic
- E. Tuberculosis
- F. Other
- G. Consultant physicians

(2) Medical records
(3) Dental
(4) Nursing
(5) X-ray
(6) Laboratory
(7) Pharmacy
(8) Physiotherapy
(9) Dietetic and food service
(10) Educational service for patients
- (a) Academic
- (b) Occupational therapy
- (c) Industrial therapy
- (d) Music
- (e) Adjunctive therapy—including recreation

(11) Psychology
(12) Social service
(13) Library
(14) Chaplain
(15) In-service training

B. *Administrative and Maintenance Services*
(1) Engineering and general maintenance—including safety, security, and fire protection
(2) Personnel
(3) Housekeeping
(4) Laundry
(5) Farm
(6) Purchase and supply
(7) Finances, disbursement, and budget

The reference here is to "functions" rather than to organized services. Some institutions may find it advisable to combine some of these *functions* in a single *operational* unit, *e.g.*, to combine the "neurology service" with "medical service." In some areas, all patients with tuberculosis may be cared for in a specially designed hospital and other hospitals in that area may require only a small isolation unit as part of its medical service. In other words, this is a *listing* of the essential services that should be made available, not a rigid outline for the organization of the institution.

Office of the Superintendent

Superintendent (Manager or Director) He is the chief professional and administrative officer of the institution. He should be free from partisan political interference and should have authority commensurate with his responsibility. He should be responsible only to the appointing authority.

If a doctor of medicine, he should (1) be a graduate of a medical school approved by the American Medical Association, (2) have served an approved internship, (3) be licensed or licensable in the state or province in which the institution is located, (4) preferably be adequately trained in the field of mental deficiency, and (5) not have less than five years experience in mental institutions and/or schools for the mentally deficient.

If not a physician, he should (1) have proved his ability as an administrator, (2) have experience and training in the field of

education, psychology, or social work, (3) have training certified or certifiable in his specialty within the state or province in which the institution is located, if the state or province has legislation certifying or licensing the profession, (4) have not less than five years' experience in his profession within a school for mental deficients.

Assistant Superintendent He is the first assistant to the superintendent and, in the absence of the latter, serves in his stead.

He should (1) be a graduate of a medical school approved by the American Medical Association, (2) have served an approved internship, (3) be licensed or licensable in the state or province in which the institution is located, (4) preferably be adequately trained in the field of mental deficiency, and (5) have not less than three years' experience in mental hospitals and/or schools for mental deficients.

If not a physician, he should (1) have proved his ability as an administrator, (2) have experience and training in the field of education, psychology, or social work, (3) have training certified or certifiable in his specialty within the state or province in which the institution is located if the state or province has legislation certifying or licensing the profession, (4) have not less than five years' experience in his profession within a school for mental deficients.

Clinical Director(s) It is the primary function of the clinical director to provide the guidance necessary to maintain integration and coordination in the treatment program. He must encourage and assist the physicians and the auxiliary professional personnel, to maintain high standards of patient treatment and care, and to improve and advance their skills and their training. His qualifications are essentially the same as for the assistant superintendent, three years' experience in mental hospitals and/or schools for mental deficients.

In institutions of less than 1500 patients, the duties of the clinical director and assistant superintendent may be combined.

Business Manager The business manager should be responsible to the superintendent for the nonmedical administrative and maintenance functions of the institution. We disapprove any dual control system under which one administrator has final authority over business matters while another has responsibility for the care and treatment of patients.

Within the limits of policy set by the superintendent, the business manager exercises supervision and control of the following activities: engineering and general maintenance and purchase and supply. He should be well trained in modern business methods and in the details of hospital administration. He should have a minimum of five years' of responsible executive experience.

Medical and Surgical Service The duration of institutionalization of patients in a school for mental deficients is such as to demand early diagnosis and treatment in the ordinary contingencies of daily living and accidents, hospitalization for active treatment of ordinary medical and surgical conditions, a sound program of preventive immunizations, and active correction of coexisting amendable physical conditions.

It is unlikely that these requirements will ever be properly met by a part-time medical staff. It is, therefore, strongly recommended that each institution, regardless of size, develop a resident medical staff of sufficient numbers to meet the local needs.

Psychiatric Service Each institution should have a qualified psychiatrist on its staff to diagnose adequately, to classify patients from a psychiatric standpoint, and to supervise treatment. If a regular staff member cannot be acquired, a part-time consultant should be available.

Pediatric Service Because any school for mental deficients must invariably care for children, it is recommended that a pediatric service be provided. The demand for pediatric care must invariably increase as the chronological age of patients cared for decreases. If the number of patients does not warrant a full-time pediatrician, a pediatric consultant should be provided.

Neurologic Service For more accurate diagnosis and better informed treatment, it is preferable that there be a neurological service. The local conditions of the institution will predicate the extent of this service, and whether a neurologic consultant or full-time neurologist be used.

Tuberculosis Service An adequate tuberculosis service must provide a program designed to include the following: repeated screening of patients and employees, segregation in separate fa-

cilities of all patients with tuberculosis, a good clinical program of therapy directed toward rendering positive cases noninfectious and a communicable-disease control program to provide optimal protection to both patient and employee.

Others Each institution should have ready access to diagnostic instruments such as the electroencephalograph, electrocardiograph, and basal metabolism machine. The local conditions will determine whether these should be owned and operated by the institution or whether arrangements should be made with other agencies for their use. In all probability the more accessible the diagnostic instruments, the greater will be the use.

Consultant Service The school for the mentally deficient should take advantage, wherever possible, of the medical resources of the community by utilizing the best qualified physicians available on a consultant basis to augment the full-time institution staff.

Medical Records Service The medical records service should be under the direction of a qualified medical record librarian who is responsible for the custody of all medical records, their indexing and filing in such manner as to make them readily accessible to the medical staff for daily reference in patient care, for statistical study, and for research. The medical-record librarian insures compliance by the members of the medical staff with the policies established by the superintendent or his designated representative. If conditions indicate, the position of medical-record librarian may be combined with any comparable position. It is preferable that the medical-record librarian be a graduate of a school for medical librarians which is approved by the American Medical Association and that she be fully accredited by the American Association of Medical Record Librarians.

Dental Service Dental service should be provided to furnish prophylactic examinations and hygiene to each patient approximately once each six months, to provide emergency dental care as needed, and to provide not only extractions but also necessary fillings and necessary dental appliances. The dentist should also assume responsibility for indoctrinating nursing personnel regarding proper daily oral hygiene for patients. It should be the responsibility of the institution to provide the patients with necessary dental

cream or powder, toothbrushes, and also proper accessible sanitary racks for them.

Nursing Service In all institutions of this type the nursing service will be composed of a relatively large number of attendants and a relatively small number of registered nurses. In most cases it will be preferable to utilize the highest trained personnel in the areas requiring greatest professional competence.

The basic organization of the nursing service, both of registered nurses and of attendants, should be under a director of nurses with assistants as indicated by local conditions.

The optimum qualifications for director of nurses and assistants are outlined in the American Psychiatric Association Standards for Psychiatric Hospitals and Clinics (q. v.).

X-ray Service This department should meet the minimum standards of the American College of Surgeons (q. v.). It should include a diagnostic x-ray machine of adequate voltage and amperage to do high speed work. A photo-fluorographic unit is also desirable for rapid chest surveys.

Laboratory Service A clinical laboratory which meets the minimum standards of the American College of Surgeons (q. v.) is required.

The number of laboratory technicians required will depend on the number and type of procedures and examinations carried out, the spacing of the demand for laboratory examinations, and other similar factors.

Psychology Department *Services.* Examination and appraisal constitute the core of psychological services. Research is a long range service and should be encouraged when administered by qualified individuals. Other functions include psychological counseling, treatment, and re-education of patients, and the provision of information about patients to other personnel by report and consultation. Specific operations include: comprehensive studies of incoming patients for determining presence of mental deficiency and for planning treatment and training; systematic follow-up examinations; appraisal for referred cases; clinical service for out-patients. The psychological services should be provided under the direction of the superintendent, and should be adapted to the needs of the

local situation, being available, where indicated, for assistance with personnel work.

Facilities. Facilities should include adequate rooms for testing and interview, supplies and materials, secretarial assistance, and record files.

Personnel. Personnel should be adequate in number and appropriately qualified by training and experience for the responsible duties listed above. Psychologist-patient ratio should be from 1 to 600 for general type institutions, to 1 to 200 for special training institutions, with intermediate ratios appropriate to the specific institution type. Each institution should have at least one certified or certifiable psychologist if it is in a state or province which has legislation certifying or licensing the profession. It is recommended (1) that a supervising psychologist have diplomate status in clinical psychology and experience in mental deficiency, (2) that junior staff psychologists and interns should work under supervision of a supervising psychologist only, (3) that junior staff psychologists have a minimum of one year of graduate training and one year of experience in mental deficiency with special preparation for their particular duties, and (4) that in smaller institutions having only one psychologist, the psychologist should have a minimum of a Ph.D. in psychology plus two years of experience in mental deficiency.

Pharmacy Service This department should meet the minimum standards of the American College of Surgeons (q. v.). It should be under the direction of a registered pharmacist either full or part time.

Physiotherapy Service The goals of this service will include the indicated usual utilization of physical medicine in the treatment of medical and surgical conditions, and also the rehabilitation of selected patients suffering from associated physical disabilities. The degree of need for this service will, of course, vary with the type of patients accepted by the institution. The responsibility for physiotherapy treatment should be under medical supervision.

Dietetic Service The diet of patients is a medical responsibility. The dietetic service should include a qualified chief dietitian responsible preferably to medical authority and an adequate staff of qualified assistants. The food served should be varied in kind,

adequate in amount, of good quality, of proper caloric content, properly balanced in proteins and fat, and attractively served at appropriate temperatures. Suitable provisions should be made for serving special diets when medically indicated. The civilized amenities of eating should be preserved and fostered as far as possible, being limited only by the patient's lack of intelligence and not limited by failure of the institution to provide.

The chief dietitian should be a trained person preferably meeting standards of membership of the American Dietetic Association.

Educational Service The aims of the educational department should be the training of the individual to the maximum of his abilities in order to enable him to make a satisfactory adjustment to living in an institution as well as community living. This training should include the training of the patient in academic work, prevocational work, physical education, and social conduct. Qualification, status, and remuneration of teachers in schools for the mentally deficient should be equivalent to teachers in public schools in the same state or province doing the same type of teaching. The director of the educational department should be a qualified person who directs the broad program of education, vocational training, and recreation and should have had at least five years' teaching experience after meeting the state or province qualifications for teaching the mentally deficient.

Occupational Therapy Service (Including Industrial Therapy) Occupational therapy has for its purpose the understanding utilization of organized purposeful activity. Its goals include the following: to help instill self-confidence in the patient by providing him with opportunity for the successful completion of tasks within his competence at the moment; to assist in, and encourage, the socialization of the patient and his participation as a member of a working group; to provide opportunities for the patient to perform activities which may gain him the approval and emotional support of his fellow patients; as a type of diversion, and to provide the patient with an opportunity for working through some of his conflicts. Successful occupational therapy should be specifically directed to the individual needs of the patient, and placed under the Director of Education for coordination with the academic program.

The goal in industrial therapy, as in occupational therapy,

should be the patient welfare. Every possible safeguard should be adopted to avoid exploitation of patients.

The service should be under the supervision of a qualified graduate of a school accredited by the Council on Medical Education and Hospitals of the American Medical Association, and should be registered by the American Occupational Therapy Association.

Nonprofessional assistants, usually called occupational therapy aides, should work under the immediate supervision of a registered occupational therapist. Special training should be provided to this group to enable them to function more effectively.

If recreation is under the supervision of an occupational therapist or aide, the worker should not have other occupational therapy or industrial therapy responsibility.

Music Service A school for mental deficients should have an organized music service for the discipline value to patients, the social status given participating patients, and because of the general utilization of music possible in an institution of this type. The range of the music program will vary, depending upon the age of the patients accepted, the mentality range of the patients, and the size of the institution and, thus, may range from simple inclusion of activities such as rhythm bands and rote singing to choral work, band, and orchestra. The field of music appreciation is also within the realm of this department.

The music service should be under the supervision of a person qualified by temperament, personality, and training and, preferably, should be a college graduate trained in public school music instruction. For ease of supervision of this department, it is recommended that the music service be under the supervision of either the director of education or the recreational director.

Adjunctive Therapy The recreational program for the patients should, because of its implications in training for life situations, be implemented by thought, equipment, and trained personnel adequate for the development and continuation of a sound, active, recreational program. Supervision of this program may, due to local conditions, be under separate supervision of a chief of service or combined under the supervision of the educational director or other qualified person. Such a director should organize the recreational activities of the institution, mobilizing the resources of the

community, including voluntary workers. He should be encouraged to provide recreation which requires the active participation of patients. Recreational activities should, in general, not interfere with the more direct therapeutic activities of the institutional program.

A canteen should be included as an adjunctive service of a school for the mentally deficient because of the recreational and rehabilitative implications. The exact manner of fiscal control may vary from institution to institution. The profits of the canteen should be expended only for patient recreational and social advancement.

Social Service Department The social service department performs a valuable function as a link between the institution and the patient, the family and the community. It interprets the institution and its program to the family and seeks to maintain continuity of responsibility of family and community for the patient. It assists the family with problems arising from admission and discharge of the patient to and from the institution.

It can in certain situations assist the patient in his interpersonal relationships with the institutional staff and with his fellow patient. The field of opportunity for the social service department may include the spheres of the psychiatric social worker, medical social worker, and the group social worker.

Affiliation with an accredited graduate school of social work, for the purpose of training students of social work, is recommended.

Library Service *Patient's Library.* A conveniently located library, well stocked with books, magazines, and newspapers interesting to the patient group served should be provided. Provision should be made for bringing library service to patients able to benefit from library service but unable for physical reasons to visit the library.

Professional Library. The professional library should be provided with adequate physical facilities and with the services of a librarian devoting sufficient time to this function to adequately fulfill the needs of the function. There should be a reasonable budget allocation provided regularly for the purchase of books and periodicals in all the fields involved in the care of the mentally deficient. There should be provision for loan services (*i.e.*, surgeon general's library). The services of the library should be freely available to the staff during both day and evening hours.

It is recommended that there should be a well-trained, full-time librarian.

Chaplain Service The chaplain service should provide spiritual help and guidance to patients of all faiths. Church services in the main faith groups should be provided in keeping with the parental faiths of the patients. In most cases, chaplain services will be provided by part-time chaplains. Regardless of whether they are full time or not, it is essential that the chaplains employed not only be qualified in their field but also have sufficient orientation and insight into the mentally deficient. Preferably, chaplains should have special professional training as recommended by the Council for Clinical Training, Inc., and the Mental Hospital Chaplains Association.

In-service Training Each school for the mentally deficient should make provision for a continuing program of in-service training. Institutions with such a program provide better and more effective treatment for their patients. Such a program is generally more effective when coordinated by a qualified person who serves as director of employee education, but the ultimate responsibility for training rests with the several department or service chiefs and, therefore, may sometimes be best coordinated by a committee of professional department chiefs. It is strongly recommended that each institution make specific budgeting provisions for this program.

Administrative and Maintenance Services

Engineering and General Maintenance Services This service is responsible for the proper use and preservation of an institution plant, equipment, and natural resources. While the precise organization will vary from institution to institution, the functions indicated by the following terms must be fulfilled, vis., engineering, maintenance, garage. The extent of the engineering and maintenance services to be provided is governed by many variables in the pattern of general operations.

This service should be under the direction of a competent engineer with extensive experience in general building construction and plant maintenance. Additional special experience in the construction and maintenance of institutional facilities is desirable.

Personnel Office A clearly defined policy for personnel management will make provision for the following:

(a) A specific statement of the duties and responsibilities of each position in the organization.
(b) Development of minimum qualifications for the various positions.
(c) Recruitment of applicants for employment.
(d) Effective use of employee skills through a well-defined and publicized policy of promotion.
(e) Ways and means of stimulating the training of new employees and continued training of old ones.
(f) An effective philosophy and system of discipline.
(g) Relationship with employee unions.
(h) Employee welfare services, such as group hospitalization.
(i) Employee loyalty to the institution must transcend political or other obligations.

This function should be operated by or under the supervision of the superintendent.

Housekeeping There should be a definite designation of a person to be responsible for the housekeeping service to insure the proper routine housekeeping and cleaning of the institution; the proper disposal, utilization, marking, and mending of linens; and to supervise the ordinary domestic needs of the institution. This position may be a separate position in larger institutions or, in other cases, combined with some other appropriate position.

It is recommended that the position not be combined with that of the dietitian.

Laundry In most instances a laundry service will exist and will be supervised by a laundry manager. The laundry service should be equipped with facilities and equipment sufficient to meet the needs of the institution. The exact per capita poundage must vary with the type, age, and intelligence of the patients served but should be adequate to handle the load without delay and should be able to permit daily bathing of at least all food handling patients and semi-weekly bathing of all other patients.

The laundry manager should have adequate training in the technical processes involved in laundry operation and the routine maintenance of laundry equipment and experience in supervision of his personnel (both employee and patient).

There should be opportunity for laundry consulting service to assure proper use of detergent processes with minimum fabric loss.

Farm Most institutions will have a farm operation including, in part or total, general farming, dairy farming, truck gardening, piggery, and hennery. The farming operation should be under the supervision of a competent, trained supervisor experienced and trained in the field of agronomy and animal husbandry and with such assistants as may be required by the local conditions.

The farm manager should have access to ample technical consultation to assure that his procedures will be abreast of the best contemporary practices.

Purchase and Supply The detailed functioning of the purchase and supply office will vary in different states, depending on the nature and extent of central control as established by state law or regulation. Essentially, the functions of this office include the following:

Procurement Unit. Obtains or purchases supplies, prepares invitations to bid, and makes awards of contracts.

Warehouse Unit. Is responsible for the receipt, storage, and issue of all supplies and equipment.

Property Control Unit. Is responsible for perpetual inventories of all supplies, requisitions to maintain adequate stock levels, and property accountability records.

Finance, Disbursement, and Budget The functions of this section include the following: the accounting for income and expense, the preparation of bills for services rendered and materials sold, the collection of accounts receivable, the analysis of operating costs of institutional activities for management and rate determination, the preparation of payroll, the maintenance of employees' accounts for tax and retirement deductions, the accounting for patients' fund administered by the institution, the auditing of bill rendered the institution, the disbursement of the institution's funds for approved expenditures, and the preparation of the institution's annual budget from information supplied by the operating units in the institution.

39 *Educational Problems in State Institutions for the Mentally Retarded*

SAMUEL LEVINE

THIS PAPER DEALS with the educational problems in state institutions caring for the mentally retarded. A review of the literature indicates that there has been no detailed study of educational programs in such institutions throughout the United States, but rather deals more with specific programs at individual institutions. Because schools and institutions for the mentally retarded have been criticized for not fulfilling the educational needs of their patients, it is felt this paper will be of assistance in aiding the individual institution in comparing its program with programs throughout the nation. This is particularly important as there is no field in education at this time which has gained the momentum and general recognition as that field dealing with the handicapped child, and, more particularly, with the mentally retarded child.

This study was limited to the educational programs of the 92 state-supported schools and institutions for the mentally retarded in the United States, including one school in Hawaii. Of the 51 schools which completed and returned the questionnaire, 45 indicated that formal educational programs were offered to the patients. The primary objective of this study was, then, to determine in an over-all fashion the kinds of programs being offered throughout the nation and their extent.

From the material acquired, I would like to explore the difficulties that institutions face in maintaining programs to meet the needs of their populations. I will first present the problems or diffi-

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culties, then examine the present programs to determine why these problems exist, and, finally indicate methods of eliminating or solving them.

As might be expected, the major difficulty has been the inadequate appropriations for educational needs. The lack in this area has been responsible for curtailing programs in terms of construction, curriculum, number of patients enrolled, and teachers' salaries.

In terms of building, many schools labor under great hardships because of inadequate space and facilities. Classes in some institutions are being held in garages, clothing closets, dining rooms, therapeutic bathrooms, employees' bedrooms, etc. Usually where no school building exists, classes are held in the wards or in cottages.

With the mounting costs of construction, equipment, and operation, it is not feasible to expect improvement of a major nature in this area. Along with the handicap of poor equipment, there is the added problem of having improperly designed buildings to meet the educational needs of the mentally retarded. It would seem as though some of the problems could have been avoided if specialists in the field had been consulted prior to building. Before school expansion is undertaken, a survey should be made consisting of the following: (1) present pupil grouping and estimated future enrollments, (2) teachers presently employed and proposed additions to the staff, (3) condition and adequacy of existing facilities, and (4) location and availability of suitable sites.

Inadequate appropriations, in terms of salary, have a very direct effect upon the quality of personnel attracted to institutional work. The minimum salary ranges are from $1350 to $3377, with the average of all schools being $2427. The maximum salary ranges are from $1800 to $5400, the average being $3170.* When we consider the fact that the majority of teachers in these institutions work on a 12-month basis, it is relatively easy to understand why salary is no attraction.

Salary increases are determined in a number of ways. However, the number of years the person has been employed at the institution is the main basis. The schools that use this factor alone as a basis for salary increase average $400 more per year, at both the minimum and maximum levels, than the schools using a combination of prior experience and education. None of the schools used prior teaching experience or education as sole items for salary in-

* Since this article was written institutional teachers' salaries have risen 25–40 percent.—ED. NOTE.

creases. This would indicate that education and prior experience, either individually or in combination, are not as financially rewarding as the number of years at the institution. Half of the schools using the years at the institution as the lone factor for salary increases are regulated by civil service. In the main, state civil service gives yearly increments without considering other factors. It is easy to understand why people are reluctant to transfer from public schools into institutional work as, generally, few institutions give compensation for experience beyond that acquired at the institution where employed.

Another aspect of maintaining efficient personnel is the instability of the group. Nearly 50 percent of institutional teachers have had four or less years experience with this group; 17 percent of these are in their first year of teaching. Stability is not evidenced until the fifth year, and those teachers who remain longer than four years tend to remain 11 or more years. The statistics show that 30 percent of teachers for the mentally retarded in institutions have been employed 11 or more years there. The interesting note here is that virtually all the teachers received their experience at the institution where they are employed.

The decline in the number of teachers after the first year can largely be attributed to the factors of tenure and salary. Those schools that have a salary range above the average ($2400–$3170) have a considerably larger proportion of teachers remain after the first year. Teachers are also inclined to remain longer if they are protected by a system such as civil service or other tenure laws. However, because of this factor of tenure, many schools release teachers after the first year. This is done when they do not seem to fit into the plans of the school and the institution does not wish the teacher to obtain permanent status.

Another facet of the personnel problem is the shortage of suitably trained teachers to work in institutions for the mentally retarded. Less than 50 percent of the teachers in state institutions for the mentally retarded have general teaching certificates, with only 40 percent of the entire group having college degrees. The picture is even more dismal in terms of credentials for teaching the mentally retarded, with only 10 percent having these credentials. This is due to the fact that few states require such credentials, and few educational institutions (colleges and universities) provide such training programs. A very few colleges and universities, however, are offering educational internship programs as part of their

teacher-training curriculum. These are cooperative programs aimed at providing as much practical experience as is possible before the candidates are credentialed. The internes are assigned to other departments in addition to the school department, so that they may receive a complete background in the institutional problems of educating the mentally retarded.

Recruitment of efficient personnel would be easier if teachers were placed on a par with public school teachers. This would involve a substantial increase in salary, summer vacations with pay, the consideration of previous teaching experience, a system of tenure, and standards set so that only properly credentialed teachers are employed.

Due to restrictions of personnel and finances, we find that complete educational opportunities are not offered from nursery school through adult or continuation school. The 45 schools and institutions that supplied data indicated that school programs are provided for from 3.2 to 100 percent of the total patient population. Of nearly 75,000 patients in these institutions the total pupil enrollment is 10,207. The school enrollment for all institutions averaged 13.7 percent of the institution populations. In terms of intellectual ability, it was found that nearly one third of the school populations are on the idiot and imbecile levels (below 50 IQ). The largest percentage of pupil enrollment was in the 50–69 IQ range, being slightly over 56 percent.

The average chronological age of the youngest school group (prekindergarten) is 9.8 years; the most advanced group has an average age of 18½ years. The average of all school children is 13½ years. We find a pronounced lack of educational opportunity for the preschool and adult retarded groups.

Most schools do not enroll a child until he or she is past 6 years of age. Therefore, ward personnel must handle the developmental and habit training of these patients, including visual-motor experiences, sensory stimulation, and social experience. Helping these people accept their roles as teachers and not custodians has been a difficult task. One of the major problems indicated by the survey is that, in many instances, the child becomes a diagnostic classification or a point along a scale, rather than a person with definite emotional needs. From a psychological standpoint it is difficult to provide the love and affection because of the limited personal contacts in these institutions. Wards are overcrowded; there is a shortage of personnel; and routine duties are too many. Some

of these problems could be overcome if professional help were utilized to help set up learning and training activities in conjunction with ward activities.

The educational problems that are generally being faced by these institutions represent a real challenge if the needs of their populations are to be met. The institutions are aware of this and indicated the following major problems.

1. Inadequate appropriations are made for educational needs.
2. Adequate school buildings designed for teaching the mentally retarded are needed.
3. Along with the mounting costs of construction and operation, there is a lack of proper equipment.
4. There is a shortage of suitably trained teachers for the mentally retarded who are interested in institutional work.
5. A greater contact with outside agencies and specialist services in the field would improve institutional procedures.
6. The mentally retarded in institutions should be considered as pupils instead of patients.
7. Complete educational opportunities from nursery school to continuation school should be offered.
8. The school's educational program and the institution's vocational program should be integrated to help the child develop his fullest capabilities, and if possible, fit him to earn his living. (There should be an educational and developmental approach, thus removing the necessity of having vocational training be self-supporting.)
9. Planning is needed for a program for low- and middle-grade patients that would replace aimless or destructive activity with constructive activity.
10. Training in leisure-time activities should be initiated.
11. There should be a greater concern for what is happening to the child in terms of emotional growth, socialization, and development of habits and skills that will make him a worthwhile citizen. (This concern should be felt on the part of all employees, whether it be in the classroom, on the job, or in the wards.)
12. The development of literature written specifically for the mentally retarded is notably lacking.
13. There is a need for an over-all program of curriculum which would be worthy of adoption by all similar institutions.
14. Many of the beliefs concerning the education of the men-

tally retarded had their origin in institutional expedience. Unsound pedagogically, they need to be eradicated.

15. Reseach being done in this field is inadequate.
16. Many institutions are becoming more custodial than educational.
17. The necessity for orienting the public to the fact that the mentally retarded definitely can be educated and helped is of paramount importance.
18. Patients have difficulty in adjusting to the responsibilities and freedom of community life because they are conditioned to large numbers, constant supervision, and planned routine. (This can be minimized by enriching the everyday life in the wards and creating experiences simulating community living.)
19. The creation in local communities of an agency to follow up and direct the mentally retarded who return to society is vital to the success of institutional programs.
20. State universities and colleges should give work at institutions with credit toward degrees in special education.

Finally, it seems that the greatest shortcoming has been the lack of a positive philosophy for special education. It is my belief that programs for the mentally retarded are inadequate, not because of an inability of these children to profit from some type of a training program, but rather because of the thinking of some people who are solely motivated by what they consider the "cold facts." What do these people believe to be the "cold facts"? They believe that unless people can be productive and self-sufficient there is no room for them, and that our schools are only interested in the child who can achieve in terms of assumed bodies of knowledge, irrespective of the particular needs, interests, and abilities of the child. However, a program based on a philosophy of educational generalizations and a lack of confidence in the individuality of our students can lead only to mass conformity rather than diversity of development.

Those in this field, whether they be teachers or administrators, who are apologetic when they speak of this work and whose vocal chords are attached to purse strings, cannot provide the initiative and leadership that is so vitally needed if we are to help these children grow. We need people who are creative, people who are imaginative, people who have vitality and who will develop meaningful, stimulating, and satisfying educational programs.

40 *An Overview of Education at the Columbus State School*

ROY E. FERGUSON and associates

THE DEPARTMENT OF Education and Training at the Columbus State School is responsible for several areas of the total training program. This program is carried on in the following fields:

Daytime Academic School Program for children CA 6–18
Adult Education Program for postadolescents and young adults
Job Orientation and *Job Training* for adolescents and adults preparing either for rehabilitation or for competence as institutional workers
Placement and *Supervision* of institutional workers in all areas
Industrial Workshops for middle-grade and emotionally disturbed residents
Sheltered Workshop Program for the moderately retarded

The Department of Education at the Columbus State School differs from most institutions in that the Recreational Therapy and Occupational Therapy divisions operate separately and have a total of twenty-seven employees in the two areas.

Very briefly stated, our general philosophy is that we should train for social adequacy, occupational ability and responsibility, and as high a level of academic skill as the individual's potential would indicate.

We recognize the desirability of an education and training program based on needs, interests, and abilities, accepting as the premise that all children have an inherent right to receive an educa-

From *An Overview of the Department of Education and Training at the Columbus State School,* prepared by Roy E. Ferguson and the Faculty of the Education and Training Department, mimeographed (Columbus, Ohio: Columbus State School, 1960), pp. 1–3. Reprinted with the permission of R. M. Gove, M.D., superintendent. Dr. Ferguson is director of the Education and Training Department at the school.

tion geared to their learning potentialities. It is also felt that this should not be a "watered-down" curriculum, but one with goals which they may be expected to achieve.

We are agreed that the educational goals for mentally handicapped children are those that are recognized for all children; however, we consider that these children learn more slowly and not as much as the normal child. To achieve these goals they require a higher degree of emphasis, longer time on desirable goals, and the selection of teaching methods and materials suitable for meeting their limitations.

In planning a program for mentally retarded pupils the objectives set up by the Educational Policies Commission for all children seem most suitable. These are listed under four major headings:

1. The objectives of self-realization
2. The objectives of human relationship
3. The objectives of economic efficiency
4. The objectives of civic responsibility

These four objectives may be attained according to the child's individual ability. Some may be made more realistic for mentally retarded by adapting them to the child's level of attainment.

For example, under self-realization more attention may be needed for the development of eye-hand coordination, muscular coordination, simple concepts of healthful living, special development, and other areas in which the child may have greater difficulty than the normal child.

Likewise, in the sphere of human relationship much may need to be done in developing peer relationships, relationships with adults and authoritative figures, and the security and emotional stability which will enable the child to live more wholesomely in his environment.

We build much of our program upon activities and experience. For example, in developing reading skills, our teachers use extensively experience reading charts as developed by the groups, supplementing these with reading from standard texts, and particularly, from groups of stories at higher interest levels, although still at the lower achievement level.

Inasmuch as we correlate our occupational education program with our academic program, we begin to interpret job information at an early level, adding to such information as the child develops, using both on- and off-grounds trips as supplementary devices. At the age of 15, our adolescent boys and girls are in school one half-

day and spend three or four half-days a week on a job-orientation program. We have the work of the institution organized into sixty-three work areas; and each individual will spend successive periods of twenty weeks in those areas which are selected, until such time as it can be determined what will be the best area of job training. The other one or two half-days per week a boy has industrial arts and a girl has home economics (child care, personal regimen, sewing, cooking, and care of the home). Physical education, health, and instrumental music are also scheduled in time in which the child is not in academic classes.

In our regular school program we group our children on four levels which might be listed as: nursery-kindergarten (CA 6, 7, 8); elementary (CA 9, 10, 11); early adolescent (CA 12, 13, 14); adolescent (CA 15, 16, 17, 18). Within these levels, we attempt to establish as nearly homogeneous groups as possible, using as criteria mental age, intelligence quotient, physical development, social maturity, and the achievement level based on either the California Achievement Tests or other appropriate tests. Up until the age of 15, we do not segregate according to sex; however, segregation occurs at the upper level because of the correlation of our occupational training program with the academic school program.

We carry on an adult-education program particularly for post-adolescents and young adults who may be preplacement candidates, providing an opportunity to develop whatever skills may be needed as the person returns to the community; or a program for skill development and satisfaction for those who may remain as institutional workers.

The resources of the school library are available both to the children in the classroom and to those in living units who may use it advantageously.

In addition, we have special teachers in the following areas: instrumental music, vocal music, industrial arts, home economics, physical education, speech and hearing therapy, art, audio-visual education, and sight conservation, and for the deaf, brain-damaged, and physically handicapped. Their programs are correlated with the class-room activities. In the field of music we also have a music therapy program planned to meet the needs of cerebral-palsied and orthopedic cases and children of lower achievement levels than those enrolled in the regular school program.

The vocational training program under vocational supervisors and vocational instructors has as its goals the main objectives of

economic efficiencies set forth by the Educational Policies Commission. This program is based upon on-the-job training with classroom instruction on related information.

Industrial workshops have as their major purpose the development of a sheltered situation within the institution in which a number of middle-grade and emotionally disturbed residents are able to produce, for sale purposes, articles in the fields of weaving, caning, and handwork. In this program the profit from sales is shared equally between the resident and the school entertainment fund. In addition, a sheltered workshop serving moderately retarded girls has been established.

In our institution planning is done on a team basis by the Resident Planning Committee in which the following disciplines are represented: medicine, psychology, social service, guidance, education, and cottage life.

As a part of the total program of the school, the Department of Special and Adult Education at Ohio State University uses the school as a laboratory for practice teachers, field experience, and observation. Ohio Wesleyan University, Delaware, Ohio, also uses the school for courses in field experience and observation. The Departments of Psychology and Speech and Hearing at the Ohio State University use the facilities of the school. In addition, observations are made by students from Ohio University, Athens, Ohio; Kent State University, Kent, Ohio; and Bowling Green State University, Bowling Green, Ohio, on a regular basis.

10

SPEECH DEVELOPMENT FOR THE MENTALLY RETARDED

IN A WORLD where speech is a primary means of communication, it is amazing how little attention has been paid in the past to speech development and correction for retarded individuals. This lack of interest may possibly be attributed to the fact that "idiots" and "imbeciles" were clinically regarded as capable of little or no speech development. Nothing could be further from the truth. We are now aware that, with intensive speech and language training, even more severely retarded children can make progress in this area, although there are special difficulties for children handicapped by aphasia, brain injuries, cerebral palsy, and extreme retardation. There is no more dramatic event than the unfolding of speech fluency in mentally retarded children. It opens the door to all facets of personal-social development and potentially to occupational adjustment.

Great strides in speech therapy have been made in the last few years. Due attention must be paid to the work of Bernard Schlanger and Robert Gottsleben,[1] formerly at the Vineland Training School, and Millicent Strazzulla, of the Jewish Hospital, Brooklyn, New York. The work of these people has been well documented, and the interested reader is referred to their articles in the *American Journal of Mental Deficiency*, the *Journal of Speech and Hearing Disorders*, and *The Training School Bulletin*.

[1] Schlanger is now director of the Speech and Hearing Clinic, University of West Virginia, and Gottsleben is serving as Research Specialist in Speech for the Mentally Retarded, San Francisco State College.

What kinds of speech problems do retarded children have? Schneider and Vallon [2] have classified the problems into five major categories: (1) delayed language development; (2) insufficient language; (3) articulatory disturbances; (4) vocal disturbances, and (5) disturbances of speech perception. In addition, about 30 percent of all retarded children suffer from some degree of hearing loss that seriously affects speech and language development.

Millicent Strazzulla has made some interesting comments about the aims of speech therapy with retarded children.[3] She states that, "Language growth begins long before the child is able to articulate a word correctly and that communications may, in a nonverbal pattern, range from a simple gesture to an intricate pantomine." Miss Strazzulla suggests that the developmental steps for the child involve: exploring in detail his immediate environment; listening to and analyzing noises, sounds, and words; thinking about and organizing himself around the stimuli, and finally, communicating with others about these stimuli through the use of gestures, pictures, sounds, and speech.

Much of the work in speech correction and development has been done with severely retarded individuals. There is a great need for work in the methods and techniques of speech therapy for educable mentally retarded pupils. In this area, the New York City schools have published a handbook that is valuable for the special-class teacher.[4] A research study conducted by Leon Lassers, Gordon Low, and Robert Gottsleben at San Francisco State College [5] is nearing completion and its results should shed a great deal of light on appropriate techniques. It deals with conventional speech-therapy techniques and is employing an experimental approach to speech improvement for educable retarded children by the use of real life situations.

The first reading in this section, by Stanley M. Goertzen, discusses the development of speech and speech defects in mentally

[2] Bernard Schneider and Jerome Vallon, "A Speech Therapy Program for Mentally Retarded Children," *American Journal of Mental Deficiency*, 58 (April 1954), 633–639.

[3] Millicent Strazzulla *et al.*, "The Role of Varied Therapies in Rehabilitation," *American Journal of Mental Deficiency*, 61 (January 1957), 508–515.

[4] *Speech for the Retarded Child: Teacher's Handbook* (Brooklyn: The Board of Education of the City of New York, 1960).

[5] Leon Lassers, Gordon Low, and Robert Gottsleben, *A Study of the Relative Effectiveness of Different Approaches of Speech Training for (Educable) Mentally Retarded Children*, Cooperative Research Project Number 165. Sponsored by the U. S. Office of Education.

retarded children and establishes the goals of a corrective program. In the second article, Ruth G. Arnold outlines the speech-correction program in the Union City, New Jersey, public schools, and describes the four approaches to correction that are used: auditory, visual, tactile, and kinesthetic. The developmental goals of a school speech program for mental retardates are outlined in a table prepared by the Board of Education of the City of New York. These goals are broken down into three groups: for the vestibule and primary classes (young children), for intermediate classes (preadolescents), and for secondary school classes (adolescents). The last article in this section, by Helmer R. Myklebust, describes the nature of aphasia and the extremely complex problem of diagnosing it. Aphasia is frequently confused with deafness, mental retardation, and emotional disorders.

41 *Speech and the Mentally Retarded Child*

STANLEY M. GOERTZEN

WHILE MANY TEXTS in speech pathology explain that mental retardation is associated with delayed speech, defective articulation, and other disorders, there is no readily available source in which the mass results of research and observation in this field have been brought together. It is the purpose of this paper to cite the leading studies dealing with the relation of mental retardation to speech and to suggest, on the basis of material gleaned from several sources, what general lines the teacher and therapist should follow in attempting to improve the speech of children who are low in intelligence.

In dealing with the subject the paper will attempt to answer the following questions.

From the *American Journal of Mental Deficiency*, 62:2 (September 1957), 244–253. Reprinted with the permission of the American Association on Mental Deficiency and the author. Dr. Goertzen is assistant professor of psychology, San Francisco State College.

I. How does speech develop in mentally retarded as compared with normal children?
II. What is the incidence of speech defects and language disorders in groups of mental defectives?
III. What is the relationship between intelligence and speech development?
IV. What are the characteristics of the speech of the mentally retarded and especially of certain clinical types?
V. What are the principles of speech therapy for the mentally limited?

Those of us who deal with mentally retarded children have many questions to ask concerning the specific speech problems and therapy. Reviewing the material leaves one with the feeling that although there is much to be done in the way of research, one should not hesitate to apply that knowledge and information which has already been made available.

The Development of Speech in Mentally Retarded Children

Louttit [1] has reported on a study by Wallin in which it was found that boys and girls of normal intelligence use simple words at an average age of one year, whereas the average for feeble-minded children was two years. Phrases and sentences were used by normal children at 1.7 years and by feeble-minded children at three years. From these figures we can expect that at least 50 percent of the feeble-minded will exhibit a delay of more than one year in starting to talk. "The demonstration of low mental ability in such young children who do not talk must usually depend upon non-language performance tests." [2]

According to Strazzulla [3] most normal children babble at from 5 to 7 months and use simple words at from 10 to 18 months, while retarded children babble at from 12 to 24 months and words are delayed at 2½ to 5 years of age.

The normal child of 18 months has a vocabulary of around a dozen words; articulation is generally poor; vowels are the most

[1] C. M. Louttit, *Clinical Psychology* (New York: Harper, 1947), pp. 455–485; and J. E. W. Wallin, *Clinical and Abnormal Psychology* (Boston: Houghton Mifflin, 1927).

[2] Louttit, *op. cit.*, p. 485.

[3] Millicent Strazzulla, "A Language Guide for the Parents of Retarded Children," *American Journal of Mental Deficiency*, 59 (July 1954), 48–58.

frequently used speech sounds.[4] By two years of age there is a repetition of words sometimes mistaken for stuttering and an enormous variation in size of vocabularies. At around 2½ years of age simple sentences are replacing phrases. According to Carmichael [5] the average age of talking for a group of mentally retarded youngsters is reported by Mead (1913) as 38.5 months as compared with the normal age of 15.3 months.[6] Carmichael also reports that speech sounds made by ten low-grade feeble-minded children (average age, 4 years), none of whom was using real language, approximate those of normal children of one year of age in such characteristics as vowel ratio, vowel-consonant ratio, and distribution of consonants.[7]

As a result of this slow speech development, the retarded child speaks to no one and few people are interested in talking to him. He has few social contacts and few opportunities to practice even a minimum number of stereotyped verbal responses to social situations. He is often his own mirror and model of defective speech. Since there is a frequent inability to distinguish sounds correctly, errors are made all the more probable. His speech brings little social satisfaction because it is difficult for the listener to understand, thus failing to promote oral expression.

The Incidence of Speech Defects and Language Disorders

Stated in simple terms, speech may be considered defective when and if it deviates from normal enough to call attention to itself, when it is a hindrance to communication, and when it causes the speaker to be maladjusted. The same types of speech defects found in normal children are also found among the mentally handicapped, but in greater frequency.[8] "This fundamental difficulty exhibited by the feeble-minded in learning to speak is reflected in the high frequency with which speech defects are found among them." [9]

[4] Fred Aston, *A Behavior Profile of the Normal Child from 18 Months to 10 Years,* published by the author.

[5] Leonard Carmichael (ed.), *Manual of Child Psychology* (New York: Wiley, 1946).

[6] *Ibid.,* p. 547.

[7] *Ibid.*

[8] Bernard B. Schlanger, "Speech Measurements of Institutionalized Mentally Handicapped Children," *American Journal of Mental Deficiency,* 58 (July 1953), p. 114.

[9] Louttit, *op. cit.,* p. 463.

Kennedy,[10] in studying the speech of mental defective patients varying in age from 5 to 38 with an IQ up to 20, found that 20 patients had complete mutism, ten had a jabber with an occasional intelligible word, one had echolalia, and one had irrelevant speech. In 32 patients with an IQ from 21 to 50, seven had complete mutism, 24 had defective speech, and one had good speech. In 249 morons with an IQ from 50 to 69, no instance of mutism was found but 42.57 percent had speech defects.

A group of 332 males and 221 females was studied by Lewald.[11] This feeble-minded group ranged in age from 1 year to 75 years, but 67 percent were between 6 and 20 years old. He found that speech defects were present in 56 percent of the entire group of language-speaking patients. Further, all kinds of oral physical defects totaled less than the number of speech defects listed. This indicated to him that many with speech defects have no gross lesions as the basis of the defects.[12] Sixty-five percent of these who were left-handed had speech defects; 52 percent of the whole group had defects; and 15 percent of the whole group were left-handed. "If left-handedness is more prevalent in the mental defective group than in normals, it is of great importance not to force the changing from left to right but to develop the arm of natural choice." [13]

In an investigation of speech defects in mentally deficient children Sirkin and Lyons [14] found that:

1. Normal speech was present in only about one third of the 2522 cases examined.
2. Speech defects occured twice as frequently in males as in females.
3. Speech was not present in about one sixth of the cases.
4. Of the language-speaking patients, about 60 percent had defective speech.
5. Speech defects, or no speech, were present in 43 percent of the combined moron and borderline groups, in 74 percent of the imbecile group, and in 100 percent of the idiot group.[15]

[10] Lois Kennedy, *Studies in the Speech of the Feeble-minded,* thesis (Madison, Wis.: University of Wisconsin, 1930).

[11] James Lewald, "Speech Defects as Found in a Group of 500 Mental Defectives," *Proceedings and Addresses, 56th Annual Session, American Association for the Study of the Feebleminded* (1932).

[12] *Ibid.,* p. 296.

[13] *Ibid.,* p. 297.

[14] Jacob Sirkin and William F. Lyons, "A Study of Speech Defects in Mental Deficiency," *American Journal of Mental Deficiency,* 46 (July 1941), 74–80.

[15] *Ibid.,* pp. 78–79.

1. Mental subnormality
2. Illness or physical disability
3. Lack of sufficient speech stimulation
4. Oversolicitous parents who anticipate the child's needs
5. Overly strict parents who punish the child for speech errors
6. Intense shock, fright, or shame

We also find agreement in this respect from Louttit who says that "usually these children (referred to the clinic) prove to be examples of the commonest cause of delayed speech, *i.e.*, they are feebleminded. . . . Training speech articulation may be faulty because of mental deficiency and hence difficulty in learning." [21] Tredgold also says that defect of speech "tends to be directly proportionate to the degree of mental defect." [22] Further substantiation comes from a study of 1000 boys and girls with IQs that ranged from 10 to 159 on the Stanford-Binet made by Adler and Bartelme. They state that the average age of onset of speech was 19 months for the boys and 18 months for the girls. Then when the age of onset of speech was correlated with the intelligence quotient, the coefficients were .39–0.03 for the girls and .41–0.03 for the boys.

Tredgold warns against judging the *degree* of mental deficiency by the *amount* of speech. "Many idiots are unable to speak at all. Others can say a few monosyllables, but none can form sentences. Imbeciles are usually able to understand and to speak short sentences; but their vocabulary is very small and their articulation often very imperfect. Most of the feeble-minded have a larger vocabulary and can speak better, but few of this grade can form or understand a sentence which is at all complicated in its construction." [23]

The possibility of speech disorders causing erroneous classification of a child as mentally retarded is certainly of importance to the clinician. The child may be mentally retarded, but his speech handicap may also have come from a background of organic damage, injury or illness, or emotional causes of oversolicitude, rejection, etc. Gens found that mentally deficient children presented the same types of speech disorders that he found in children of normal intelligence but in greater frequency:—"We have not as yet found any type or pattern of speech that may be pathognomonic of mental

[21] Louttit, *op. cit.*, pp. 458 and 463.
[22] A. F. Tredgold, *Mental Deficiency* (London: Baillier, Tindall, and Cox, 1949), p. 132.
[23] *Ibid.*, p. 132.

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[23] *Ibid.*, p. 132.

deficiency. . . . We did not find a direct relationship between speech proficiency and mental age."[24]

Another definite stand is taken by other authors (Tredgold and Berry and Eisenson)[25] who state somewhat differently that it is wrong to speak of mental deficiency as a cause of speech defect. Travis says that it is more accurate to speak of the two as manifestations of the same process, namely, "a generally imperfect development of the central nervous system . . . to the extent that they may be considered evidences of the same process, speech and intelligence are directly related to each other."[26] It is possible to say that low intelligence is probably not a direct cause of defective speech if one takes Travis' viewpoint. Berry and Eisenson agree with this[27] and say further that it is much more likely to result in inadequacy of vocabulary than in speech deficiency. "Lack of intelligence is much more likely to be the direct cause of linguistic inadequacy than of speech deficiency. There is a possibility, however, that linguistic deficiency may result in the development of inferiority feelings, which may manifest themselves in defective speech. This is probably more true of persons in the dull-normal and borderline intelligence levels than in the definitely feebleminded levels."[28] Speech defects may be associated, then, with mental retardation but not necessarily *caused* by it. "It is because the aments are frequently not *merely* aments that the lay person believes that articulatory defects may be ascribed to feeble-mindedness."[29] This brings one to the practical point of saying that whether or not low mentality causes the delayed development and/or defects of speech and language, these *do* co-exist in sufficient ratio among mentally retarded children to be of considerable concern.

[24] George Gens, "The Speech Pathologist Looks at the Mentally Deficient Child," *Training School Bulletin*, 48 (1951), pp. 19–20.

[25] Tredgold, *op. cit.;* Mildred Breburg Berry and Jon Eisenson, *The Defective in Speech* (New York: Appleton-Century-Crofts, 1942).

[26] Lee Edward Travis, *Speech Pathology* (New York: Appleton-Century-Crofts, 1931), p. 67.

[27] Berry and Eisenson, *op. cit.*, p. 354.

[28] *Ibid.*, p. 60.

[29] Robert West, Lou Kennedy, and Anna Carr, *The Rehabilitation of Speech*, rev. ed. (New York: Harper, 1947), p. 206.

Speech Characteristics of the Mentally Retarded

Strazzulla and Karlin [30] In a study of 50 children in a clinic for retarded children, the most common speech defects were found to be omission and substitution of sounds, stuttering, nasality, huskiness, and hearing defects. They also noted some similarity to aphasia symptoms in lack of abstract thinking, irrelevancy of ideas, echolalia, tendency to perseverate, poor attention span, distractibility, and fatiguability. They felt that language defects are more notable than speech defects in the mentally deficient children.

Irvin [31] In a study of the use of vowel and consonant elements by feeble-minded children, as compared to normal children, Irvin found that feeble-minded children used front vowels more frequently than back vowels. They showed the greatest amount in the labial, postdental, and glottal regions while normal infants showed the greatest accumulation among the glottals. The developmental status of the speech sounds of the group of four-year-old feeble-minded children was similar to that of normal children less than one year of age.

Sirkin [32] Sirkin found that the types of speech defects found in order of frequency were sound substitution, defective phonation from habit, mumbling, lisping, monophasia, and lalling.

Schlanger [33] A study of 74 retarded children whose mean age was 12 years was made by Schlanger. General speech testing showed a distribution of the following speech defects:

	Percent
Voice defects	61
Articulatory defects	57
Stuttering	20

[30] Millicent Strazzulla and I. W. Karlin, "Speech and Language Problems of Mentally Deficient Children," *Journal of Speech and Hearing Disorders,* 17 (September 1952), 286–294.

[31] O. C. Irvin, "The Development and Status of Speech Sounds of Ten Feeble-minded Children," *Child Development,* 13 (1942), 29–39.

[32] Sirkin and Lyons, *op. cit.*

[33] Schlanger, *op. cit.*

Further testing revealed deficiency in the following areas:

1. *Articulation.* Sixteen percent were sufficiently deviated to interfere with communication. The most frequently defective sounds were voiced th, unvoiced th, s, r, z, ch, j, sh, v, and f.[34] Note that most of these are high-frequency sounds.

2. *Mean sentence length.* According to Schlanger, a number of writers have found that the mean sentence length correlates with CA and MA and is the best single measure of language development.[35] The mentally retarded children demonstrate a significantly shorter mean sentence length than normal children.

Carlton and Carlton [36] Stimulated by a series of comic strip pictures, each of the subjects in the Carltons' study produced an oral "composition." An analysis of the results showed that both groups of mental defectives made a significantly greater mean number of oral errors than their matched normal groups. Most errors of the mental defectives were in "verb and verb parts," failure of verb to agree with subject in person and number, use of double subject, and wrong verb.

The preceding studies point out some of the typical speech defects and disorders that may be present in the mentally retarded in general. Some attempts have been made to classify or describe the speech of certain clinical types. Berry and Eisenson and Clemens Benda [37] have written with some clarity in this field.

The Postencephalitic Child Probably the involvements will be those generally associated with motor deficiency, *i.e.*, unmodulated pitch, harsh, nasal, or breathy quality; hesitant, drawling, or explosive utterance. This child will also have difficulty in finding something that he wants to say.

The Epileptic Child There may be signs of perseveration in speech and behavior immediately following an attack. Repetition of sounds and words and a pattern of speech closely resembling clonic stuttering is to be expected; and the voice is likely to be muffled

[34] *Ibid.*, p. 117.

[35] *Ibid.*

[36] Theodore Carlton and Lilyn E. Carlton, "Errors in the Oral Language of Mentally Defective Adolescents and Normal Elementary School Children," *Pedagogical Seminary,* 66 (1945), 183–220.

[37] Berry and Eisenson, *op. cit.;* and Clemens Benda, *Mongolism and Cretinism* (New York: Grune and Stratton, 1946).

and lacking in the subtle variations of pitch produced by the normal voice.

The Mongoloid and the Cretin According to Pintner, Eisenson, and Stanton, "Cretinism and mongolism are special organic conditions which are associated with defective speech."[38] Such disorders are psychogenic rather than organic in origin.

The Mongoloid Child Benda[39] says that it is not possible to generalize on the language and speech development of the Mongoloid child since the variation in environment may have some differing effects on the growth of the vocabulary. One may characterize their vocabulary as limited and slow to develop as speech is often delayed several years. Usually pronounciation and articulation are clumsy and difficult to understand. Defects associated with mental deficiency are present, *i.e.*, muscular flabbiness and structural anomalies of the articulatory and hearing mechanism. The voice is hoarse with no modulation of pitch intensity.

The Cretin Because the cretin does not "look his age," his immaturity of speech sometimes escapes attention.[40] There is a low vocabulary development. The voice is sometimes hoarse and "froglike," and there is a general thickness and lack of precision in articulation caused by flabbiness and lack of muscle tonus.

Other Neuropathic Problems Since the damages to the central nervous system so often are found as causes for amentia, the accompanying speech of these neuropathic problems will be dealt with briefly. The brain-injured child with a background of speech growth before injury is likely to be more linguistically adequate than the IQ-matched primary ament who has never had the ability to develop linguistically in a normal manner. The brain-injured child is likely to be dysphasic in proportion to the extent of the injury.

In spastic speech the tensions and lack of control over the speech apparatus are responsible for sluggish, "mushy" speech, lack of flexibility in intensity, phonetic lapses, and some nasality.

[38] Rudolph Pintner, Jon Eisenson, and Mildred Stanton, *The Psychology of the Physically Handicapped* (New York: Appleton-Century-Crofts, 1941), Chs. XI–XII.

[39] Benda, *op. cit.*

[40] West, Kennedy, and Carr, *op. cit.*, p. 210.

Choreatic speech is characterized by spasmodic, uncontrolled bursts of sound.

The secondary ament (exogenous) is more likely to have a wider range of speech problems and more speech problems than the primary or innate ament.[41] He is often unaware of his errors, partially, at least, because of the high incidence of hearing impairment and his general uncriticalness. "When brain lesions disturb speech, the phonatory, articulatory, linguistic, and auditory effects are diverse and more often than not defy classification." [42]

For further information and discussion of the speech problems of this particular group of handicapped children, the reader is referred to *Speech Habilitations for Cerebral Palsy* by Marion Cass. *Recovery from Aphasia* by Joseph Wepman concerns problems of aphasics specifically.

Speech Therapy for the Mentally Retarded

Goals of a Program of Speech Therapy The goals of a speech therapy program are bound to be influenced to some degree by the general philosophy or attitude of the persons responsible for the program toward the mentally retarded child with a speech handicap. The fact that a person is a mental defective is in itself ample reason for difficulty in adjustment to his environment. Let a further handicap such as defective speech be added and the chances for difficulty are increased. "The stress of this defect may be just enough to tip the balance from adjustment to maladjustment." [43] Over and over we find the importance of speech being stressed in the adequate social development of the mentally retarded child. If the principal goal in all training of the mentally retarded is to make him socially adequate, then speech itself may become "an important means of social adjustment for the defeated in competition, the shy and reticent, and the antagonistic." [44]

For those who fail to see the mentally retarded child in terms of an individual personality and are consequently unable to organize a therapy program in that light, it may be well to bear in mind what Bibey has to say of the mentally deficient children at The

[41] *Ibid.*
[42] *Ibid.*, p. 167.
[43] Pintner, Eisenson, and Stanton, *op. cit.*, p. 79.
[44] Kennedy, *op. cit.*, p. 149.

Training School: "Mental poverty does not presuppose emotional poverty." [45] Bibey feels that the society of the institutionalized mentally retarded child is just as challenging as that of the normal child since it utilizes elements of competition, rivalry, and need for approval and self-respect. She further finds the mentally retarded child compensating for unintelligible speech by withdrawing, talking only to answer direct questions in short phrases, avoiding direct speech, laughing inappropriately, and using stereotype responses often inappropriate to the situation; and she considers these to be adverse reactions to speech handicaps.

Schlanger feels that speech behavior is an indicator of the person's adjustment to his environment. Delayed speech may be followed by defective articulation which may lead to poor pronunciation, limited vocabulary and difficulties in interpersonal relationships. "This failure to develop adequate skill in oral communication with its subsequent feelings of inadequacy may result in further speech and language deterioration." [46]

With the above considerations in mind, it is not difficult to agree with Strazzulla and Karlin that actual speech therapy does not concern itself initially with the "correction of defective sounds, but with the motivation and utilization of language. . . . Motivation in the use of oral communication is the necessary prerequisite to any speech training . . . the aim is not to attain perfect speech, but to assist them in developing usable everyday language to the maximum of their ability." [47]

A suggestion is made by Kirk and Johnson to the effect that goals should be "(1) an ever-increasing speaking vocabulary, (2) growth in concepts and meanings of words and (3) ability on the part of the child to express himself in adequate sentences." [48]

In setting up goals for any program for mentally retarded children, the term "realistic goals" is frequently employed. In studying or compiling any such list, we should certainly have in mind the particular group or individual for whom the speech therapy program is being organized. As can be seen from the description of various types of defects as found in certain clinical types of mentally retarded children, the therapy goals will vary somewhat from

[45] Lois Bibey, "A Rationale of Speech Therapy for Mentally Deficient Children," *Training School Bulletin*, 47 (1951), p. 236.

[46] Schlanger, *op. cit.*, pp. 114–115.

[47] Strazzulla and Karlin, *op. cit.*, pp. 292, 293.

[48] Samuel A. Kirk and G. Orville Johnson, *Educating the Retarded Child* (Boston: Houghton Mifflin, 1951), p. 164.

group to group. Konigsberg stresses the importance of "realistic" goals for the slow learner and, since this is a higher type of mentality than the other so-called clinical types discussed above, we can expect the emphasis to be on speech as the slow learner will meet it in "face to face contacts of everyday life," contacts that would probably be denied to mentally retarded children with decidedly subnormal intelligence.

The Program The mentally retarded child has a goal of social adjustment. If he is to reach this goal, one of the most important aspects of his ability to succeed is his degree of effectiveness in verbal expression and communication. Unfortunately, when one reviews the literature one finds that little is being done, or at least reported on, in the way of speech therapy for retarded children. However, work by the well-trained teacher is being attempted in the M.R. classes in the California public schools and other states. Schneider and Vallon [49] found that community facilities for such a program were frequently lacking, reporting as late as 1954 in the *American Journal of Mental Deficiency*. This viewpoint is also held by Schlanger in regard to the speech program for slow learners and reasons for this lack are given such as: the slow learner's small degree of retentivity and various "expressive or behavior anomalies." [50]

Since we have mentioned previously the possibility of misdiagnosis in the case of mentally retarded children with speech problems, and since the time of most therapists is of considerable value, it would seem that the first step in a speech therapy program for mentally retarded children should be a complete evaluation of the child and the problem. The evaluation of the speech and hearing status by use of a pure-tone audiometer and a thorough diagnosis of speech and language functioning has been suggested.[51] Although there is probably frequent use of objective articulatory check sheets, and although intelligence tests certainly have their place, Schneider and Vallon favor the "case-history" approach for each child through which the myriad personal factors of emotional adjustment, home

[49] M. A. Schneider and Jerome Vallon, "A Speech Therapy Program for Mentally Retarded Children," *American Journal of Mental Deficiency*, 58 (April 1954), 633–639.

[50] Bernard B. Schlanger, *An Analysis of Certain Factors Affecting the Speech Proficiency of a Group of Mentally Retarded Children*, Ph.D. dissertation (Madison, Wis.: University of Wisconsin, 1952), p. 179.

[51] Estelle Moskowitz, "Speech Improvement and the I.Q.," *High Points*, 22 (December 1940), 6–10.

environment, and other etiological factors affecting speech development can be viewed in the light of their possible contribution to the present speech problem. We do not intend to enter the field of discussion of handedness and laterality, but it is interesting to note that Strazzulla and Karlin found a definite relationship indicated between the establishment of handedness and the degree of mental retardation and suggest that this correlation should be borne in mind in a program of speech therapy.[52]

The Therapist A great deal has been written and said about the therapist and the role of the therapist in the speech situation. We feel that initially there must be an acceptance of the speech and language level of the patient and the therapist must be directed toward developing any potentialities which may exist. He should also be realistic, quick to adapt, well-adjusted emotionally, and socially effective, have no academic or intellectual snobbery, be able to win over even antagonistic children, and certainly should believe in the ability of the pupils in a realistic fashion.

Parent Cooperation Regardless of speech areas in which a child may be deficient or the professional help of the therapist, classroom and home supplementation are of tremendous value and importance. Conferences between the therapist and the parent are extremely important as the child's assets and limitations are made clear and goals developed and agreed upon.

Strazzulla's article in the *American Journal of Mental Deficiency* for 1954 [53] is particularly practical. Several specific suggestions are made regarding the mentally retarded child's speech development at home. Most of these seem to apply particularly to the mother in her daily contacts with the child. They include suggestions about words to use and the gestures and techniques to employ in teaching them, as well as ways to motivate and stimulate the child.

Prognosis There seem to be no hard and fast rules when it comes to predicting success or failure for the mentally retarded child with a speech problem. In general it can be said that the higher the intelligence group, the higher the percentage of good results achieved.[54] Strazzulla suggests that mildly or moderately re-

[52] Strazzulla and Karlin, *op. cit.*, p. 289.
[53] "A Language Guide for the Parents of Retarded Children," *op. cit.*
[54] Pintner, Eisenson, and Stanton, *op. cit.*, p. 78.

tarded children with good social awareness respond well to speech therapy at approximately 5 to 6 years of age and older. "However, children with serious hearing defects, aphasic difficulties, dysarthria, and other special disorders, should receive earlier special training." [55] Louttit says that the correction of articulatory disorders should be undertaken only with children of not less than slightly below average mental ability who have no organic abnormalities.[56] The majority of authors seem to agree that intelligence plays some part in determining the degree of success of the therapy. Sirkin says that ". . . the IQ, while important, is not in itself the deciding criterion in selection of cases. Rather, ability of the patient to cooperate is the most important single factor to consider, everything else being equal." [57] The author then goes on to point out that "In general, it has been our experience that correction of patients below the moron grade is unsuccessful, and that a minimum mental age of 5 or 6 years is essential." It is our contention that a reasonable view will certainly take the factor of intelligence into consideration but will also regard the child as an individual with his own possible assets and liabilities that will influence the progress that he may or may not make in the speech therapy program.

42 *Speech Rehabilitation for the Mentally Handicapped*

RUTH G. ARNOLD

RECENT LEGISLATION in the State of New Jersey has made it mandatory for local school districts to make provisions, either within their own systems or in surrounding areas having the spe-

From *Exceptional Children*, 22:2 (November 1955), 50–52, 76. Reprinted with the permission of the Council for Exceptional Children and the author. Dr. Arnold, formerly supervisor of speech for the Union City, New Jersey, public schools, is now director of the Speech Therapy Clinic, Alpine, New Jersey.

[55] Strazzulla, *op. cit.*, p. 57.
[56] Louttit, *op. cit.*, p. 465.
[57] Sirkin and Lyons, *op. cit.*, p. 79.

cialized facilities, for the education of the physically and mentally handicapped child.

The special education department in the school system of Union City, which has been one of the pioneers in the field of special education in New Jersey, is therefore being placed in the position (with assistance from the state) of providing for the needs of increasing numbers of handicapped children from other school districts not having the facilities.

One of the needs of some of these children is that of speech rehabilitation. Since part of the Union City school system's over-all program [1] in speech education provides for speech rehabilitation or correction for those in need of it, such speech correction is offered not only in the regular classroom, but in the special education classroom as well.

On the basis of past experience in speech correction in both the regular and the special education classroom and in the light of the future needs of an expanding school system, it would seem to the author that a brief review of some of the basic philosophy and procedures in dealing with the mentally handicapped child, in so far as his speech needs are concerned, might be of interest or service to others having to meet a similar challenge.

Union City schools use a team approach in discovering, diagnosing, and helping those children who are physically [2] and/or mentally handicapped. The classroom teacher, the parent or guardian, the child (depending on his age and ability), the personnel of the child guidance department (headed by the school psychologist), the grade supervisors, the school principals, the school doctors, dentists, otologist, optometrist, the supervisor of speech, and the school social worker, each—as the occasion demands—pools his specialized knowledge and insight toward the end of understanding the handicapped child and his needs.

Basic to an understanding of the bounds and limitations as well as of the goals of speech rehabilitation for the mentally handicapped, it should be stated that the mental characteristics which may be considered unique with these children, in addition to the factor of gross retardation in terms of their mental age, are the following:

[1] Ruth Gifford Arnold, *A Program of "Speech for All" in the Public School System of Union City, N. J.*, unpublished dissertation (Teachers College, Columbia University, 1954).

[2] This term includes the hard of hearing, the speech handicapped, those suffering from lowered vitality, the orthopedically crippled, *i.e.*, the cerebral-palsied, cardiopathic, birth-injured, etc.

1. The mentally handicapped show a tendency to stereotyped answers by repeating the same response to different queries;
2. They lack powers of self-criticism;
3. They have limited power for the association of ideas;
4. They have a comparatively short auditory span;
5. They are inclined to be easily distractible;
6. They usually fail to detect absurdities in commonplace situations;
7. They tend to have greater ability in dealing with the concrete idea rather than with the abstract;
8. They have limited powers of reasoning, visualization, and similar mental traits;
9. In numerous instances their diadochokinetic rate [3] is slow, one of the signs of poor neuromuscular coordination.

It is obvious that language must utilize intellectual or cognitive factors; that purely emotional cries such as those made by animals are conceivable without intelligence; that emotional cries express native, rather than learned reactions; that speech and language are learned, not inborn; that the child's speech facility and language development illustrate his acquired or learned responses for the purposes of expressing and communicating his ideas and feelings.

Since speech has its intellectual as well as its phonatory, auditory, and articulatory aspects, it is reasonable to expect that an intellectual impairment will, in some cases, be accompanied by an impairment of speech. For those children who are mentally retarded and who are also in need of speech rehabilitation, the foregoing characteristics of the mentally handicapped should seriously be considered. In other words the speech correctionist working with these children should strive for the best the child can do, not necessarily for normalcy in the child's speech facility. The child "may be expected to reproduce orally short dictated passages or lists of letters or numbers, and yet fail definitely if asked to translate the sense of the passage into his own words, or to reproduce orally lists of letters or numbers presented to him one by one in printed form. For this reason aments frequently escape detection by the lay person if he observes them only in the simpler social situations of everyday

[3] Diadochokinesis may be defined as the act or process of repeating at maximum speed some simple, cyclical, reciprocating movement, such as: lowering and raising the mandible, tongue, etc. Articulatory skill is dependent upon such abilities.

life." [4] In some cases the glibness of aments is truly remarkable, though upon working with them for a length of time, it is evident that there is little thought content or sustained continuity in what they are saying.

The kinds of speech defects to be found among mentally handicapped children are basically no different from those defects among normal children. The defects fall into the usual articulatory, phonatory, rhythmic, auditory, and linguistic categories. Speech tests emphasizing in their administration nonlinguistic performance rather than relying solely upon language facility should be employed both for diagnosis and subsequent evaluative purposes. The remedial procedures in the case of those mentally retarded should include: constant but meaningful repetition (drill), short periods of therapy, reliance upon concrete examples and simple motor skills, a frame of reference *closely* allied with the child's experiences, opportunities for frequent relaxation, complete acceptance and understanding of the child's limitations, constant observance of the child's physical well-being,[5] and finally, the wise but generous use of approval and praise of the child's every attempt in the rehabilitation of his speech.

Though every child with delayed or disordered speech is not necessarily one who is also mentally handicapped, it has been found that the lower the intelligence, the fewer cases of normal speech; "the mentally deficient child begins to talk about a year later than the mentally normal child" [6] as a rule. Because the mentally retarded child usually begins to talk later, because his neuromuscular basis for speech is likely to be impaired, because he is inclined to be emotionally and socially immature, because he has limited powers of reasoning, association, memory, and self-criticism, it is important to successful speech therapy that he be stimulated by as many different approaches to speech correction as possible. Four approaches are utilized in the speech rehabilitation of the mentally handicapped in the Union City schools; they are the auditory, visual, tactile, and kinesthetic methods of speech correction.

[4] Robert West, Lou Kennedy, and Anna Carr, *The Rehabilitation of Speech* (New York: Harper, 1947), pp. 205–206.

[5] More productive speech therapy can be expected, it has been found by the author, if the child seems to be feeling well, if poor teeth are attended to, if all obvious ills are reported to and cared for by the school or personal physician.

[6] Jon Eisenson, *The Psychology of Speech* (New York: Appleton-Century-Crofts, 1938), p. 131.

Auditory Approach

Because the mentally handicapped child usually has a short auditory and attention span, has not been disciplined in the art of listening, is usually indulged, or neglected, or ignored by his parents (any of which parental attitudes result in the child's emotional instability which interferes with his best chances for speech rehabilitation), he has had little opportunity to appreciate the seemingly obvious fact that sounds are different and are produced in unique fashion. Phonetic drill is basic to the task of attempting to increase his auditory memory span which in turn is basic to the rate and kind of maturation of his and incidentally of every other individual's speech pattern.

In constructing phonetic drills, consideration is given to the child's auditory deficiencies, following the general principle that the word to be learned is broken into unit combinations with which he is familiar. Lists are developed with him of meaningful two-sound combinations grouped in families such as:

my	see	at
pie	me	ask
high	tea	am
die	she	

After these are mastered, three-sound families are used. Following this drill, one-, two-, and three-sound families are linked together to make vocables that involve combinations of these unit groups. Sound-discrimination drill using the simplified reading texts of each special education class are employed to insure as much carry over of learned skills as possible.

Discriminate use of the tape recorder is of help in assisting the mentally handicapped child to hear himself objectively. However, much planning is first necessary, so that the child knows what to listen for and that the recording may serve as his guide in securing the "bigger voice," the "prettier voice," the "quieter voice," and the "clearer voice."

Playing games such as: "What kind of animal am I?" where the sound the animal makes is the only clue given is sometimes much fun in younger groups. For example, "Did I hiss like a goose

or buzz like a bee? Did I puff like a train or hush like mama at bed time? Did I ring like a bell or hum like a humming bird?"

Auditory training for the mentally handicapped is developed as follows: first, gross sound discriminations (that of the sounds of horns, bells, drums) are learned; second, simple speech discriminations (asking the child to state which of the sounds heard are similar or different) are considered; and finally, vowel and consonant sound discriminations are developed in order to obtain a practical sequence of ear training for the maximum results to accrue.

Visual Approach

By means of a pocket mirror, or the proverbial mirror on the wall, an entirely new concept of speaking (visible speech) can be presented to the child in that he can *watch* how he makes sounds, copy the mouth postures of the correctionist, and work, if necessary in his case, to eliminate any facial ties he may have. By means of this visual approach, the attention span of the child may be increased which in turn may facilitate the work in his speech rehabilitation.

Compiling scrapbooks of colored pictures representing the sounds being worked on, or the words being added to the child's vocabulary, is another means for enlarging the child's visual concept of speech.

For younger children, playing with toys clearly marked with the sounds being worked on such as: train (t), ball (b), wagon (w), and constructing simple stories about them under the correctionist's guidance have also been found to be useful in developing correct articulatory skills and simple reading habits.

Tactile Approach

The tactile approach may be utilized in helping the child to perceive vibration and pressure patterns upon the surface or the back of the hand. For example, the child's hand is placed on the correctionist's throat so that the child may feel the laryngeal vibrations at their source, or the hand is held in front of the correctionist's mouth to catch the puffs of air that come forth as she talks. The

child then attempts to imitate the correctionist, checking his own success or failure by feeling his own throat and by placing his hand in front of his own mouth. Feeling his nostrils vibrate on the nasal sounds, (m, n, ng) is also to be considered part of the tactile approach in speech correction.

Kinesthetic Approach

Some mentally handicapped children (there are those who lack any ability to respond to this approach) may be taught the positions of the speech apparatus through their striving for that "inner feeling of what it feels like to me to make an (ng) sound in my throat." The kinesthetic approach is an important one in speech therapy because much of the articulation process (producing the guttural sounds, for example) is invisible. Considerable time must be spent in developing in the child an awareness of the sensations coming from various articulatory adjustments, and in teaching him to control his tongue, velum, and larynx to produce these various sensations. Drill, generously sparked with kindliness, good humor, interest, and divine patience on the part of the correctionist can produce results, though not the results to be expected of the normal child.

By means of innumerable variations of each of these approaches in correcting speech defects in the mentally handicapped, some successes should be expected, some failures should be condoned, and some surprises should be accepted gratefully. The question may be asked, "Can the oral language skills of the majority of the children who are mentally handicapped be improved?" It has been found that they can, though obviously any improvement is directly dependent upon the speech teacher's understanding of the child's limitations. Aside from the teacher's basic work on articulation, voice placement, breathing, rhythm, and vocabulary, the speech teacher working with the child who is mentally handicapped needs to be able to dispel the child's tensions when they exist, to plan and work toward attainable speech goals, to foster satisfying success feelings within the child and to assist him to become a happier *communicative* being.

In the local special education situation, of a total population of approximately 200 boys and girls, 20 percent have been found

Scope and Sequence of a Developmental Speech Program

Vestibule and Primary Classes (Young Children)	Intermediate Classes (Pre-Adolescents)	Secondary School Classes (Adolescents)
Depending on the level of growth as indicated above, the speech program should be directed toward the development of:		
Attitude		
The desire to speak through: a friendly classroom atmosphere, opportunities for informal speaking situations.	A favorable attitude toward speech, an awareness of the value of good voice and speech in social relations.	An awareness of the value of good speech in both social and vocational situations.
The acceptance of speaking and listening as pleasurable experiences through enjoyment of and participation in songs, rhythmic poetry, simple stories, dramatic play, games.	An appreciation of the speech arts through choral speaking, informal dramatics, puppetry, storytelling in a classroom situation, inter-class visits, and group assembly performance.	Continued appreciation through participation in the speech arts.
Simple standards of courteous speech in the classroom, simple standards of audience behavior in a classroom and home situation.	Standards of courteous speech in out-of-school situations (school bus, subway, dinner table, etc.).	Standards of courteous speech in public places with stress on employment possibilities.
Ease in speaking with individuals and small groups in a familiar environment.	Standards of audience behavior in the classroom, school assembly, home, and moving picture theater. Ease in speaking to individuals outside the familiar group: the storekeeper, the policeman, new friends, guests in a home, school, neighborhood situation. The desire to share experi-	Standards of audience behavior for larger groups with stress on out-of-school situations (the theater, public meeting, work-group, etc.) Ease in speaking with others in a broader environment (department store, bank, post office, insurance company,

SOURCE: From *Speech for the Retarded Child,* edited by Helen M. Donovan (Brooklyn: The Board of Education, 1960), pp. 96–98. Reprinted by permission of the Board of Education of the City of New York.

Vestibule and Primary Classes (Young Children)	Intermediate Classes (Pre-Adolescents)	Secondary School Classes (Adolescents)
	ences, with others in the class.	places of employment, etc.). A discriminating attitude toward speech through evaluation of the speech of personalities observed in entertainment media: television and motion pictures.
Voice		
Auditory discrimination through recognition of familiar objects by their sounds.	Auditory discrimination through recognition of the difference between the vowel sounds and gross differences in voice quality.	The extension of auditory discrimination to the finer elements of voice quality.
Awareness of gross differences in voice quality and volume: pleasant voice, rough voice, small voice, big voice.	Awareness of the effect voice quality has on the listener with stress on the degrees of volume and the appropriate degree of volume needed for various situations; the conversation voice, the classroom voice, the auditorium voice.	Practice in use of the appropriate voice in varied speech activities.
Habitual use of audible voice with some measure of volume control.	Habitual use of a pleasant audible voice through practice in exercises for relaxation, ear training, breathing, projection, resonance, and the correct production of all the vowel sounds.	Correct production of vowels with stress on those sounds commonly distorted.
	Simple standards for self-evaluation and group evaluation: Use of rating charts.	Standards of self and group evaluation.
	Flexibility of voice by practice on variations of pitch used for single sounds and words.	Greater flexibility of voice.

Vestibule and Primary Classes (Young Children)	Intermediate Classes (Pre-Adolescents)	Secondary School Classes (Adolescents)
Articulation		
A slower rate of speech through relaxation and imitation.	Slow, easy speech. Awareness of differences in the rate of speech.	Appropriate variety in the rate of speech.
Control of the articulators through lip, tongue, and jaw exercises.	Greater control of the articulators through exercises.	Greater control of the articulators through exercises.
Clear speech through practice of jingles and songs and practice in careful enunciation of short phrases used in everyday speech.	Correct production of all consonant sounds through auditory training and drill. Integration of work on specific sounds with reading and spelling.	Correct production of all consonant sounds with concentration on practice and drill for the correction of common consonant substitutions and omissions.
Skills for Connected Speech		
Awareness of variations in speech rhythm and melody in rhymes and simple stories.	Variety in inflection in poems and conversational speech.	Variety in inflection with stress on the relationship of flexibility of voice to meaning.
Natural use of stress and phrasing by setting a good example.	Natural use of stress and phrasing by direct teaching with special attention to oral reading.	Natural use of stress and phrasing through practice in oral reading and conversational speech.
	Acceptable American intonation pattern through direct teaching (when deviations exist).	Acceptable American intonation through continued remedial work if needed.
The Speech Arts		
A sense of rhythm through listening to music and participation in singing and rhythmical physical exercises and group recitation of nursery rhymes and simple jingles.	Choral speaking for enjoyment and for presentation to an audience in inter-class visits and assembly performances. Storytelling by teacher and pupils.	Choral speaking with a larger audience.
Dramatic play.	Pantomime, impromptu dramatizations of nursery rhymes, simple sto-	Pantomime and informal dramatizations for an audience.

Vestibule and Primary Classes (Young Children)	Intermediate Classes (Pre-Adolescents)	Secondary School Classes (Adolescents)
	ries. Presentation to a familiar audience—classmates, primary grade class, small group of parents, etc.	
Functional Speech Experiences		
Use of clear speech and audible voice in the simple speech experiences of the home and school environment.	Use of clear speech and pleasant, audible voice in the speech experiences of the home, school and neighborhood.	Use of clear speech and pleasant, audible voice in the speech experiences of the large community as well as those of the home, school and neighborhood.
Use of short sentences to replace single word response.	Habitual use of full sentences.	Correct pronunciation and proper usage of words related to vocational areas.

to be in need of speech rehabilitation. The breakdown of this percentage involves the following types of problems:

Articulation	9
Delayed speech	6
Hearing	3
Foreign language	2
Cerebral-palsied speech	1
Brain-injured	2
Stuttering	2
Severely retarded mentally, emotionally and/or linguistically (including idiots, mongols)	15
Total	40

Progress in articulatory skills, rhythm, and language growth has been notable with most of these children over the past two and one half years with the exception of those in the severely retarded group. In this group, varying degrees of success have been secured in gaining *some* rapport, releasing *some* tensions, developing *some* attention span, and building *some* articulatory and language skills. Their limitations—mental, physical, social, and linguistic—need always to be kept in focus, for though the therapist may

achieve some success today, tomorrow the skill is very likely a forgotten or an unused one—to be worked on all over again.

Nevertheless, the mentally handicapped are individuals who need to communicate their ideas and feelings orally with others just as do those who are not similarly handicapped. That is why the mentally handicapped who are also speech handicapped, should indeed have the opportunity to correct and/or improve their speech to the maximum of their ability, limited though that ability may be.

43 *Aphasia in Children*

HELMER R. MYKLEBUST

SPECIAL EDUCATION has emphasized the individual needs of handicapped children. Because of this emphasis, programs have been developed for the orthopedically handicapped, children with cardiac disorders, the blind and partially seeing, the deaf and hard of hearing, the mentally deficient and slow learning, and others. The history of special education reveals that, not only has concern for the handicapped child benefited children with handicaps, but the study and training of these children has resulted in better understanding of the needs of all children. For example, study of the mentally deficient has increased our knowledge of mental development in general. Likewise, study of deaf children has resulted in a greater awareness and understanding of sensory and language development in early childhood. It is in the light of the history of special education and its contributions, that the problem of the aphasic child will be considered. Special education must continue to be dynamic and deeply concerned about the challenges which arise. As scientific advances are made it is to be anticipated that children whose needs have not been known previously will become apparent, among them, those of the aphasic child. Before mental

From *Exceptional Children,* 19:1 (October 1952), 9–14. Reprinted with the permission of the Council for Exceptional Children and the author. Dr. Myklebust is professor of language pathology and psychology, Northwestern University.

tests were developed the problems of the mentally retarded remained undefined. Before visual and auditory tests were developed the problems of the partially sighted and hard of hearing were obscure. Similarly, advancement, especially in the neurology, psychiatry, psychology, and speech pathology of children now makes it possible to outline and emphasize the special needs of aphasic children, and it becomes necessary for teachers and school administrators to develop programs which are planned to meet these needs. This does not imply that aphasia in children is at present as readily understood as some of the more commonly known handicaps. On the contrary, a body of knowledge concerning aphasia in childhood remains to be achieved. There is much confusion relative to the identification, classification, diagnosis, and training of these children, but this is no reason to ignore them educationally or to continue certain common practices.

The Nature of Aphasia in Children

In order to plan for aphasic children it is necessary to consider briefly the nature of aphasia. It is not the purpose here to discuss the many theoretical aspects but simply to consider some of the basic differences between the aphasic child and other children.

Aphasia in children is usually congenital. Congenital means present at the time of birth, and is essentially a temporal concept rather than a causal concept. Therefore, stating that most aphasia in children is congenital is to say that the *condition* which results in the language disorder commonly called aphasia is present at the time of birth. The condition may have been sustained prior to birth. Stating that it is usually congenital means that most often it is present at the time of birth. It must be emphasized that congenitality has no relationship to hereditary factors per se. Congenital is a time-of-occurrence concept only. Hereditary (endogenous) and nonhereditary (exogenous) are causal concepts. These terms emphasize the *why* of the condition, not the *when*. Confusion of these concepts has resulted in long discussions as to whether aphasia really exists in children. Discussions of this type have been useful in the past but perhaps will only deter progress if they continue in the future.

To pursue further the consideration of the nature of aphasia in children it may be helpful to evaluate the term aphasia. Literally, the term means lack of speech. Currently aphasia is widely used

to mean both lack and partial lack of speech and this practice is followed in this article. However, if taken literally, neither of these terms is sufficiently inclusive nor descriptive to reveal the real nature of aphasia. If aphasia were only lack of speech, then any child who is mute would be aphasic. Obviously this is not true. Aphasia is not essentially or basically a speech problem. Rather it is a language disorder. This is a significant differentiation and must be emphasized. While a certain type of aphasic disorder (expressive aphasia) is characterized by its peculiar lack of speech, aphasic disorders in general are more far reaching and handicapping than speech defects.

As has been stated, aphasia is a language disorder and thereby the nature of aphasia includes consideration of the nature of language. Language is a system of symbols or signs, which take the place of, or stand for, objects, ideas, and feelings. For example, the word *cat*, when spoken, is an auditory symbol meaning a certain kind of four-legged animal.[1] Aphasia is a disorder in acquiring the normal use of these symbols which constitute the language; it is a defect which prevents normal development of symbolic behavior (the ability to behave as tho an object, idea, or feeling were present when it is absent). Symbolic behavior, as thought of here, is present only in man. It is symbolic behavior which especially characterizes man. This is the ability to behave as though an object, idea, or feeling were present when it is absent. The symbols can be used to refer to past, present, or future situations. Acquiring this symbolic behavior is the process of acquiring language normally.

It is not the purpose here to discuss language in detail. However, relative to the nature of aphasia in children, it is clarifying to categorize language function into three types. First, is the language used to communicate (speak) with others? This is expressive language and commonly referred to as speech. Second, is the language used to understand what others say: reception of the expressive (spoken) language of others? This is the receptive aspect of language. Third, is the language used to "talk to oneself"? This is the language which is used internally for purposes of thinking or reflection. This may be referred to as inner language or as inner

[1] Language symbols are either auditory (spoken) or visual (written or read). It is not possible to consider symbolic disorders of reading (dyslexia) or the symbolic disorders of writing (agraphia) here. However, these language disorders must be considered as closely related to aphasia and should be so viewed in program planning.

speech. The aphasic disorders commonly encountered in children may be categorized on the basis of these three types of language function. Disorders in the symbolic processes involved in expressing oneself (speaking) are referred to as expressive aphasia. Disorders in the symbolic processes involved in understanding (receiving) language are referred to as receptive aphasia. Disorders in the symbolic processes involved in the fundamental function of using language internally is referred to as central aphasia.[2]

It is uncommon to encounter children whose problem is purely expressive or purely receptive. The most common aphasic problem in children is one that has both expressive and receptive features. This condition is referred to as mixed aphasia. If receptive language is not normal but is better than the ability to use language expressively, the condition is classified as mixed expressive-receptive, predominantly expressive. On the other hand if expressive language is superior to the receptive language, the aphasia is classified as receptive-expressive, predominantly receptive. Receptive aphasia is more difficult to determine because of the reciprocal relationships between language reception and language expression. Facility in expressive language cannot be achieved without facility in receptive language.

However, reception of language may be at a high level without facility of expression being present. A receptive disorder results in a reciprocal reduction in expressive language. Therefore, when receptive aphasia is present, it is necessary to ascertain whether the reduction in expressive language is a result of the receptive disorder or whether expressive aphasia is present in addition to the receptive aphasia.

Any aphasia effects inner language capacity; both receptive and expressive language relate directly to inner language capacity. Severe mixed aphasia thereby approaches being central aphasia. From this point of view central aphasia is a lack of symbolic behavior; there is no facility either expressively or receptively. This is the most severe form of aphasia. Although general intelligence may be present at a level considerably above that of the mentally deficient, the lack of language (symbolic behavior) essentially reduces the child to subhuman functioning. Study of the child with central aphasia gives credence to the point of view that the predominant

[2] Each of these disorders is a manifestation of a concomitant neurological deficiency. Pediatric neurology is making progress in further ascertaining the nature of these neurological involvements.

differentiating characteristic between human and subhuman forms of life is that of language behavior.

Diagnosis of aphasia in children is a complex problem. Many aphasic children are erroneously diagnosed as delayed-speech cases. Delayed speech should not be considered a diagnostic category; it is a description of a symptom. Delay in speech may be due to one or more of several factors including aphasia. Ascertainment of whether symbolic disorders are present becomes the critical differentiating feature relative to whether a diagnosis of aphasia should be made.

Aphasia Confused with Deafness

Aphasic children frequently are confused with deaf children. The child with receptive aphasia does not profit from auditory language experience. He cannot understand what is said to him, or he understands so little that he finds his auditory experience to be confusing and distressing. As a result he relinquishes attempts to use his auditory language experience. He may even generalize from his experience with language and relinquish all voluntary attention to sound. This symptomatology may be mistaken for deafness. Careful evaluation and diagnosis usually reveals well defined differences between deaf and aphasic children. Again, the critical differentiation is whether there is a symbolic disorder. The deaf child, although he lacks auditory symbolization, is not symbolically disturbed and impaired. Even the nature of the deaf child's symbolic deficiency in the auditory area is widely different from that of the aphasic child. This difference is of marked importance theoretically, clinically, and from the point of view of special educational methodology and procedure. It includes realization and consideration of the nature of central nervous system impairments versus peripheral nervous system impairments. It includes the realization and consideration of the differences between the psychology of brain injury versus the psychology of deafness. Even at the present level of knowledge on aphasia in children and deafness in children, it can be safely stated that the problems encountered are vastly different and should not be confused. This means that a program of education, including the language training for deaf children, is not an appropriate training program for aphasic children. Likewise, a training program for aphasic children is not appropriate for deaf children. The psy-

chology of aphasia and the psychology of deafness in children are distinctly dissimilar and should not be confused.

Aphasia Confused with Mental Deficiency

Aphasic children are also confused with the mentally retarded and the mentally deficient. It is apparent that all defects in the brain are in the direction of "mental deficiencies." From this standpoint, a "mental deficiency" such as aphasia differs only in degree from what is commonly referred to as mental deficiency. A diagnosis of aphasia should be made only when there is a difference between language facility as compared to general mental capacity. Such differences may be present in the mentally deficient and then the condition should be classified as mentally deficient with aphasia. Our primary concern, however, is that lack of normal language functioning (deficient symbolic behavior) often is erroneously considered synonymous with generalized mental deficiency. This is unfortunate. Clinical and research evidence is rapidly accumulating which indicates that a child may have at least average general intelligence, but be aphasic. With appropriate language training and management, often he can acquire symbolic functioning so that he is markedly more competent than the child with generalized mental deficiency. Furthermore, to consider aphasia and mental deficiency as being different only in degree, is an oversimplification and is incorrect.

A mentally deficient child may or may not have a language disorder. If he does not, his language facility will be proportionate to his general mental capacity. He will acquire symbolic behavior at that level. The aphasic child, on the other hand, although he has average general intellectual capacity does not acquire symbolic functioning naturally. In this respect, the psychology of mental deficiency and the psychology of aphasia are different. It follows that educational and other training programs for the mentally retarded are not appropriate for aphasic children.

Confusion of Aphasia and Emotional Disturbance

Aphasic children may also be confused with emotionally disturbed children. Present clinical evidence suggests that some emo-

tional disorders in early life may impede the acquisition of language in a manner which simulates aphasia. Apparently there is a relationship between normal processes of identification in the child and the acquisition of language. In general, it must be emphasized that it is necessary to differentiate between aphasic disorders and emotional disorders in children. As research and clinical experience is achieved, the psychology of brain injury (including the psychology of aphasia) in children and the psychology of emotional disturbances in early life will be highly differentiated. It is now possible clinically to differentiate between the behavioral symptomatology of aphasic children, and children with emotional disorders, such as infantile autism (absorption in phantasy to the exclusion of reality), childhood schizophrenia, anxiety-hysteria, and obsessive-compulsive neurosis. The aphasic child has behavioral characteristics which are a psychological manifestation of his brain injury and of his deficiency in symbolic functioning. An educational and psycho-therapeutical program for emotionally disturbed children is not appropriate for aphasic children. Likewise, an educational training program for aphasic children is not appropriate for emotionally disturbed children. This can be illustrated by the suggestion that, in general, emotionally disturbed children require various types of permissiveness in therapy, while aphasic children require various type of structured (nonpermissive) types of handling.

What Causes Aphasia

It is not known at this time whether the aphasia in some children is endogenous. Some authorities have considered heredity as a substantial cause of aphasic disorders. Clinical experience continues to suggest that the aphasia in a few children may be hereditary. These suggestions derive from finding more than one child in a family with aphasia when a history of exogenous pathology is absent. Further research and clinical experience is needed in this connection. As medical research on prenatal influences progresses, more and more instances of presumed hereditary defects are attributable to exogenous causes.

There are many exogenous causes of aphasia in children. Extensive and rigorous case histories help to reveal these causes. Some of the more commonly known causes are toxic diseases such as rubella (German measles in the mother during pregnancy), anoxia

(deficient oxygen intake during prenatal life or at the time of birth), and intercranial hemorrhages resulting from birth trauma.

Program Needs

While some of the aphasic child's needs are similar to those of other handicapped children they are uniquely different in most respects. His needs cannot be adequately met unless he is classified separately and unless appropriate remedial methods and technics are used. Such classification and remedial training should include all brain-injured children with language disorders. (Deficiencies in learning to read, write, and do arithmetic may result from minor symbolic disorders which have been undetermined.) Clinical experience with children presenting all types of linguistic disturbances suggests that many more children have symbolic impairments than has usually been assumed. At the present time these children are most frequently considered to be mentally retarded and are classified accordingly. With the development of technics and methods for diagnosing and training aphasic children, it is becoming increasingly clear that they should be classified separately for special education. Their program should include emphasis on the symbolic disorders and the resultant problems in making school progress. If such remedial programs were inaugurated during the child's early school life there is strong suggestion that, like many other handicapped children, the aphasic child could progress with the normal child during his later elementary school life. At present the aphasic child is not provided for educationally. Usually he is classified with deaf or mentally retarded children. This results not only in confusion and inappropriate remedial measures for the aphasic child, but confuses the programs for other children.

11

PARENT COUNSELING

TWENTY-FIVE YEARS AGO the birth or recognition of a retarded child in a family was considered a severe tragedy and the outlook for him was quite hopeless. Today the same situation is still considered a tragedy, but at the same time it is possible to be more hopeful about the child's future prospects. Society's attitude toward mental retardation has changed greatly in the last decade. No longer is the retarded child considered "a forgotten child." Parents, though feeling a sense of personal tragedy, have more and more come to accept their responsibility, and working together, have fostered programs that augur well for all retarded children.

Parents of mentally retarded children began to organize in groups shortly before World War II. The movement was informal, and not until 1950 was a national group formed. If one movement were to be selected to signal the major development in help for retarded children, it would be the organization of the National Association for Retarded Children (at 386 Park Avenue South, New York City). Recognizing the value of strength in numbers and the psychotherapeutic effect of interaction among people with similar problems, this organization has forged ahead. The aims and purposes of the NARC are: (1) to promote the general welfare of retarded children at home, in institutions, and in all types of schools; (2) to further research in all aspects of mental retardation; (3) to develop a better understanding of the problem by the general public and to cooperate with various public and private agencies; (4) to further the training of personnel in the field of mental retardation; (5) to encourage the formation of parents' groups and to advise and assist in the solution of common problems; (6) to implement and promote legislation, and (7) to serve as a clearing house of information re-

garding program development. This organization, through its bimonthly newspaper, *Children Limited,* and through various publications, conferences, and clinics, has done an outstanding job.

The teacher, psychologist, counselor, social worker, and physician play major roles in guiding the efforts of parents. All should be well trained in interviewing techniques and counseling methods, and should be well informed about sources of referral for help. The aforementioned personnel should also be acutely aware of the types of reactions that parents of retarded children tend to form, and how best to work within this frame of reference. Kanner [1] has distinguished three principal types of attitudes: (1) mature acknowledgment of the actuality and acceptance of the child; (2) disguising reality, seeking either scapegoats upon which to blame the retardation or magic cures, (3) complete denial of the existence of any retardation. Zwerling,[2] a pediatrician, finds that personnel working with the families of mental retardates frequently make three errors. They (1) delay defining the problem, (2) encourage parents by holding out false hopes which cause disillusionment later, or (3) offer too much direct advice. The article by Letha L. Patterson, the mother of a retarded child, confirms Dr. Zwerling's analysis.

How should parents of mentally retarded individuals be advised? In the first article in this section, Dr. Leo F. Kanner, a pediatric psychiatrist and a pioneer in this field of counseling, suggests that the questions of the parents themselves form the most valid and practical guide to counseling. He identifies five major areas of parental concern: (1) the features of the diagnosis, (2) the etiology of the disturbance, an area where much is still to be learned, (3) the prognosis, (4) the child's place in the family structure, and (5) therapeutic management.

The second reading, by John R. Thurston, is an interesting study of the psychological reactions of parents to counseling. Dr. Thurston breaks down parental counseling into three stages: obtaining parental acceptance of the disability, setting some long-range plans, and guiding parents about attitudes and feelings. Particularly important is the guidance that can be offered to parents in their relationships with other people. In the final reading, Mrs. Patterson writes from the point of view of a parent of a retarded child. She

[1] Leo Kanner, "Parents' Feelings about Retarded Children," *American Journal of Mental Deficiency,* 57:3 (January 1953), 375–383.

[2] Israel Zwerling, "Initial Counseling of Parents with Mentally Retarded Children," *Journal of Pediatrics,* 44:4 (April 1954), 469–479.

makes a poignant plea for a straightforward parent-counselor relationship.

The bibliography at the end of this section has been gathered with the parents of mentally retarded children in mind.

44 *Parent Counseling*

LEO F. KANNER

At this stage of the development of professional interest in mental retardation, it may be taken for granted that adequate help to the patients' families is readily accepted as a major obligation. No examination and no plan of treatment can be regarded as complete without a meaningful explanation to the parents and a consideration of their curiosities and emotional involvements.

Parents are no longer dealt with merely as passive recipients of authoritatively presented wisdom but as deeply concerned persons who can, and should be, prepared for the task of becoming understanding and active participants. Parent counseling has rightly become an indispensable part of the over-all clinical procedure.

No one has offered more valid and more practically usable material for the contents and logical steps of such counseling than have the parents themselves. There are worthwhile compilations of questions asked by them, indicating specific areas of puzzlement, needs for clarification, etiological quandaries, unrealistic expectations, attitudes of ambivalence, disillusionment, and guilt, over and above the desire for an unequivocal, easily comprehended appraisal of the child's condition in terms of domestic, scholastic, and communal relationships.

These questions vary, of course, depending on the degree of the retardation, the general family constellation, economic circumstances, ideas about social prestige, and, last but not least, the inquirers' own personalities. Many, if not most, of the questions are

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asked not solely for the sake of obtaining factual information but with recognizable overtones of anxiety, more or less veiled requests for reassurance or expiation, sometimes—at least initially—an air of belligerent defensiveness.

A further significant issue is introduced by the fact that, by the time we get to see the parents, they bring with them not only perplexities which have arisen within themselves but also manifold reactions to earlier pronouncements coming from external sources which have exerted a powerful influence on their self-esteem and on their handling of the retarded child.

These sources often represent a meshwork of criticism, injunctions, misconceptions, false hopes or equally false dire predictions pelted upon the parents by well-intentioned but poorly informed relatives, magazine articles, and even physicians.

We are all too familiar with the instances of fathers and grandparents who, closing their eyes to the unwelcome reality, keep blaming the mother for the difficulties presented by the child; she is accused for doing too much for him or not enough, of being responsible for his development shortcomings through pampering or through neglect.

We are confronted more frequently than we should like to be with parents whose medical adviser has thought it expedient to tell them that their child will "outgrow" his lag and "catch up" with his coevals or, at the other extreme, that the child, being hopeless, should be "put away" in an institution, which is presented to them as something like a premature coffin. We hold in recent memory the cries of "Hosanna!" emitted in a widely distributed popular periodical with regard to the brightening effects of glutamic acid, the Bernadine Schmidt claims, and the transvascularization technique.

Parental Curiosities

All of these matters form the gist of parental questions, which are asked regularly with a great deal of feeling and to which the inquirers hope to get straightforward and sympathetic answers, without evasion and without hedging. For the purposes of an organized discussion, these curiosities can be divided into five separate, though interdependent and overlapping, groups centered around the features of diagnosis, genesis, prognosis, the child's place in the family structure, and therapeutic management.

"Diagnostic Formulation" It goes without saying that any diagnostic formulation offered to the family must be based on the clear knowledge of the patient's status, derived from a thorough physical, psychological, and social investigation. But it is also evident that the form of disclosure must be adapted to the type of the parents' orientation toward the child, themselves, and their environment.

There are those who seek professional confirmation of their own observations which have resulted in a mature acknowledgment of actuality accepted not with glee, to be sure, but with a determination to make life as comfortable for all concerned as is possible under the circumstances.

There are others who, though not unaware of the child's handicap, go about in search of some culprit that keeps their offspring from utilizing his supposedly normal capacities; they look for someone to discover a malfunctioning organ, condemn an allegedly inexperienced school teacher, or recommend harsh discipline for the child who "stubbornly" refuses to live up to their expectations.

There are, thirdly, those who, unable to face an unpleasant reality, resort to its uncompromising denial. Things can be further complicated if the two parents and other influential members of the family group differ in their emotional orientation.

Obviously, it is relatively easy to guide a maturely accepting parent, more difficult to counsel one bent on finding disguises, and imperative to exercise much skill to lift the ostriches' heads out of the sand.

In all instances, much tact is required. Even the most unaccepting parent is not a villain. The different types of attitudes are deeply anchored in the emotional backgrounds of the individual parents.

We cannot nowadays dismiss the topic of diagnostic counseling without reference to a trend which, growing in the course of the past decade, has had rather disturbing repercussions. It stems from the recognition that severe emotional disturbance can result in poor intellectual functioning on the part of children who have come into the world with average or better than average endowment. This is especially true of early childhood schizophrenia and infantile autism.

The increasing knowledge of these conditions marks a major progress in the realm of modern psychiatry. But in consequence of this, quite a few professional people have become reluctant to acknowledge the fact of innate mental retardation as such. Parents are told much too hastily that their imbecile or idiotic children, far

from being inherently defective, suffer from the results of an "emotional block" which should be removed by intensive psychotherapy of the child and both parents.

This not only calls for back-breaking financial expenditure but has convinced many parents that it was their emotional status and resulting practices which brought about the child's failure to develop. Far too many patients are taken to our clinic by pauperized, guilt-laden parents after months or years of this sort of treatment.

In view of such experiences, which are less sporadic than one should like to believe, it cannot be emphasized strongly enough that there are adequate differential diagnostic criteria, the disregard of which verges on malpractice.

"Problems of Etiology" Once the issue of diagnosis has been settled, parental solicitude converges on the problem of etiology. These are some typical questions:

What is the cause of our child's retardation?
What about heredity?
Is it safe to have another child?
Is there any danger that our normal children's offspring might be similarly affected?
Have we personally contributed to our child's condition?
Why did this have to happen to us?

It is as yet not possible to answer all these questions unequivocally. Science has not advanced sufficiently to make omniscient persons of the consulted advisers. Aside from the fact that causes of retardation are not always the same in all instances and that there may be multiple contributing factors in the same instance, the search for an ultimate cause runs against the barrier of our incomplete knowledge. We can, in individual cases, refer with assurance to the effects of the mother's German measles in the first trimester of pregnancy or to the vagaries of Rh incompatibility. But in the vast majority, there is no recourse to a specific pathogen.

I have never encountered a parent who respected me less because, in answer to the question about the cause of his or her child's retardation, I made no secret of my inability to supply a definite answer. As I have pointed out elsewhere, intelligent parents usually realize fully that would-be erudite terms, such as congenial or constitutional, beg rather than answer their question.

What most of them hope to hear is indeed not so much a piece

of etiological wisdom in terms of Greek or Latin origin as an authoritative and sympathetic endorsement of themselves, of their human and parental competence, of their right not to blame themselves for what has happened. They certainly can get the satisfaction of learning from an expert in the field that they as well as the patient can be acquitted of any responsibility for the developmental lag.

Even this attempt at needed exoneration calls for an overhauling of the parents' reasons for their belief that their own interference is the primary cause of the trouble. Such a belief may have complex and conflicting ramifications. It may conceal the hope that, if the condition is one made by man, it can also be unmade by man and is therefore reversible.

At the same time, however, there is the more easily ascertainable tormenting hunt for deeds and omissions which might have stunted the child's progress. This addition of self-insult to injury may have been reinforced by unfriendly in-laws and neighbors and, even more harrowingly, by looking upon the child's retardation as a punishment for premarital missteps.

At that, we are on safer ground in our counseling functions when we try to relieve parental guilt feelings than when we are faced with the issue of heredity. The parents' interest, when they express their curiosity, is more than academic. By the time they come to us, they have more than likely ransacked their family closets and may, or may not, have found a skeleton there. In either case, we cannot be very accommodating in so far as an outright verdict is concerned.

Available statistics are contradictory because some have been compiled in institutions, others extramurally, still others from combined institutional and noninstitutional populations. Furthermore, no distinction has been made in most numerical depositions between absolute, relative, and apparent retardation, so that heterogeneous elements were thrown together as if they had a scientifically justified common denominator.

The counselor is helped by the fact that parents who themselves are unintelligent are not usually bothered about this issue. Intelligent parents can be reminded that, had they, coming of sound ancestry and being healthy in body and mind, consulted an expert in genetics, he could not possible have predicted the birth of a retarded child and would have seen no cause for dissuading them from procreating. Their child's retardation must be put down as "an accident of Nature."

If these same parents have one or more well-endowed children, it is pleasant to be able to point out to them that they have the demonstrated capacity for producing normal offspring.

But most inquiries about heredity are less oriented toward the past than toward the future. What about the fate of subsequent conceptions? What is to be expected of the offspring of the patient's normal brothers and sisters?

The problem is especially vivid in the minds of couples whose first and only child is retarded. They would wish fervently to enjoy the experience of bringing up a well-functioning child and yet dread a repetition of the mishap. The assurance that lightning usually does not strike twice in the same place rarely has the effect of alleviating the fear.

Can we as parents' counselors guarantee fair weather ahead? Mongolism, phenylpyruvic acid oligophrenia, Tay-Sachs' disease, and quite a number of so-called heredo-degenerative disorders have been known to occur in more than one member of the family. I saw recently two healthy, college-graduate people whose first child died of brain tumor at four years, the second, hydrocephalic, was stillborn, the third and fifth pregnancies terminated in miscarriage, and the fourth child, the only survival, has an IQ of 65. In this instance, one would certainly be positive in discouraging further procreation.

On the whole, however, it seems wise to point out to parents whose first child is retarded that, as their experience has shown every pregnancy entails a risk and that no one can predict the outcome with absolute certainty.

It is well to remember that the parents' inquiry is more than a simple quest for information. Behind it is sometimes a scheme, not altogether conscious, to be sure, to throw the whole burden of responsibility on the adviser. If they are told to go ahead and the second child also turns out to be retarded, they are clear of any blame. They can point an accusing finger at the adviser who has told them what they wanted to hear.

The initiative should always be left with the parents. If they do commit themselves in favor of having another child, they should be advised to do so only after they have been able to free themselves of the anticipation of disaster. Constant dread before and after the arrival of the new baby is apt to create an attitude not conductive to a wholesome relationship even with the healthiest and sturdiest child.

"Prognostic Guidance" Parents who watch their child fall behind reasonable expectations cannot help but wonder about his future. They look for prognostic guidance from their professional mentor. They ask: "What will our child be like when he (or she) grows up? Will he ever talk? Can we expect graduation from high school? From grammar school? Will our child ever be mature enough to marry? Do you think that our child should be sterilized and, if so, at what age?"

As everywhere in medicine, any prognostic evaluation depends, of course, on a correct diagnosis. There are situations, especially when we are confronted with patients in the first two or three years of life, which call for caution in arriving at a definite conclusion. Matters of responsiveness, negativism, reactions to separation from the mother, or, in her presence, clinging to her may blur the psychometric results even at the hands of a skillful examiner.

It is then best to keep one's own judgment in abeyance and suggest repeated studies in stated intervals until a clear picture emerges. When we ourselves have obtained a sufficiently adequate estimate of the child's present and future potentialities, we are under obligation to transmit our information to the parents frankly and kindly.

I have known pediatricians who, out of a mistaken notion of charity, withheld their knowledge from the parents with the underlying attitude: "These are nice people and I hate to shock them; let them find out for themselves in the due course of time and then it will be easier to advise them."

Deception, no matter from what motive, is deplorable. We have no right to lull parents into a false sense of security. They expect the truth from us. Frankness, to be effective, does not have to deteriorate into brutal and argumentative frankness.

If parents are too distressed about the future outlook, they can be helped to learn to take the child in installments. They can see progress if a child, however retarded, can do more at the age of five years than he had done at four. This makes them look forward to the time when, at six years, he will be capable of doing more than he does now at five.

"Family Structure" The retarded child's place in the family structure represents another important area of parent counseling. Parents ask: "How are we to explain him to our normal children? How is his presence in the home likely to affect them? How can we

give him the needed extra attention without making them feel that they are neglected?"

In addition, there are many quandaries which are not formulated as clearly conceived questions but can be inferred from the parents' general attitudes which ring through the tenor of their part of the interview as genuine fondness, sacrificial overprotection, resigned fatalism, perfectionistic impatience, or outright hostility.

Besides, in considering the family structure, more than the parents and children are involved. The parents' relationship with their own parents and siblings and the group of in-laws is often tied up inextricably and sometimes confusingly with the role assigned to the retarded child in the total kinship circle.

The degree of his retardation, his placidity or restlessness, sedateness or destructiveness tend further to mitigate or aggravate already existing attitudes. It must also be remembered that aggressiveness and irritability are not necessarily the attributes of retardation but, more often than not, are the child's response to pressures put upon him from without by demands exceeding his ability and from within by self-contrast with his normal siblings.

Jealousies on his part may arise on this basis, especially if he is made aware of his imperfections through teasing and name-calling, and jealousies on the part of the siblings may be based on their resentment of any protectively or pityingly preferential treatment given the retarded child.

There are many parents who heap all their attention on their handicapped offspring because they feel, or like to make themselves believe, that their normal children are well enough to "shift for themselves."

I know a chemist and his wife who trapped themselves completely around their imbecile son and so utterly obliterated their contact with the healthy daughter that she developed a hatred of her parents and her brother, left them as soon as she was old enough to do so, and has no communication whatever with them.

Early parent counseling might have precluded this anomalous situation.

"Therapeutic Planning" All of these considerations are an indispensable prelude to the kind of therapeutic planning which could be worked out with the family as informed and understanding collaborators.

Much has been made of the issue of parental cooperation, with the ready bestowal of laudatory epithets on those who obediently nod consent and the disapproval of those whose emotional involvement makes it difficult for them to bow to *ex cathedra* recommendations of residential school placement, special classes, or anything else.

Cooperation is not submission to the mentor's precepts. The term, "parent counseling," would be a misnomer if it were understood as a one-sided exercise in dispensing a take-it-or-leave-it set of rules.

Good counseling knows how to listen, how to sense parental attitudes so that, if this be required, they can be modified for their own benefit and that of the child and the rest of the family group. Any arrangement, whether it be of a medical, psychological, sociological, or educational character, will have its maximal effect only if considered in the light of this over-all setting.

45 *Counseling the Parents of the Severely Handicapped*

JOHN R. THURSTON

IT HAS LONG BEEN REALIZED that the parents of a handicapped child assume a vital role in the establishing of effective treatment and rehabilitation plans. To understand and help the child, it is necessary to understand fully the attitudes and emotional reactions of the parents toward him and his disability. It should be emphasized, however, that it is very important to investigate the adjustment of the parents themselves. As E. C. Smart has said, the production of a handicapped child "strikes at the vital emotional

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core of the parents." [1] Other authorities [2] have similarly stressed the likelihood of parental difficulties at this time. While it goes without saying that the handicapped child should receive first consideration and attention, the effect upon the parents should not be neglected. To investigate this important area, a survey of parental attitudes was undertaken as part of a comprehensive investigation of 372 institutionalized cerebral palsied patients. Almost without exception, these patients were involved severely neurologically. In this research effort, over 600 parents were given the opportunity to express their reactions regarding the handicap of their child. The Thurston Sentence Completion Form (TSCF) [3] was employed to facilitate their response. In 191 cases (51 percent), either one or both parents completed the form. It is felt that a brief listing of a survey results might serve as the basis for a discussion of the need for more effective counseling with these parents.[4]

Initial Reaction

As would be expected, virtually all parents experienced emotional upset and anxiety when they learned that they had a handicapped child. While they differed in their initial reaction, most displayed helplessness, grief, or guilt in varying degrees. The passage of time has apparently done little to ameliorate this condition. Their knowledge of the disability was poor, with only 4 percent indicating complete understanding of the nature and cause of cerebral palsy. About one in six stated that they could not understand yet *why* it had happened *to them.* Eighty-six percent of the parents felt that meetings with the parents of other handicapped children were a good thing with only 7 percent resisting the idea. A surprisingly high 74 percent said that they felt free to discuss the handi-

[1] Euzelia C. Smart, "Social Services in the Treatment of Cerebral Palsy," *American Journal of Physical Medicine,* 32 (June 1953), 159–164.

[2] Henry V. Bice, "Group Counseling with Parents of the Cerebral Palsied," *Psychological Problems of Cerebral Palsy, A Symposium* (Chicago: National Society for Crippled Children and Adults, 1952), pp. 23–40; and Thomas W. Hopkins, Bice, and Kathryn C. Colton, *Evaluation and Education of the Cerebral Palsied Child: New Jersey Study* (Washington, D. C.: International Council for Exceptional Children, 1954).

[3] John R. Thurston, "A Procedure for Evaluation of Parental Attitudes toward the Handicapped," *American Journal of Mental Deficiency,* 63:7 (July 1959), 148–155.

[4] Full details may be obtained from the author upon request.

capped child with friends and neighbors. However, their responses frequently conveyed the impression that they were very sensitive and were almost daring anyone to say something "wrong" to them. Twenty-one percent indicated that they did not feel free to engage in *any* discussions of this sort.

As a group, the parents were reluctant to comment on the mistakes others might make in raising a handicapped child. Some cited "spoiling" the child or else being ashamed of him as common errors. While most parents feel that others should act naturally or be sympathetic and understanding when around the handicapped, many indicated that they did not find this to be true. They saw pity and undue curiosity in the attentions of other people. In general, the parents were highly sensitive, suspicious, anxious, and unhappy individuals, the opposite of what might be desired. Their emotional state was such as to interfere with many phases of everyday living. In a very real way, they themselves were handicapped, for they had not become reconciled yet to their situation. While certain parents had been able to make the adjustment, the responses to the TSCF strongly suggested that a substantial number had not. Even though the emotional state of these parents is only dimly related to the development of the institutionalized children, the extent of unrest and unhappiness in this parental group is such that attention should be directed to it.

Reaching Parents through Counseling

One might inquire into what happened to these parents and the counseling program as it related to them. This question must be asked unless we are to assume that this degree of emotional turmoil is inevitable for parents having a severely handicapped child. In view of current psychological-psychiatric knowledge, this assumption is considered to be untenable.

What did go wrong? It is beyond our present understanding and certainly beyond the scope of this paper to specify the factors contributing to this state of affairs. However, according to the results of this poll, two areas would appear to be significant in the problem: (1) the parent-physician relationship and (2) the parent-other people relationship.

Directing attention to the first area, it would seem to be obvious that the physician is the key person to inform the parents of

the child's handicap. Over two thirds of the parents stated specifically that their child's condition was made known to them by a physician, either at time of birth or during some subsequent medical examination. Most of the remaining one third of the parents stated that "retarded development" of the child made them suspect the truth, but it seems highly likely that a physician must have been consulted in cases such as these. The parents traditionally have gone to him for information and counsel. Of all the difficult tasks that a physician must perform, the necessity of informing parents that their child is handicapped must rank high in repugnancy. How does he go about this? What does he say? How does he say it? Does he tend to "soften the blow" by minimizing the difficulty, or are his comments confined to a factual statement of the situation as he sees it? Does he at times try to "spare them" by strongly recommending decisive and immediate action if he feels the child should be institutionalized? Does the physician have enough time to listen to the parents? Does he take time? What do the parents say? Where else do they go for assistance? Why do many parents go from physician to physician? How does the physician handle their feelings and answer the questions put forth? The methods and manner of physicians in this role are not known. Additional research in this area would be of great interest. It seems likely that the approaches are variable with some physicians being highly effective and others less so. Although the dynamics of the "counseling" process are not know at this time, the TSCF findings would seem to indicate much room for improvement. Perhaps the adoption of a program, such as will be discussed now, may provide what is needed.

Effective Counseling Methods

Experts in the field think that there are probably three stages in the effective counseling of parents.[5] The first stage involves the acceptance of the disability, the second requires setting some rather long-range plans, and the third consists of counseling the parents about attitudes and feelings.

The imparting of factual information to parents is an important, difficult, and time-consuming undertaking. This, in itself, requires

[5] H. E. Blodgett, "Helping Parents in the Community Setting," *33d Spring Conference of the Woods Schools* (held in Minneapolis, May 2–3, 1958).

considerable skill and experiences on the part of the counselor. Grasping information is always difficult under stressful conditions, and it would appear that there are probably few more upsetting periods than those reported by these parents when they first are told the nature and magnitude of the handicap. It is understandable that the parents are unable to come to a full understanding at that time. In addition, the complexity of the involvement and the abstruse medical terminology may contribute further to the lack of comprehension. It would seem that the physician might use some assistance if counseling is to function adequately. Perhaps the physician should concentrate on being the medical authority in the situation, letting others handle the many functions necessary for effective counseling. Assuming close and continuing liaison with the physician, it would seem that either clinical psychologists or social workers would be qualified to understand the disability and to work with the parents discussing its cause, nature, and implications. When the parents have come to accept the child as he really is, with full knowledge of his strengths and weaknesses, the first step of effective counseling has been taken. This first phase might take a very long time in many cases. With this accomplished, however, it is then possible to proceed to the second part of counseling, where long range plans can be made for the child. The counselor may make some suggestions, but the importance of parental responsibility in making these vital decisions must be stressed. In the case of the severely handicapped, the problem of institutionalization versus home care must be resolved. The only truly adequate decisions are those that have been arrived at *by the parents* after a thorough appraisal of the entire situation and all its complex ramifications. The parent should be encouraged to talk to the parents of other handicapped children at this time concerning their feelings and problem solutions. This planning phase may involve many counseling interviews. While the emotional status of parents has received attention all during the counseling, it is after the plans have been made that the counseling may go on to the third stage, concentrating on their attitudes and emotional reactions. The parents may be extremely hostile and defensive or very cooperative, or their behavior might place them at some point in between these two extremes. Some display ambivalent feelings, and the emotional tone may fluctuate from day to day. To deal with this "feeling level" requires a mature, highly trained, and experienced counselor.

Working with Others

As has been mentioned, clinical psychologists and many social workers have the background to provide this counseling. The training of many ministers and priests emphasizes facets of psychological knowledge that would be helpful in working with these parents. With special education, these and still other professional personnel presumably might be in a position to function effectively as counselors. This additional training requires much in the form of theoretical knowledge and practical application of psychology. Among many other things, the counselor must come to have a good knowledge of himself and his attitudes toward handicaps and the handicapped. If he has not come to accept the handicapped for what they are, he cannot hope to extend the objective assistance that constitutes his true function. He must be aware of his own limitations, those of the child, and those of the parents, as well as those imposed upon him by the sometimes restricted facilities at his disposal. He must not be unduly impressed by these limiting factors but must stand ready as a source of support and realistic optimism. He should realize that amongst the burdensome anxieties and guilts plaguing the parents, are very real strengths of personality and character which may be utilized in providing adequate services for the child. It has been observed that parents who have tried to do everything within their power to help the handicapped individual somehow or other emerge from this trying situation the better for it.

The second major area of concern, the parent-other people relationships, would seem to provide less in the form of a basis for specific and detailed recommendations. The parents themselves contribute a great deal to the difficulties that they have with others. They are extremely sensitive and defensive in their dealings with other people. While effective counseling would do much to remedy this by insuring more comfortable and accepting parents, it would be important to make some effort to modify those actions and attitudes of other people that are perceived as offensive by the parents. How should one act when one is in contact with the handicapped and his parents? This would appear to be a highly individualized matter dependent on the particular parent and child involved. The reactions of the parents may not be determined so much by what another says or does, but by the perception of this

action by the parent. If another person asks about the child and offers to help, this may be interpreted by the parent in many different ways, depending upon his emotional state. Such an action may seem to be a manifestation of a pitying and patronizing attitude or it may be viewed as an act of sympathy and helpfulness. It may be viewed as active interest, or as idle curiosity, or in any of a hundred subtly different ways. In spite of their sensitivities, most parents look for some response on the part of others to them and their handicapped child. Many expect a great deal from the community and the individuals who comprise it. They want acceptance and assurance from others either by way of positive, comforting acts or by the elimination of unfavorable reactions.

How to foster the changing from "undesirable" to "desirable" behavior by others would seem to imply much in the form of complete acceptance and understanding of the handicap and what it means. Aside from straight factual presentations, such efforts should stress the feelings and sensitivities of parents, so that people could cope with or at least allow for their tendencies to be tense, worrisome, depressed, and suspicious. This means much in the form of public education and would appear to argue strongly for a continuation and expansion of the various educational programs aimed at enlightening the public regarding the handicapped and their problems.

46 *Some Pointers for Professionals*

LETHA L. PATTERSON

ONE OF THE MOST heart-warming aspects of being the mother of a retarded child these days is in being a part of a profound partnership which is developing between lay and professional people.

Of all life's problems, those presented by a handicapped child

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(and particularly a mentally handicapped child) require the utmost in teamwork within professions, among professions, and between professional and lay people, especially parents.

All over the country we parents are attempting to assume responsibilities appropriate to the partnership through helping to define our separate roles and in heightening our communications in order to save other families from unnecessary trauma.

Dr. Martha M. Eliot, formerly Chief of the Children's Bureau recently said: "When officials of public agencies ask what kinds of services should be provided for retarded children, my advice is 'ask the parents.' . . . [they] are often best qualified to say *what* help they need, though professional persons will have to provide the *hows*." [1]

Thus, we laymen and professionals are indispensable to one another in our efforts to make up for past neglect of this serious medical, emotional, social, and educational problem.

Perhaps I can bring together for the readers of this journal for professionals some of the written and spoken insights which have come my way from both professional workers and parents. These, I feel, are relevant for those of you who find it your task to help families face this heartbreaking problem—whether you are physicians, psychologists, social workers, nurses, teachers, or administrators. On the basis of these and my own experience I urge:

1. *Tell us the nature of our problem as soon as possible.*

When I said this to a class of students of child psychiatry at the University of Minnesota Medical School, I was asked by an alert student, "But Mrs. Patterson, what can the physician do when he is not sure himself and doesn't want to worry the parents?"

"Just be honest with us," was my reply.

It takes great sensitivity and intuition to take a mother's couched remarks and detect that they spell "worry." Often we parents are concerned just as early as our practitioner, but we are reluctant to put our fears and worries into words. However, we give plenty of hints that we want our professional counselor to help us get them into words, to lead us on the proper course—whether that means waiting a while or consulting with specialists immediately. It is a wise counselor who knows when he does not have the answers and is willing to admit it.

[1] Martha M. Eliot. Unpublished address to the National Association for Retarded Children, Boston, 1954.

One of my psychiatrist friends put it this way: "When I am faced with a worried mother or father, *I have got a problem.* Either there is something wrong with the child, or something wrong with the parents, or both. And if I can't identify the trouble, then I am obligated to get this family to someone who can."

2. *Always see both parents.*

Fathers are parents, too, and all professional workers need to be reminded of this. Both parents should be present whenever possible, and at least on first consultations regarding a child's handicap.

It is very difficult for a mother to go home and restate, interpret, and answer questions about a problem she does not clearly understand herself. Often the problem, with its fears, has brought about a lack of communication between mother and father. This is particularly true in a young marriage or when the retarded child is the first child. Establishing adequate communication is difficult in any marriage. Finding the words to support one another in *this* problem has been impossible for some of us. We have needed an objective person through whom to talk.

Unfortunately, all husbands (and wives) are not like the one who, when he learned that their little daughter would not progress like other children, said to his wife: "Honey, we don't know what lies ahead of us—but whatever it is, we can handle it because we are strong people."

Many of us can find this strength, however, if you will help us.

Another reason for seeing both parents is that both need to be pulled along together in their understanding and acceptance. I have seen too many mothers who realized the need for institutional care and were ready to "place" a child while the fathers trailed behind ignoring reality, not to recognize the great need for a common understanding. Sometimes it is the mother who will not admit that something is wrong and insists that her child stay in regular school classes when a special course of study is indicated, while the father suffers along in silence, afraid to precipitate the issue. If you but knew the isolation that can exist behind our four walls!

3. *Watch your language.*

Parents need to understand the implications of their problem, but too often we are given professional gobbledegook, or at the other extreme, plain talk of an obnoxious variety. Words like "idiot," "moron," and "feeble-minded" used to be excellent and descriptive clinical terms but they no longer apply to our retarded children.

Unimaginative writers and purveyors of so-called humor have polluted the meanings with connotations of social or moral deficiency in the mentally normal.

On the other hand, there was the doctor at a residential institution who wrote to two parents stating that their son was ill with "cervical lymphatic adenitis." The worried family did considerable research to find that the child simply had swollen glands of the neck.

The child psychiatrist, into whose capable hands my husband and I finally could put our problem was very sensitive in his use of words. He avoided "moron," "feeble-minded," and even "mental retardation" by encouraging us to evaluate our child's developmental status. And when he confirmed our findings, we felt quite pleased with ourselves. He always referred to our boy as "your son," "your lad," or "Stephen" with a voice filled with great compassion so that we started thinking more about Steve's problem and less about our own hurt egos.

4. *Help us to see that this is OUR problem.*

One way, of course, is by example—by not taking the problem over for us.

Too many well-meaning professional people in the past have thought they knew what was good for us and have recommended, even insisted on, institutionalization. We know, now, that denial of the existence of the child is not the solution for either child or parent, that abandonment is not the answer, and that it is psychiatrically unhealthy to rob parents of their responsibility for planning. Only as we parents are helped to work through our problems can we find any peace of mind. If we have not planned for our child ourselves, if someone else has made the decisions, we have not really made up our own minds and so must keep going over the ground again and again. We may never be at peace with the solution which was reached for us.

Administrators of institutions tell us that the best help for families in adjusting to their child's placement is the fact that the parents themselves have decided—with adequate professional guidance, of course—that placement is best for the child in relation to the total family welfare.

There is another reason for showing us that this is our problem. You have no idea how much unprofessional, unsolicited, and untried advice we get from well-meaning people—our neighbors, relatives, friends, and even strangers standing on street corners. When, with

your guidance and example, we realize that *this is our problem,* we can shut our ears to the static and rely on our own judgment. But we need your professional support in helping us to feel competent in making these decisions, your confidence that we will ultimately make the proper decision for care in our particular case, your assurance that there is no failure if we change our plan when circumstances change—life situations and retarded children present different problems at different times. You can help us explore the possibilities for meeting our problem; support us in adjusting to our decision; act as a continuing sounding board against which we can bounce our own thinking; and give us a good, sturdy shoulder on which to lean when we get dizzy going through the maze of decisions.

5. *Help us to understand our problem.*

Parents differ in the quantity and quality of information they can absorb during different phases of this problem. What they want and need depends greatly on the individual, but many of us have had to search for the knowledge we needed in order to understand our child.

Six years ago, when I began my search, a severe scarcity existed in printed material on the subject of mental retardation. Today, there are many fine and helpful publications in this field. One of the best that I have seen for new parents is Jacob's *New Hope for the Retarded Child,*[2] which is inexpensive enough to be used as a handout. Many other books, bibliographies, journals, and pamphlets provide excellent sources for parents.

Regardless of what we parents are able to read and absorb, we will always have questions to ask. We will continue to need support from someone, whether our child is at home or away—particularly in those days which follow the confirmation that mental retardation *is* our problem.

One medical counselor asks parents to come back several weeks after he has given them the bad news, knowing that they will have questions which could not come to the surface during the emotional strain of hearing the verdict. Moreover, he sees to it that the parents get to a social worker and he also urges them to join an association for retarded children.

Frequently he turns their names over to the local association's "parents counsel committee" requesting that some mature couple—

[2] Walter Jacob, *New Hope For the Retarded Child,* Public Affairs Pamphlet No. 210 (New York: Public Affairs Committee, 1954).

a mother *and* a father—call on them. He has found that parents who have successfully faced their problems can offer a special kind of help to new families which transcends his professional services. Further, he has seen the therapeutic effects of parents working together in organizations to improve the lot of the retarded and their families. Incidentally, he was initially one of the "pros" who were afraid of this "lay" movement.

6. *Know your resources.*

In referring to services, Dr. Eliot has called the retarded child "nobody's baby." Certainly there is evidence in most states that services are disjointed and uncoordinated. Rarely is there any one place which can put parents in touch with the resources that *are* available.

In Minnesota, where the county social worker is the local resource for parents, a booklet, *You Are Not Alone,* telling parents where and how to seek help, has been distributed to members of the state medical association, county welfare boards, clergymen of all faiths, family and welfare services, clinics, public-health nurses, associations for retarded children, and newspaper editors in the hopes that the booklet (or the information) will be passed along to parents. It was produced by the statewide Conference Committee on Mental Deficiency, a professional-lay body.

California has started meeting this problem with information centers for the parents of retarded children, set up in Los Angeles and San Francisco by the state Department of Mental Hygiene. The psychiatric social workers assigned to this task have a variety of functions—counseling individual parents, putting them in touch with resources, providing information to public and private agencies, and serving as consultants in community planning.

Other states are developing a network of clinics with built-in social services for the sustaining help which is so necessary.

Anyone who has carried a handicapped child from one waiting room to the next in an effort to gather resources into one piece will appreciate the significance of these several efforts to avail parents of the services that do exist.

7. *Never put us on the defensive.*

All parents make mistakes in raising children. Those of us who have a retarded child are bound to make errors, but we should not be made to feel guilty about them.

One day I said to my medical counselor: "You know, of course, that I was angry at you for a good long time for 'confirming my diagnosis,' but never once have you put me on the defensive about

it or any of the mistakes that we have made in relation to Steve."

"Why should I?" he countered. "How do I know I could have done any better than you, had I been in your circumstances?"

He went on to give this definition of "good parents": "Parents are good parents, when to the best of their ability, understanding, and circumstances, they meet as adequately as possible the needs of their children."

8. *Remember that parents of retarded children are just people.*

This has been *my* most amazing discovery. We are just people with a serious problem, a great sorrow—a living sorrow. We have the same strengths and weaknesses as others in the general population. We have the same problems, the same handicaps. But when the burden of mental retardation is heaped upon us, often these problems and defects are magnified and we, in turn, create problems for those of you who must deal with us. But *as a group,* I do not think we should be considered abnormal, particularly in view of the poor cultural attitude toward our problem, the lack of interest and services, and the fact that some parents have made great personal and family sacrifices to carry this "cause" to the public conscience.

You cannot generalize about parents of retarded children any more than you can generalize about retarded children. Gifted, average, or limited, any of us can find our problems complicated by our own emotional make-up. Professional people working with us must learn to appraise these variables in our intelligence and emotional stability.

Apropos of this are the technical articles which some of us read. Why do we *always* face such words as "anxieties, hostilities, frustrations, guilt-feelings," and other emotionally charged words to describe our reactions? Such pseudoscientific certainties merely serve to make parents feel even more inadequate, it seems to me.

You should take seriously the comment of a New Jersey parent: ". . . Is not what appears to be 'guilt feelings' to professionals, merely concern with the child's welfare, mingled with grief over his handicap?" [3]

"All parents experience some feelings of guilt about illness in their children . . . ," Dr. Julius B. Richmond, pediatrician, of Syracuse University has said. If outward manifestations of these feelings persist in us after you have assured us that "no act of omission or

[3] National Association for Retarded Children, New York, *Children Limited,* 4 (June 1955), 5.

commission" on our part has been responsible for the condition of our child, perhaps our feelings might be more aptly described as "regret." We are bound to feel regret if we have rejected this child, if we have struck out at him and created problems for him. With this regret we very likely feel anger at not having had the proper guidance at the times we needed it.

Might not some of our hostility be nothing more than righteous indignation over the neglect of our problem? Actually, if some of the pioneers in the parent group movement had not become "mad" in the early days, our problem would still be largely ignored. Who can say, on the basis of present knowledge, when anxieties are neurotic overreactions, if parents must ask: "What will happen to this child after we are gone?" "How can we pay for expensive care outside our home?" "Where can we hire a sitter so that we can take a vacation?"

Whatever labels we use for these feelings, they have added up to a great determination—you might call it "compulsion"—for some of us to see to it that new parents coming along can walk a smoother path. And there is considerable evidence that many of these new parents are avoiding some of the emotional scars which some of us bear.

Dan Boyd, a New Jersey parent, has described three stages in the growth of a parent of a mentally retarded child: (1) Why did this happen to me? (self-pity) (2) What can I do for my own child and family? (3) What can we do for others? [4]

These stages can be intermingled. The fact that a parent is working in an organization "to help all retarded children" does not necessarily mean that he has grown with his own problem. Some can be stage-3 leaders, without having graduated from stage 1. Such self-pitying parents are the hardest to help. It often takes a long wait and the greatest skill on the part of professional counselors and their parent counterparts to help them to begin to make realistic plans for their own child.

Most parents, however, mature quite rapidly under the stimulus of the group. Self-pity fades when they find that they are not alone. Soon they are seeking to learn from and emulate the parents who have met their problems successfully. And before they know it, they are experiencing the healing that goes with helping another

[4] Dan Boyd, *The Three Stages (In the Growth of a Parent of a Mentally Retarded Child)*, pamphlet, National Association for Retarded Children, New York (August 1953).

family. Some move on to be eager for all parents to have access to the organization which has rescued them from desolation.

Even these mature stage-3 parents can slip back, temporarily, into stage 2, when a problem arises at home or when previous decisions must be reviewed. During these times we can be very difficult. Then you must support us, while feeling" nothing but plain, simple, humble reverence before the mystery of our misfortune," to use the words of John Cowper Powys.[5]

This means that you must look at your own feelings about us and our children. If you do not have a natural feeling of concern for the mentally retarded, if you feel indifferent to or repelled by children who are not mentally normal or by parents under great stress, then you should not be dealing with us at all.

9. *Remember that we are parents and that you are professionals.*

Some of us are becoming so well-informed in certain areas of this problem and we are associating with you in so many different pursuits that, at times, it must be difficult to remember that we *are* parents and, as such, will always be emotionally involved with our own problem and our own child, regardless of the "objectivity" we may have about the problem generally, or another family's problem, specifically. In communicating with us you must be clear as to whether you are speaking as counselor to client, adviser to organization member, coworker, or personal friend. In this we expect you to use professional judgment.

For example, don't in front of us: belittle or countermand the opinion of one of your professional partners; make critical remarks about other parents and their handling of their child; jump to conclusions about our case without adequate clinical study or knowledge of the facts. And, of course, don't try to do a job that is outside your professional discipline.

When we see so much that needs to be done, we have little time for professional jealousies, or for the individual who uses mental retardation as a ladder to personal success. It does not take long for us to pigeonhole a "problem professional!" whose own emotional difficulties are getting in the way of our efforts.

10. *Remember the importance of your attitude toward us.*

Sometimes I think your colleagues place too much emphasis on "objectivity" and not enough on "loving kindness." Certainly we expect you to be objective about our problem. But about us? Never!

[5] John Cowper Powys, *The Meaning of Culture* (New York: Norton, 1929).

A really gifted professional person cannot *help* feeling—being subjective, attempting to stand in our shoes and to look out at our problem through our eyes—in the process of helping us. Psychiatrists call this "empathy." It is only through empathy that you can divine the proper words and acts to help us.

There are greater depths and breadths in helping parents of retarded children than many of you have realized in your initial attempts. It has been as exciting for some of us parents to watch professionals grow as it has been rewarding for professionals to watch some of us parents grow. We can help each other become more effective people through our partnership.

You are obligated, it seems to me, to "feelingly persuade" us as Shakespeare said, to help us find "what we are." We have many strengths. If you can help us convert our problem into good for mankind, help us find the sweetness in the uses of our adversity, *you* will find a far more precious jewel in your professionalism than you ever thought existed.

And you will be professionals in the most noble and magnificent sense of the word.

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▶12

NATIONAL, STATE, AND LOCAL PROGRAMS

ONE OF THE PARAMOUNT ISSUES to be resolved in providing services for the mentally retarded is the responsibility of various governmental administrative and operational units. Since the mentally retarded have long been neglected by community agencies, there are no clear-cut precedents for dealing with them. With the rapid growth of services in recent years, many agencies are operating without coordination, duplicating their efforts, competing for program-development funds, and wrangling among themselves. In the long run, this can only hinder rather than strengthen the cause. Fortunately, efforts are now being made to coordinate the work of governmental agencies and parent and professional groups.

Who shall be responsible for *what* appears to be the prime question. Where shall support come from? What types of research are necessary? Who shall be responsible for the older mental retardate? These and hundreds of other problems must be resolved before a really efficient plan can evolve. A giant step was made in this direction at the nationally represented meeting of the 1960 White House Conference on Children and Youth. (The recommendations of this conference are summarized in the concluding section.)

The federal government, through agencies of the Department of Health, Education and Welfare, is providing continuing activities in the following areas: (1) research and studies, (2) professional training, (3) consultation, technical assistance, and financial aid to state programs, and (4) direct benefit payments to the disabled. Coordination at the federal level is the responsibility of the Mental

Retardation Program Analysis Officer and the Departmental Committee on Mental Retardation. This recently established committee coordinates the work of the Public Health Service, the Office of Education, the Social Security Administration, and the Office of Vocational Rehabilitation—all of which administer programs for the mentally retarded.

Since the states carry the largest financial burden for services for the mentally retarded, many of them are making a concerted effort to determine the legitimate responsibility of various agencies and to coordinate activities. Legislative and executive groups have been organized to take an active role in state planning. The best examples of integrated efforts are the Illinois Commission for the Handicapped, the New York State Interdepartmental Health Resources Board, the Minnesota Interagency Commission on Mental Retardation, and the Division of Mental Retardation, New Jersey State Department of Institutions and Agencies. Each of these groups, composed of professional personnel from various state agencies and members of lay groups, has been working to integrate state and community programs.

Larger regional planning encompassing several states has been undertaken by the Western Interstate Commission on Higher Education, assisting the eleven western states, and the Southern Regional Education Board, aiding the states in the South and Southeast. These organizations conduct surveys, recommend the development of services on a geographical basis to best serve the area, and provide consultant help and scholarships and traineeships in many disciplines relating to mental retardation.

There is still relatively little coordination of projects on a local level. Few communities have taken real action to coordinate the multitude of local projects for the mentally retarded. In a few cities, agencies such as the Detroit Consultation Center, the Chicago Welfare Department, the Hartford (Connecticut) Social Adjustment Commission, and the Philadelphia Commission on the Mentally Retarded have made some headway toward program integration. Militant and well-organized parent groups recognize their responsibility in this area and are commencing to move ahead in community planning. (The role of parent groups is discussed in more detail in the introduction to Section 11.)

In the first reading, Joseph H. Douglass, program analysis officer of the Office of Secretary of the Department of Health, Education and Welfare, describes the scope and activities of federal

programs for the mentally retarded, particularly the services of the Office of Vocational Rehabilitation. Maurice G. Kott of the New Jersey Division of Mental Retardation discusses the problems and goals of state-administered programs and their relation to local programs.

Philadelphia is one of the most active and progressive cities in planning care for the mentally retarded and its Commission on the Mentally Retarded is unique as a civic coordinating group. The Commission has recognized the need for diagnostic centers, parental guidance, and sheltered workshops. Its program emphasizes the coordination of privately and community-sponsored projects. The third article is an excerpt from a study of its work, directed by Robert G. Ferguson.

The truly forgotten mentally retarded child is one who lives in a rural area. Large numbers of these children have never attended school in spite of compulsory laws. The State Department of Public Instruction in Wisconsin has made an all-out effort to provide assistance for special education in rural areas. In the last article in this section, John W. Melcher and Kenneth R. Blessing, both of the Department, discuss the implementation of rural programs, working with the close cooperation of county superintendents.

47 *A National Program for Mental Retardation*

JOSEPH H. DOUGLASS

RECENTLY, I HAD OCCASION to read Heinz Gartmann's book, *Man Unlimited*,[1] which is an intensely interesting work concerning man's contemporary efforts in testing the physical limits of

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[1] New York: Pantheon, 1957.

the human mind and body. In these pages, among other illustrations, there is explained how man now can fly faster than sound—faster than the three tenths of a second required for his perception. Other developments in our great technological accomplishments have made possible today the "manning" of factories by automatic machines, the piloting of planes by robot, and man's physical ascension to some 100,000 feet in the outer reaches of space. Thus, as Gartmann observes, "when the shadows of the first atomic clouds fell upon the earth, when man ignited the fire of the stars, the fateful hour struck for us. We stood at the crossroad of humanity, and we sought an answer to the frightening question: Is this the end, or a new and better beginning?"

From many standpoints, I am sure that, despite the human stress of adaptation to the manifold technological adjustments of today, most of us would agree that on many fronts this is the beginning of a new age—an age in which many of our traditional social ills and the negative attitudes toward these ills we hope will disappear as the human mind and spirit reach their ascendancy, and as the social sciences catch up with the physical sciences in pointing the way to more successful human adjustment to the swiftly changing physical environment.

In keeping with these developments many of the traditional approaches to age-old problems necessarily must be discarded or revised in the interest of the achievement of maximum human happiness and security for all.

We might appropriately ask will those who have been termed the mentally retarded share in the benefits of this new age? In the light of present developments, can it reasonably be expected that this new age will result in a new beginning for them also? Quite happily, I am sure that we can say that at long last the new age does portend a brighter and happier future for the so-called mentally retarded as with all mankind.

The above assertion can be made from at least three standpoints. First, as an outgrowth of the increasing advances in medicine and related fields in the discovery of the etiologies, and hence the improved diagnosis, classification, and prevention of some conditions of which mental subnormality is symptomatic; second, as a result of the cross-fertilization and collaboration of many behavioral disciplines in the more effective understanding, treatment, care and prognosis of those who manifest the several handicaps in the functional sphere; and third, as a consequence of increased public aware-

ness of the problem—both in government and in private life with individuals and voluntary organizations.

These developments are having the effect of evolving eminently more clear concepts than previously of society's responsibility to all of its members, irrespective of their needs, together with the realization of the potential contribution to society of all its members, despite handicaps or limitations it may be presumed that they possess.

This enlightened social consciousness is being reflected in the philosophical orientation by which parents, professionals, and lay persons alike are approaching the problems of what the WHO calls the mentally subnormal. Also, it is influencing the programs and patterns of services of the caretaker institutions and agencies of our society, as well as the nature of evolving governmental programs designed to assist the states and local communities in the amelioration of their many problems in providing adequate services and programs to meet the totality of human needs.

Certain of the important dimensions and elements of the emerging philosophy might be listed summarily as follows:

1. Development of positive rather than negative approaches to the group which are reflected in a concept of their widest possible inclusion in the services generally available for the entire population rather than their exclusion from such services.

2. Discarding of the notion of the simple grouping of retardates in terms of high, middle, and low mental ability as an outgrowth of the increased knowledge concerning the high degree of their typological variability and the fallibility of intelligence tests as measures of capability.

3. Growing acceptance of a concept of normal progression in accordance with specific symptomatology—i.e., through recognition of the limitations of the handicaps, the defining as "normal" that which may be reasonably expected of the class within which the individual may be grouped.[2]

4. Increased recognition of the vast range of progressively successful psychosocial and occupational adjustments possible despite some mental impairment.

5. Increased observance of the fundamental similarity rather than dissimilarity of the retarded to the so-called normal in terms of fundamental needs, wishes, and desires.

[2] Leonard J. Duhl, "The Normal Development of the Mentally Retarded Child: Planning a Federal Program," *American Journal of Mental Deficiency*, 62:4 (January 1958), 585–591.

6. The growing concept of community responsibility for the provision of services designed to meet the totality of needs of all who may require them.

Although not everywhere apparent or yet in evidence, these developments and trends doubtlessly are gaining momentum in the increasing national concern with the problems of this group of the handicapped, thus to eventually permit the surmounting of the obstacles in the way of their attainment of maximum development and happiness.

It is in this context that the significance of a national program for the group becomes more meaningful than otherwise. Basically, as we know, the mentally retarded persons too long and too frequently have been rejected and isolated, as well as have failed to receive the loving care, understanding, or even the suitable training or educational opportunity for the development of the skills and competencies of which they are capable. Family and community services for them have been limited, so that the cases have been somewhat rare in which their self-support and self-care have been possible of attainment. Under other circumstances facilities for the diagnosis, treatment, and care of this group have been seriously limited or have been so expensive as to be beyond the means of the average family.

Research into the etiology and typology of the several categories of the retarded has been seriously limited. Nomenclature and definitions are confusing and poor. Similarly, there have been, and are, too few personnel adequately prepared as social workers, group workers, special education teachers, and vocational rehabilitation workers to accomplish the necessary work with this group. In the educational preparation of pediatricians and psychiatrists, the field of mental subnormality has been largely bypassed.

Numerous institutions and other community facilities for the care of these persons have been inadequate, both in number as well as in terms of meeting their special needs on an individual basis. Waiting lists for admission to these institutions, although in some instances getting shorter, have continued to be long. Also, the cases have been all too rare where facilities for sheltered employment or for recreation and leisure-time activities for the mentally handicapped have been provided.

As for education, the needs are very great. For the preschool-age retarded child, nursery-school and day-school facilities are very limited. There has been reported that approximately 950,000 of the

estimated 1 million retarded children of school age can profitably be educated, but less than 200,000 of them are enrolled either in special public school classes or in those special schools established to meet their particular educational needs. As stated in the *Congressional Record*,[3] "In short, in a majority of this country's communities, the retarded child receives no education, no vocational training, and in some instances may not be able to take care of the most rudimentary needs of personal hygiene."

It is evident that from many standpoints, not only is there far too little known about the extent and nature of the problems involved on either a national or community basis, but perhaps most importantly, that knowledge which is available is not being applied on a wide-spread scale.

The implications of this situation are very broad and far-reaching if this is to be an era of "new beginning" for the mentally handicapped. States and local communities which have primary responsibility for making available services and facilities to the mentally retarded, and which have been impeded in their efforts through a dearth of qualified personnel in the several disciplines, or by limited facilities and funds necessary for an adequate comprehensive program of services, must find ways of overcoming these handicaps. The nation which loses annually in its human resources the potential contribution of those who with adequate education or training could participate in the labor force and otherwise live independent lives must find ways of fully utilizing the labor potential of this group and of making the lives of these persons more rewarding than at present.

Also, from a moral point of view, the nation is dedicated to the principle of preventing dependency and of assisting each individual to overcome his handicaps through the provision of opportunities for his wholesome and maximum growth and development.

By the failure to assist potentially capable individuals achieve self-support and self-care the nation continues to pay tremendous sums for the income maintenance of these handicapped persons through the several assistance programs, when under many circumstances through enlightened approaches they could be helped to achieve independence and self-care.

Consistent with the recognition of its responsibilities in this field, over the past few years the Department of Health, Education and Welfare, sometimes referred to as the "Department of Human

[3] *Congressional Record*, July 27, 1956, p. 13859.

Resources," has developed what it conceives of as a coordinated approach to the prevention and amelioration of the problems through the joint planning and cooperation of its operating agencies in the services and programs provided to states and communities. On an agency basis, departmental activities in this field can be identified in the programs of maternal and child health and child welfare of the Children's Bureau and in the Bureau of Public Assistance of the Social Security Administration; in the Office of Education, mainly in its section on Special Education and in its cooperative research program; in the intramural and extramural research, grants, the training programs of the National Institutes of Mental Health, and Neurological Diseases and Blindness of the Public Health Service; and throughout the entire range of services of the Office of Vocational Rehabilitation, whose over-all focus is directed toward the handicapped of all categories.

The responsibilities of the Department thus cover a broad area of etiology, nosology, diagnosis, treatment, and prevention of neurological diseases and psychological disorders; broad-scale research and the dissemination of the results; the training of medical and supporting personnel; and services to the states and communities in the utilization of existing and developing knowledge in the care, treatment, education, social service and vocational rehabilitation of the retarded.

The Department observes the general principle that, wherever possible, existing services should be expanded and developed to meet the needs of the handicapped. As for example, the health program for the mentally retarded should form an integral part of public health and medical services. Its development to large extent must stem from the existing general services including maternal and child health, the school health, and mental health services. Use should be made of the administrative machinery of those services and research activities should be part of the total research program in child development.

The same principle applies in the field of education. Schools or classes for the mentally retarded should be organized as part of the general school program.

Similar considerations apply to welfare services and to vocational training and guidance, as the efforts at early diagnosis, care, and education may be largely wasted if provisions are not made for the social and economic adjustment of the mentally handicapped when they reach adolescence and adulthood.

The Department's efforts in this field are intended to help improve and increase services at the family and community level for mentally handicapped individuals and to mobilize resources for the continued improvement of the attitudes of society generally toward this group.

The general directions of the increasingly intensive work being undertaken by the agencies of the Department in approaching the problems are as follows: The Public Health Service is expanding its efforts in the areas of research on the etiology, diagnosis, treatment, and prevention of relevant neurological diseases and psychological disorders and in the area of training of medical and supporting personnel.

Through fact-finding, consultation and grants-in-aid, the Children's Bureau, through its maternal and child health program, is assisting state agencies in developing programs focused primarily on infants and younger children. These activities include early case-findings, special clinical teams for diagnosis, treatment, and follow-up services; social casework; services in the home such as counseling parents regarding early child training; services outside the home such as institutional care and placement in foster family homes, day-care centers, and nursery schools. Evaluative studies of the effectiveness of such services and training of personnel necessary to carry on such services will be a part of these activities.

The Bureau of Public Assistance is intensifying its emphasis through increased consultation to states on program plans for essential social services and staff training, through participation in community organization plans and demonstration projects, and through research.

As the mentally retarded of employable age are eligible for services under the federal-state vocational program on the same basis as other disabled persons, the Office of Vocational Rehabilitation is increasing its efforts in the areas of leadership, research, training of professional personnel, and technical consultation to states and other public and voluntary organizations. This Office reports that mentally retarded persons are being served in all state programs, and during the period 1951–1956, over 3600 of this group were established in remunerative employment by state rehabilitation agencies.

Through the Cooperative Research Program and services of the Section on Special Education, the Office of Education is improving and extending its educational services to states, local school systems,

national organizations, and colleges and universities preparing teachers of exceptional children. The main focuses on providing assistance to states in this area are on (1) the selection and preparation of qualified teachers; (2) development of research on educational problems in mental retardation; and (3) the collection and dissemination of information about effective instructional programs for mentally retarded children and youth.

The research and other projects currently being supported by the several agencies of the Department present an impressive array. There are some 45 projects in process under the Cooperative Research Program of the Office of Education. These projects, among others, are concerned with such topics as specialized educational methodology, educational terminology, comparative studies on learning characteristics, articulatory development and phonetic perception, perception of symbols in skill learning, conditions influencing insight and problem-solving behavior, effects of group training, and tests of social adequacy.

Projects and training grants of the National Institutes of Mental Health and Neurological Diseases and Blindness cover a wide range of investigations into genetics and heredity, biochemistry, metabolism, psychological development, hearing loss, play patterns, ability structure, and differential diagnosis, among other fields. Other projects being supported, concerned mainly with training of personnel, relate to problems of management and training of pediatricians, social workers, psychiatrists, play therapists, and clinical psychologists.

Currently the two institutes are supporting some 25 or more projects with relevance to the field. Studies include, as examples, those concerned with metabolism and functioning of the living brain, blood-brain barrier studies, neural correlates of mental activity and behavior, localization of psychological functions in the brain, neuropathological lesions in mental deficiencies, and etiology of perinatal brain damage, among others.

Grants in the amount of $1,300,000 have been made available by the Children's Bureau in the current year to the health departments of some twenty-eight states for special demonstration projects. A grant to the state of Tennessee, as an example, is helping to provide diagnostic and therapeutic services for mentally retarded children in the Midsouth area, covering western Tennessee, southeastern Missouri, eastern Arkansas, and northern Mississippi. Under this project conditions of the children are being evaluated and find-

ings being referred to their physicians in their home communities. The intensive follow-up in the Memphis area includes both individual and group parent counseling, speech therapy, hospital facilities, and work with the Department of Public Health, Nursing Division, the Department of Public Welfare, Child Welfare Division, and the Family Service of Memphis. Another example of state projects supported by funds provided by the Children's Bureau is that of Rhode Island, where the program emphasis is upon infants and preschool children who are mentally retarded. This program includes finding the children, evaluating their abilities, diagnosing their conditions, parent counseling, home training with the help of public health nurses, and work with community agencies in providing needed services for the children. In Idaho, as a further example, the Children's Bureau grant is for an experimental project in a rural setting, one of the purposes being to send in a clinical team to experiment with ways in which services can be provided in a rural area for mentally retarded children, rather than sending those children to a diagnostic center in another area. Projects in other states are equally as fascinating.

The Office of Vocational Rehabilitation through its basic program and a variety of grant categories is seeking to increase the number of mentally retarded persons rehabilitated annually from a level of about 500 in 1955 to approximately 1200 in 1958.

The law, as amended in 1954, provided for grants to states for the purpose of extending and improving services in special areas of disability where needs heretofore have been only partially met and placing greater emphasis on certain types of service.

Ten state agencies have expanded services to the mentally retarded under this provision. Counselors have been employed to devote full time to the rehabilitation of this group in Maine, Connecticut, Florida, and West Virginia. In Florida the activities of the counselor are closely coordinated with those of the special classes in the public school system.

In Vermont a sheltered workshop has been equipped for the purpose of training the mentally retarded and mentally ill in a variety of woodworking and toy-production operations.

The Woodrow Wilson Rehabilitation Center plant facilities have been remodeled and expanded in order to provide necessary and appropriate services to the mentally handicapped.

Wisconsin, New Jersey, Texas, and Minnesota have assisted existing public or voluntary agencies in the development of per-

sonal adjustment and vocational training centers for the mentally retarded through the purchase of equipment and the provision of necessary counseling service. It is anticipated that ten more states will initiate extension and improvement projects during the current fiscal year.

Under the Office of Vocational Rehabilitation's program of research and demonstration projects, financial support is provided the Association for Help of Retarded Children for continued support of a program to demonstrate that special workshop training can vocationally rehabilitate young adults whose employment had previously been determined impossible. Also, support is being provided to the MacDonald Training Center Foundation (Tampa, Florida) for continuation of a demonstration program for the vocational rehabilitation of mentally retarded persons with muscular, sensory, and orthopedic disabilities.

Beginning July 1, 1957, as part of its Research and Demonstration Program, the OVR announced it would accept applications for and give special priority to grants to provide part of the cost of demonstration projects in the vocational rehabilitation of certain groups of severely disabled persons. The mentally retarded are one of the four priority groups. The major purposes of these selected demonstration projects are to: (1) accelerate vocational rehabilitation services to severely disabled persons; (2) provide for prompt and widespread application of knowledge and experience acquired in the OVR research grant program; and (3) test, in so far as possible, application of the research findings under varying circumstances in different parts of the country.

The law also provides federal funds for expanding, remodeling, or altering existing buildings to render them suitable for use as public or nonprofit facilities or workshops for the severely disabled. The funds have been made available to approximately 50 agencies and organizations concerned with the rehabilitation of the mentally retarded in 24 states and the District of Columbia.

The Office of Vocational Rehabilitation also has made many grants to educational institutions, as well as public and private agencies, for the training of personnel in all phases of rehabilitation, thereby substantially aiding in provision of qualified workers in workshops and other institutions for rehabilitation of the mentally ill.

Whereas it may be far too early to evaluate the effectiveness and value of the several activities and programs embraced under the umbrella of the programs of the Department of Health, Education

and Welfare in this field, I think, nevertheless, that we may agree that a significant impact is being made on the states, communities, voluntary organizations, and individual investigators through the joint efforts of the several programs which now have been focused on this sector of our population. The results are bound to have the effect of further marshaling the resources and services of our nation in making a new and brighter beginning for the mentally retarded in proportion and to a degree which a few brief years ago were thought to be impossible.

On the other hand, the road which we have traveled thus far in another sense can be conceived of as only a beginning if the great body of continuing needs is considered. As previously indicated, a great wealth of research is still necessary. Hundreds of personnel in a wide range of professions need to be trained in order that states and communities may be enabled to provide the necessary round of services for a total community program. Agreement seems to be that such a community program must include adequate staff and facilities, and on a coordinated basis should provide diagnostic and treatment centers; social services for the family; an educational program both within and separate from the regular school program; vocational rehabilitation, guidance, and employment services, including sheltered workshops; and facilities for recreation and leisure-time activities. In addition, for the severely subnormal, each community should have access to centers for their residential care and treatment, and provisions for after-care on an out-patient basis for those released. These latter institutions, according to Tarjan,[4] may serve also as research centers and laboratories for the training of personnel. The accomplishment and success of these services in the final analysis will depend upon the action programs of persons on the community level in bringing them to pass.

Through the improved exchange of information and referral, and the integration of all community services—health, educational, welfare—maximum administrative flexibility ought to be accomplished in helping the individual meet the totality of his needs and those of his family. In recommendations of the recent Royal Commission [5] in England, for example, it is pointed out that attendance at a training center or hospital might be utilized as an alternative

[4] George Tarjan, "What Hospitals for The Mentally Retarded Can Achieve," *Children*, Department of Health, Education and Welfare, 3:3 (May–June 1956), 95–101.

[5] *Royal Commission on the Law Relating to Mental Illness and Mental Deficiency, 1954–1957*, Her Majesty's Stationery Office, London, England, Command Report #169 (May 1957).

to education at school. Similarly, severely disabled young children with both physical and mental handicaps should not necessarily be excluded from general children's hospitals if their main need is for general nursing because of their physical disability.

As the new beginning and the era of hope for the retarded become a greater reality and a greater promise than at present everywhere in the nation, we should become increasingly amazed at the progress which is possible in both the prevention and treatment of so-called retardation. In the public mind, through newer approaches and concepts, not only should there soon be evidenced the removal and disuse of terms having stigmatic connotations in referring to those with handicaps in which difficulty in functioning is symptomatic, but also such concepts as "educable" and "trainable" should disappear in the educational philosophy and practice in reference to this group as attention and services are focused on total personality characteristics and needs rather than alone upon intelligence.

From the medical standpoint, among others, Warkany [6] observes that at present a number of pathogenic factors can be eliminated, and other conditions successfully treated, among which are those stemming from social and cultural deprivations, certain cases due to blindness and deafness, and cases resulting from traumatic accidents. Among other causative factors which may be prevented or treated successfully, are those of lead poisoning, meningococcic and other bacterial infections and tuberculosis meningitis. Similarly, in the perinatal period, Dr. Warkany indicates that many children can be saved from mental and physical damage by improved obstetrical and pediatric procedures. In the prenatal segment of mental retardation, syphilis is the best-known example which may be affected by medical treatment. Certain metabolic disorders resulting in mental deterioration are now in the center of medical investigations, he observes.

It is unnecessary to point out that in recent years in one dramatic advance after another many infectious diseases have been virtually conquered, infant and maternal mortality have been dramatically decreased, and our physical environment has been made safer and more healthful. Whereas this progress presents certain problems in the field of subnormality as a result of the fact that many infants

[6] Josef Warkany, Consultant, Conference on "New Directions in Community Planning for Mentally Retarded Children," Joint Conference of the Interdepartmental Committee on Children and Youth, and Macy Foundation, Princeton, New Jersey (1956).

now live who otherwise might have died, the challenges to find as rapidly as possible improved techniques of prevention and vastly improved methods of treatment and care of mental handicaps are increased.

There is increasing evidence that the challenges presented will be met as the growing and rapid progress being made in medical advances, methods of social welfare and educational methodology, among other fields, attest.

When it is remembered that currently only some five of every 200 mentally subnormal are estimated to be so handicapped as to show a severe loss of intellectual capacity, we may become increasingly optimistic concerning the range of possible success.

Results from research should be continually forthcoming to significant degree along a number of fronts having both direct and indirect significance to this field, particularly if it may be assumed that the size of the funds going into research is indicative of potential success. In 1940, for example, federal appropriations to the National Institutes of Health for medical research amounted to less than $1 million; last year the appropriation was more than $180 million. Most of this sum is allotted, in turn, to scientists in hospitals, medical schools, universities, and private laboratories throughout the country. These research grants constitute about a third of all research conducted in the medical school environment.

In the social welfare field, one of the recent major developments in social policy is the increasing aim at anticipating need and preventing it from arising, through programs covering the population at large, not merely those in need. When needs exist which are not corrected adequately by present methods, the trend is toward helping the individual or family restore itself to "normal," or gain a normal function in society so far as this is possible. One of the more recent developments is the experimentation and testing on a small scale before large projects are launched, including the testing and evaluation of projects that have worked well in one environment, but which may not be appropriate to another environment.[7]

In consideration of these developments and trends, together with the other evolving concepts and approaches mentioned earlier, it would appear that as interest is aroused, attainable goals are clearly defined, and techniques developed, additional services, fa-

[7] See "Programs of Social Development: United Nations Survey," *Social Security Bulletin*, U. S. Department of Health, Education, and Welfare, 18:12 (December 1955).

cilities, and personnel can be enlisted through the joint participation of communities, states, voluntary groups, and the federal departments and agencies with responsibilities in this field.

In recent years it has become increasingly evident that the problems can best be met through the team approach—team meaning the combined efforts and resources of many disciplines, lay persons, voluntary organizations, and the several levels of government by which our nation is characterized. As Cianci has pointed out, much of our recent progress has come about "because of that awakening on the part of the community to its obligation toward these children, because of the formation of parent groups, and because of the willingness on the part of professional people in all branches of social service to cooperate in achieving these ends." [8]

There can be little prediction with certainty as to the probable future long-time directions of the federal programs in this area. It might be expected, nevertheless, that the traditional action approaches and functions of coordination, technical consultation, financial support, research, and provision of information in the way of the augmentation of state and local provisions for services will be continued, certainly at present levels, if not expanded.

The national efforts toward "the new beginning" for the presently mentally handicapped should lead more and more to the goals in this field, as in others, as Deutsch says, of "a world of peace and freedom, from which the twin specters of war and insecurity will be banished, a world of equal opportunity, where people will be freed from stunting inhibitions, and 'guilt feelings' arising from outworn prejudices and taboos, a world where children may lead healthy, happy lives and grow into useful, well-adjusted citizens, where the personality is permitted to develop naturally and freely, where the individual is given a sense of personal worth and dignity, and where his activities and ambitions are integrated with the development of group life. . . ." [9]

[8] Vincentz Cianci, "Home Training for the Mentally Retarded Child," *Children*, U. S. Department of Health, Education, and Welfare, 2:3 (May–June 1955), p. 104.

[9] Albert Deutsch, *The Mentally Ill in America* (New York: Columbia University Press, 1949), p. 519.

48 *State-level Organization of Programs for the Mentally Retarded*

MAURICE G. KOTT

THE MENTALLY RETARDED PERSON is an individual whose past growth has been at a rate below that of normal and who in future development will not attain the intellectual and social skills of the normal person. At any point in time it can be determined that the retardate is incapable of doing that which is to be expected of the average person his age. And at any time it can be predicted that his future growth will be less than that expected of the average person his age. With such manifestations of intellectual retardation come varying degrees of social inadequacy. In relationships with other individuals and in functioning within social institutions, a comparative lack of ability to discriminate, to deal successfully, and to achieve satisfaction and gratifying stature will be evident. In some instances the incomplete intellectual growth and social inadequacy, especially when coupled with attendant limiting physical conditions, result in real dependency and legal incompetence. The number directly affected by the condition of mental retardation is great; conservatively, it may be estimated to involve at least 1 percent of the general population, at least 1,600,000 persons in the United States.

All of the mentally retarded with their manifestly delayed intellectual growth call for a set of expectancies in training and educational situations differing from those expectancies which apply in the case of nonretarded individuals. Among these are special meth-

From *The Welfare Reporter*, 10:3 (July 1959), 101–107. Reprinted with the permission of the New Jersey Department of Institutions and Agencies and the author. Dr. Kott is director of the Division of Mental Retardation, Department of Institutions and Agencies, New Jersey.

ods and techniques of training, diminished aspirations and vocational goals and, in some cases, a total inability to profit from instruction. The anticipation of persistent social inadequacy demands the development of specialized protective and care environments. It is recognized that in the normal social situation the retardate fails to maintain himself or acts in a delinquent manner because his frustrations and poor skill afford him no more constructive response. Persistent dependency frequently calls for various supportive services, both of the fiscal and parentlike variety.

While to some possible extent such services can be provided by the family, in many instances the demands are beyond the limited financial and personal resources of the family. Parents and siblings frequently lack the skills to educate the typical child and especially to apply special training methods to the atypical child. In the general community, the families cannot always envelop their retarded member in special protective or care situations. When these are attempted, they frequently fail and cause embarrassment and acute social difficulty to all concerned. At other times when they may be attempted, the maintenance of special social limits for any long period is beyond the physical and emotional capacity of the family members. The lack of hope of the retardate's financial emancipation from his parents, as normal children do become emancipated eventually, causes other problems. Not only is the continued expense for care, permanently or to a great extent beyond the age when other children become independent, a problem, but the expense of frequently sustained, accompanying medical treatment takes an excessively large part of any single year's family budget.

Social, emotional, and fiscal demands of such magnitude may prove to be well beyond what the family can meet. At such time, in the presence of familiar inability to provide the services for its retarded member, public or governmental help is required. However, more than the simple meeting of fundamental needs of the retarded by government is to be considered. An ethical and political principle is involved. It is not sufficient to point to society, that professes the interdependence of obligations between individuals and itself, as having a responsibility to meet demands which cannot be met by a family. The manner in which society or government discharges the responsibility is important. The choice is between conditions which promote the development of an individual and those which destroy self-esteem and undermine human character. The manner of meeting the needs of the retarded by governmental

agencies will determine to what extent the maximum potential of the retarded person can be attained. This manner is of importance to the nonretarded person as well. The healthy, nonhandicapped person of today may be the handicapped person of tomorrow, requiring the services or support of government. Moreover, the terms and conditions of welfare services are striking reflections of the relationships between government and all citizens. When these terms and conditions fail to account for dignity, self-respect and civil liberties, regardless of the extent to which they may be appreciated by the retarded person, there is danger that the nonhandicapped will not be afforded the guarantees implicit in the term "democracy."

It will be apparent that the foregoing remarks have a certain platitudinous cast to them. Certainly this philosophy has been given an aspect of acceptance in many areas of welfare programing. The application, however, of such a philosophy to programs for the retarded is just beginning and may not have wide influence as yet. Study of the historical development of welfare programs suggests that society does not always accept family inability or default with a very positive reaction toward the recipients of service. The very forces which operate to develop governmental programs create "second-class" citizens of those who require the services. This was apparent in the manner of early operation of county "poor farms." It could have been seen, more recently, in the operation of the financial assistance programs developed during the Depression. There may still be some people today, who without regard for the rights of the beneficiaries, consider the benefits of social security programs as gratuities.

Such has been the case especially with the mentally retarded. Approximately one hundred years ago the states began organizing residential institutions as the solution to the problem of the "feebleminded." These were conceived of as "asylums" to house "inmates" or "havens" to care for "unfortunates." Concern was divided (in some proportion) between the need to eliminate those who were a menace to life and property, to eliminate the "moral imbeciles" from society, and to make "happy" those who elicited sympathy. Commitment, in the true sense of the word, involving court order, was the rule regardless of individual circumstance, and release or discharge was rarely considered. The attitude of society toward those retarded who came to public attention because of family inability to care or family default of responsibility was not unlike that

toward a criminal or a pet. And yet some of the guarantees for the criminal, for instance, that of a legal "maximum," and some of the hope about the criminal, like that of rehabilitation, did not apply in the case of the retarded. About the beginning of this century there was some change in the philosophy of care of the retarded, chiefly manifest by the beginning of special-class public school programs. Only most recently, however, the problem of the retarded and the adverse attitudes reflected in governmental services have been brought sharply to attention. This focus is to a great extent the result of the activities of local and national associations of parents, kin, and friends of the retarded.

It is currently considered sufficient that institutional services be reserved for only those retarded who cannot be cared for in a noninstitutional program. The present conception of an institution is that of a facility to which a retarded person is admitted when a nonresidential, private, or governmental program cannot meet his needs for training, care, or protection. Admission can be by application of a parent or guardian in the case of a minor or an incompetent adult. The commitment process, involving a judicial action, should be reserved for the small group of cases involved in delinquency or the commission of a crime. Release from the institution can be effected in the case of voluntary admission upon application of the parent or guardian, or upon completion of a program of training, or upon determination that a program of care and protection is no longer required. In the instance of the committed retardate, it should be guaranteed that he will remain in custody no longer than a nonretarded, committed offender might for the same offense. Probably it would be desirable to require regular and independent review of all such committed cases to assure release from institutional custody at an optimal time, rather than always at the expiration of a "maximum."

The trend from 1900 to date has been to reduce the role of the institution from the single or most important of the governmental services for the retarded to but one of many kinds of services. For this trend to be realized, however, government should be ready to provide:

1. An adequate number of diagnostic centers to undertake the task of classification, to establish and maintain close communication with residential centers and judicial bodies, and to effect direct liaison with school systems.
2. A guidance and counseling service to interpret to families,

guardians, employers, and the retarded person himself the limitations and emotional concomitants of the condition, so that his chances of social adjustment may be enhanced.

3. Economic support in the presence of financial need through public assistance programs and the various aspects of the social security insurance programs.
4. Maternal and child care to assist with the adjustment of the young and severely retarded child in the home.
5. Adequate recreational services and opportunities for group activities.
6. Specialized training and employment opportunities through agencies like rehabilitation commissions so that the retarded may effect a maximal vocational adjustment.
7. Sufficient and adequate facilities to meet educational needs of the retarded either in classes or on an individualized basis at home.
8. Guardianship services for children in the absence of parents and/or adequate private guardians and for incompetent adults in the absence of appropriate natural or other private guardians.

It will be recognized that there are omitted from the above essential services that have administrative character rather than services to be directly available to the retarded or his family. These include:

1. Registration or case finding to develop an accurate estimate of current needs for service.
2. Public relations so that programs may be understood and community acceptance of the retarded enhanced.
3. Research so that the condition of mental retardation may be alleviated, the reduced essential adjustment power of the retarded elevated, and the costs of special governmental programs moderated.
4. Long-range planning so that future problems are anticipated and may be met.

This listing of administrative services introduces the difficult problem of the nature of state organization to administer the governmental services required. It will be recognized that the direct services suggested involve functions that have been traditionally divided among state departments of welfare, education, public health, mental health, labor and industry, and perhaps others. Consequently, the matter of integration to provide best service and

integration to avoid replicating costs is of no little consequence. Three possibilities have been proposed:

1. *The creation of a state department on mental retardation.* The advantages would be those of assured concentration and integration of services. The disadvantages involve the duplication of functions which are housekeeping and of other character not directly pertinent to the problem of mental retardation. Such functions could be shared with other programs were the state program for the retarded part of other executive departments. Further, the concept of creating an executive department around a specific problem could be expanded to ludicrous proportions were such proposed for tuberculosis, mental health, venereal disease, bright children, juvenile delinquency, etc.

2. *Fixing responsibility for programs for retarded persons in a state mental health department.* This would afford recognition of the emotional and psychiatric aspects of the condition and permit the continuation of a tradition of "trained professionals" to deal with a social problem. There are, however, disadvantages in this proposal, too. Not only has it been demonstrated that the mentally retarded are "lost" among the great and many problems of mental illness, but psychiatric professionals have, as a whole, minimal interest and minimal training for this kind of service. Further, placement of responsibility in a department with a devotion to a single point of view is likely to result in disregard, to a greater or lesser extent, of the points of view of other professionals. In a department with primary psychiatric orientation, the educational, psychological, pediatric, rehabilitative, and welfare aspects of a complete service for the retarded are likely to be minimized or reduced to a role below that to which their possible contribution should require of them.

3. *Fixing responsibility for total and integrated services for the mentally retarded in an interdepartmental commission.* Such a commission (and it could be a committee, council, or board in accordance with tradition in the various states) would involve the different departments where pertinent service has developed and would afford recognition to the complex problem and many aspects of service required by the retardate. This commission may have an informal or nonstatutory basis if such interdepartmental cooperation is conceived by elected executive and legislative officials. Formal or statutory creation of a commission, however, would tend to assure longer continuity and regular review of the activities of this body.

This proposal seems to have fewer disadvantages than those preceding; nevertheless, one aspect of caution should be introduced. In order to implement this possibility, departmental representatives to the commission should have high enough rank in their departments of origin so they can, in effect, commit their department to involvement in such innovations, extensions, and classification of programing as may be developed by the commission.

In regard to the rank of the officer in any department with services to the retarded, whether or not representation on a commission is contemplated, there should be established a high echelon position with clearly marked responsibility for development and administration of the service. In the absence of such a high-echelon position, one comparable in rank to those having responsibility for administration in other service areas, the requirements for this service may not proportionately be met. The issues involved may be considered of lesser or minor importance by department personnel. Certainly it is recognized that in a bureaucratic structure, the rank accorded the person with responsibility for a program inevitably implies to most members of the bureaucracy the extent of importance attributed to that part of the organization.

This latter stress on state-level organization is not meant to imply that all the services, previously indicated as to be supplied by government, should be provided by state government. Some, and as many as possible, should be supplied by local government. The preference for local services develops around the advantages of supplying services right in the community where the case has its origins. Local services permit greater and continual familial involvement and simpler or easier resumption of family responsibility when the circumstances that led to family inability have been modified. Every institutional administrator knows of cases the return of which to the community and family have been made difficult or impossible by the geographical or social distance between the residential facility and the family. The division of service responsibility between state and local government might be determined upon two bases:

1. *Economy.* The service should be placed where the costs of maintaining it in an adequate, appropriate manner would be less. In this regard, the development of special-class programs at a local level, in contrast to institutional, residential programs at a state level, seems appropriate. A complete special-class unit involves few persons and probably can be utilized to its fullest extent even in a small community. Residential facilities, even with current support

for small units, are in almost any conception capable of supplying services to more than one county. To mobilize the staff and program required by an institution at lower than state level is ordinarily not economical. The recreational services, referred to previously as part of an adequate program for the retarded, would probably most economically be placed as a local government responsibility.

2. *Innovation or novelty.* The first experience in a state with a new type of service might be financed at the state level. The staffs already assembled at state levels are probably more capable of testing a new concept and evaluating its validity than the service group developed in a community or county. Once the test period is over, however, the responsibility for an apparently successful service might be fixed on the basis of general economy of operation.

Before leaving the issue of economy, brief return to the matter of size of residential facilities is indicated. There is an appropriate middle size to institutions, one which permits economical use of business, housekeeping, and maintenance staffs and does not require excessive duplication of professional staffs and "chiefs of service." This seems to be at about 1000 beds. The advocates of smaller units are not really criticizing the larger facility per se: they are criticizing the breakdown in communications likely to a greater extent in a large institution and in the presence of many persons and many staff levels through which program philosophy and techniques must be transmitted. With adequate communication and supervision, the advantages of the small unit can be made available in the moderate-sized facility. Adequate communication and supervision, however, depend to a great extent upon the freeing of administrators from service tasks so they can supervise, consider ways of improving communication of philosophy and techniques, and dwell upon the issues of program improvement and innovation. This comparative freedom from service obligations is no less important to state level administrators if they are to deal with the tasks of research, public relations, and long-range planning.

I trust my frequent references to economy will not be confused with advocacy of a meager appropriation. Consider the absence of funds for research, with its hopes for reduced numbers of retarded requiring governmental service and improved efficiency of presently conceived service, and the absence of funds for long-range planning, with its aspirations for sensible anticipation of future needs as they may occur. Absence of, or meager appropriations for, these services is not economy. Research holds hope of re-

duced budgets and long-range planning, hope of preventive maintenance, best future use of available resources, and nonimpulsive, consequently less expensive, program development as new or different problems come upon government. But even more important than extent of appropriation for these administrative aspects of service is the extent of appropriation for existing direct services. I can return here to the former point of the character of governmental services being consistent with the fabric of idealized governmental agency—private citizen relationships in a democracy. Are such maintained when our national average per capita for institutional services for the retarded is but $1100? And when the per capita in some states attains but $500? Are such maintained when some states pay salaries incapable of attracting even the kind of person who may be the least qualified to work with handicapped persons? Are such maintained when most states have overcrowded institutions and many states have large lists of persons awaiting admission to training or protective facilities?

Inadequate appropriations result not only in breakdowns in service. They permit, also, the growth of bureaucratic discretion and administrative excuse for lack of accomplishment. Perhaps an appropriate conclusion would be to quote from A. Delafield Smith's *The Right to Life,* an excellent exposition of the relations between welfare programs and the law. Smith writes thus about legislatures, but it applies to all governmental officials who have a budget role:

> Legislatures are at fault when, in order to meet some vital need of human beings, they see fit to appropriate a sum of money which the law purports to make available. They thus bring about a situation which is unresolvable by any legal principle, which gives no right or valid assurance to anyone, and the principal effect of which is but to extend the discretionary prerogatives of some administrative agency.

49 *Problems of Mental Retardation in Philadelphia*

ROBERT G. FERGUSON

HERE, IN PHILADELPHIA, we believe there should be a special effort made to resolve the problem of mental retardation. Within the county area of approximately 130 square miles lies a population larger than that reported by twenty-one of our states. (If the adjacent four counties were also included, it would include almost 30 percent of Pennsylvania's population.) Five nationally known medical schools, two major universities, and many other training facilities are located here. With these tremendous resources and a concentration of population in one area, it is hoped that leadership can be developed to show how this community can become a focal point of a realistic solution to such a nationally prominent problem.

To achieve maximum results, the following viewpoints must be encouraged and stimulated wherever possible:

1. Mental retardation is essentially a community problem with over 90 percent of the Philadelphia retardates residing within the city.

2. The magnitude of this problem necessitates financial support from federal and state sources to augment municipal and private funds.

3. The variety of problems over the life cycle of a retardate indicates no one agency or professional discipline can be expected to encompass the entire planning. Mental retardation is not a disease entity, but a symptom of a variety of social, physiological, and psychological inadequacies, and must be treated by a variety of spe-

From *A Study of the Problems of Mental Retardation in the City of Philadelphia* (Philadelphia: The Philadelphia Commission on the Mentally Retarded, 1956), pp. 47–53. Reprinted with the permission of the Commission and the author. Dr. Ferguson is director of education and training of the Devereux Ranch Schools, Santa Barbara, California.

cialists. Therefore, it is necessary to provide for a continuous service to relate and to establish communication among the local, state, and national groups, as well as the various professional disciplines.

4. Fundamentally, the home unit should be preserved, and where feasible, the community should provide the necessary facilities to enable the parents to maintain the retarded child in his home.

5. The actual needs of the handicapped child should serve to distinguish the program he requires rather than the classification alone. Educational experiences, for example, should be promoted for a group of children with similar educational needs and any artificial barriers of classification should be avoided.

6. A well-informed public is the strongest asset a community can have in attempting to resolve a problem such as mental retardation. A program should point out that all handicapped children should have the opportunity to develop their capabilities to their fullest capacity. Mental retardation should receive the attention and support it merits and be included in existing benefits for handicapped children.

7. Although the focus of attention is directed on Philadelphia, we should consider the adjacent counties to be important in our planning and development.

8. Research should be an integral part of all professional planning and help to guide us in our future work.

Specifically, in Philadelphia, we believe the following approach should be taken:

1. The problem of mental retardation should be integrated with the field of mental health but considered separately from mental illness. All planning bodies should reach an agreement in this concept to insure uniformity in operation and responsibility of action.

2. An objective and representative community body, such as the Philadelphia Commission on the Mentally Retarded, should continue the study of this problem and attempt to implement recommendations for a comprehensive program to provide the essential services for the mentally retarded and/or handicapped persons. This Commission should function as a clearing house for all information and discussion on state, municipal, and private levels concerning mental retardation and provide an agency for endorsement of related activities and projects in this area. Such a group should include a parent of a retarded child.

3. In any community or professional planning body concerned with such problems as mental health, consideration should be given

to include a representative who has both interest and experience in the field of mental retardation.

4. Efforts should be directed toward creating better understanding and interest in the problems of mental retardation by the medical profession, especially among the pediatricians, obstetricians, and psychiatric groups.

5. The various local groups concerned with the different handicapping problems should explore their common needs and programs to effect a united approach to the entire problem of handicapped children and adults. The effective contribution of independent agencies concerned with different groups of handicapped persons could be increased if all of their efforts were better integrated. The professional disciplines should provide a coordinated matrix for this work.

6. Efforts should be made to further encourage and support the contribution of private groups, including religious agencies, to continue their interest and assistance in providing facilities and services which can be integrated into the total needs for the retarded.

7. The resources of Philadelphia and the concentration of so large a population, should encourage research and studies in this area.

In order to provide for the essential needs, the following recommendations are made:

1. Immediate attention be given to establishing the first complete diagnostic and evaluation clinic for the mentally retarded. Such a clinic should be under medical auspices and contain all of the related professional disciplines. Support should be given by federal or state funds to augment any local efforts. It should not be expected that any one clinic could meet the needs of this community, but one such clinic could offer the focal point for future growth and demonstrate the value of establishing several others in the near future.

2. The above facilities should be officially used by any municipal agency concerned with the understanding and planning for the mentally retarded, whenever such use is feasible.

3. The registration of handicapping conditions, in so far as is possible to detect at birth, should be mandatory to provide for earlier awareness of such problems. This service should also develop a registration of all handicapping problems in a manner similar to the current proposal by the Health and Welfare Council. A census

of handicapped school-age children is also included in the current [Pennsylvania] House Bill 1641 now with the Committee on Education.

4. Following the evaluation and understanding, but not necessarily within the same physical environment, a continuous service for parents should be available to assist them in planning and carrying the responsibility for their retarded children. Total guidance is of great importance for the mentally retarded child and should begin as soon as the diagnosis is established and continued throughout his lifetime. This service would be especially helpful to the parent during the child's earlier, preschool years in learning to cope with the problem, development of social adaptability, personal hygiene, and social skills. It would help to eliminate the horrible frustration from which the inexperienced parent suffers in such situations and which is so harmful to the child and the family in general. The resources of all qualified social agencies should be utilized.

5. Special assistance should be made available in the home to train the parents in caring for the handicapped child who is unable to leave his home, as well as assistance in training the child. This service should be regular and should integrate the child and the parents with all community resources. Special outings should also be provided. Such services could be provided by personnel trained in the areas of education, nursing, social work, or similar experiences, for which state financial assistance should be given. New Jersey and Massachusetts have such a program. The existing state regulations for reimbursement for home training for crippled children should also include the mentally retarded who are unable to travel to and from school without assistance.

6. There is a need for child day-care centers to provide care and essential services for the retarded youngster in order to provide temporary and regular relief for his mother, similar to the existing day-care centers for working mothers. In addition, school facilities for the preschool-nursery retarded child should be expanded to provide training for possible later admission into the public and private school systems.

7. The success of the classes for the retarded trainable children in the Philadelphia public schools indicates that additional classes should immediately be established. The Board of Education is to be commended on its plan to provide transportation and additional classes for the coming fall term. It is also recommended that

trainable retarded children be accepted as soon as they can be expected to profit from this training. These classes should be expected to enroll approximately 300 children in the near future.

8. Free transportation should be furnished to allow retarded children to attend day-care classes when they are unable to travel alone. Where possible, existing transportation facilities for other handicapped children should be made available to the mentally retarded. A study should be undertaken by a community agency to evaluate the problem as it relates to all existing educational facilities and both private and agency-operated transportation facilities should be considered.

9. Public and private schools should encourage and provide special occupational education and training in work habits and personal adjustment for educable retardates prior to their dismissal at age sixteen. In this connection, the program which has been operating at one vocational school and two senior highs should receive consideration as a practical solution for a selected group of children from the special classes. We believe that the classification "unable to profit from further school attendance" should be considered as an indication that existing terminal programs could be extended so that some sixteen year old retardates could profit further.

10. An evaluation period of study and realistic work efforts should be provided in order to determine the potential vocational ability of the retarded adolescent. Such an evaluation should be similar to the Pre-vocational Training and Adjustment Unit sponsored by the local Goodwill Industries, Inc. This should be realistically orientated and sponsored by the Bureau of Vocational Rehabilitation, the Pennsylvania State Employment Service, and the public schools.

11. Continuous assistance, guidance, counseling and placement services should be provided for retardates by specially trained personnel. This service could combine the counseling offered by the schools and the Pennsylvania State Employment Service and provide close liaison with public and private schools. Employment specialists should be selected to provide this service.

12. Opportunities for an occupational training center and sheltered workshop employment for training for outside employment and terminal work should be inaugurated to enable a retardate to reach and operate at the highest level of his capacity. Local resources should enable the community to take full advantage of the federal funds available for this work. The integration of retardates

and other handicapped groups should be fostered where feasible to avoid unnecessary duplication of resources and to allow for various handicapping conditions to supplement each other in an over-all work program. However, new workshops are needed if we expect to provide for the retardates now waiting for such opportunities. Community support is of prime importance for such facilities. For example, the Philadelphia County Chapter of the PARC should activate a workshop project similar, in part, to the present New York and Allentown workshops, to provide for the less capable retardates. Such a project should be supported as a community enterprise with the use of any federal grants which are possible through the Vocational Rehabilitation Act.

13. A residential home should be available which would provide for a temporary environment in which mentally retarded children could be studied pending further disposition. Municipal agencies as well as families would be better able to arrive at the best decision. Such facilities would enable a child to have the benefit of a positive environment to determine the possible effects upon him. It would also provide emergency residential care for a retardate due to a temporary condition in his own home, and also for the child whose future disposition needs further study. In addition, the home could furnish temporary residential care for the retardate returning to the community from a state residential facility. Such a home should be supported by the municipality but operated by a private, nonprofit group or agency.

14. Day-camp experiences should be available for mentally retarded children through special use of existing camp facilities. Municipal and private camps should coordinate these needs and services.

15. Opportunities for overnight camping experiences should also be made available for specific periods, which would allow retarded children to enjoy such activities.

16. Municipal support should be given to provide paid leadership for the special recreational-social programs at the recreation centers. An expansion of the existing program is recommended. The initial efforts of existing youth organizations should be continued and expanded. Teen-age clubs, social gatherings, organized trips, and similar experiences should be available.

17. More follow-up studies should be instituted by the schools to determine what happens to their special class "graduates" and to utilize these findings in improving or modifying their programs.

Public schools, especially, should provide for such studies and reports over a period of time. The volume and wide coverage of the public schools would make this study especially valuable within their system.

18. The present volume of work handled by the psychological service of the Division of Special Education of the Philadelphia Public Schools indicates additional personnel are required if the examinations are to be current and as frequent as necessary. In addition, more psychological services, which are state certified, should be available in the community to augment the existing facilities.

19. Continuing efforts should be made in establishing communication with local professional and community organizations. The preparation and publication of articles designed for these various groups, as well as opportunities to meet with local organizations should be carried on.

20. Religious instruction and guidance should be made available to the mentally retarded whenever it is feasible by all religious groups.

21. To better integrate the work and activities of the Philadelphia County Chapter of the PARC within the total community structure, and to broaden its program and membership, it is suggested an objective survey be undertaken similar to the survey made for the Delaware County Chapter of the PARC. The local PARC should also become a member of the Health and Welfare Council. It is believed that this organization can make a maximum contribution by demonstrating, through pilot projects, what can be accomplished with retarded children. Such a contribution has already been shown by their work with trainable children in the six PARC classes in Philadelphia. It is also suggested that the local PARC group maintain a closer liaison with the similar organizations in the adjacent counties. They all should establish an active program designed to continuously acquaint the local professional groups with current national activities in the field of mental retardation.

22. Trained personnel in all areas are needed. The efforts already made should be commended. For example, the Graduate Social Work training with the Department of Public Welfare; the Training Institute for Recreation Workers sponsored by the Philadelphia County Chapter of PARC and the Department of Recreation; the Psychological Training Course sponsored by the State

Department of Welfare; and the Training Seminar in New York City sponsored by the National Association for Retarded Children and the New York Medical College.

23. Consideration should be given to classes for parents of retarded children similar to the School Extension activities, sponsored by the Board of Public Education. With proper direction, such group experiences could prove helpful. In addition, groups could be sponsored by clinics working with retarded children.

50 *Special Education for Rural Retarded Youth*

JOHN W. MELCHER and KENNETH R. BLESSING

FOR MANY YEARS, urban children with retarded mental development have had the manifold advantages of special education and allied services. With an awakened and well-informed public, and the impetus of an enlightened militant parent group, the demands for extension of special services to the rural areas have increased. This paper is a description of an approach used in Wisconsin in coordinating the many community resources and interested groups concerned with the education and training of mentally retarded children, particularly in rural communities.

State and County Relationship

In Wisconsin, the county constitutes the intermediate district of school administration that functions between the state department of education and the local school districts. This strong position the

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county holds in the Wisconsin plan of government has been a major factor in the State Department of Public Instruction's efforts to extend special education to rural retarded youth. Each county has a superintendent of schools elected by popular vote for a four-year term. His office is usually located in the county courthouse and his status is comparable to that of other county governmental officials. Each county superintendent has one or more county supervising teachers on his staff as well as a limited number of clerical and stenographic assistants, although in the more populated areas the office may be staffed by a corps of educational specialists who provide a wide range of educational services.

Wisconsin statutes (section 41.01) provide that a county superintendent of schools, upon authorization of his county board of supervisors, may establish special-class services for any of the various types of handicapped children including those with retarded mental development.

Administrative Procedures in Developing Special Classes

The following administrative procedure has been used in planning for these rural special classes. In actual practice the planning stage for special class development is preceded by a period of individual conferences with parents or local school principals who request individual psychological examinations of children suspected of mental retardation. As the growing need for special service becomes increasingly more apparent, as parents, regular classroom teachers, and other concerned over the welfare of the children identified as retardates make their needs felt, the intermediate unit of school administration is necessarily drawn into the planning activities, since most smaller villages and rural areas lack sufficient numbers of retarded children to warrant the establishment of a special class.

The representative of the Bureau for Handicapped Children who has the particular county under his immediate supervision assumes responsibility for the orientation of the county superintendent's staff to the values, limitations, and administrative principles of special class services to retarded children. A bibliography of professional publications in this area is discussed and departmental publications are made available to the superintendent's staff. Correspondence is carried on between the state consultant and mem-

bers of the intermediate unit staff to expand further the mutual cooperation and understanding of state and county school officers in regard to the problem of the mentally retarded child.

Visits by the county superintendent and his staff to nearby rural special classes are encouraged in order that the actual operation of a county special class may be viewed.

The county board of supervisors' education committee then meets with the county superintendent and state supervisor to discuss state financial support, public acceptance, organizations, administration, supervision, and other important aspects of this proposed class.

Following this conference, meetings are conducted in the county with all types of lay and professional groups concerned with the care and education of children in order to gain their understanding, support, and cooperation in this endeavor. Since Wisconsin laws are permissive in nature rather than mandatory, special classes have been conceived of as basically a community responsibility, as represented by a school district, a group of districts, or a county. The state, therefore, acts through the educative process rather than through compulsion and the initiative in establishing a class and the primary responsibility for operating it falls upon the local community.

The development of an acceptance of special class services at the local community level may necessarily entail a considerable period of activity and in some instances has required as long as two or three years of sustained effort on the part of the Bureau consultants, county office staff, and parents of these children.

Some of the local community groups contacted include such organizations as:

The County Teachers' Association
Administrators of smaller schools and integrated districts
Farm and labor groups, such as the Grange, Farm Bureau, and the Farmers' Union
Women's groups, such as the Homemakers, ladies' auxiliaries, church groups, and the League of Women Voters

Informative articles concerned with the role of the special class in the public school are developed for the weekly and daily newspapers. Some radio or television programming conveying the same concepts is frequently employed using the services of staff members of both the state department and the county superintendent's

office. In 1955, for example, the Department of Public Instruction conducted a weekly series of "Teacher Time" broadcasts beamed at every classroom teacher in Wisconsin and a number of these programs dealt with problems of exceptionality found in every classroom and the needs of those children too handicapped to benefit from the program of the regular classroom.

Procedure for County-wide Survey

When it seems the proper public attitude for this service has been created in the area, the actual fact-finding must begin. No objective criteria has been developed to determine a community's readiness for a special program, but a number of factors and pressures are emerging which suggest a readiness. During this initial orientation period, the formation of a parent group ordinarily parallels the development of an improved community attitude with respect to the problem of mental retardation. These parents are beginning to exert local leadership, acting as spokesmen for their retarded children, and their demands are being increasingly felt. Civic leaders, teachers, and fraternal organizations submit resolutions or petitions supporting the parent council's request, and it becomes apparent that a complete survey of need in the county is essential. Factual objective data is required for presentation to the county board of supervisors in order to obtain an appropriation sufficient to cover the first year's cost of operation.

A survey is conducted by the county superintendent's staff in all schools under his jurisdiction and in the private schools which respond to the county superintendent's invitation to participate. The following cooperative pattern of state-county participation is followed:

Group psychometrics including tests of intelligence and achievement are administered by the county superintendent's staff and private school personnel. Teachers' opinions, principals' evaluation, and parental requests are considered an integral part of this screening process.

Children with low scores on group intelligence tests are referred to a traveling team of qualified psychologists from the state superintendent's office. Following each complete individual psychological examination, the results are interpreted to the child's family

by the psychologists, and the parents are given counsel as to the desirability of special-class placement. In some instances, the psychological evaluation of a child indicates that he is above or below the statutory intellectual limits. In these instances, promises or guarantee of service are rarely made prior to the examination by the state psychologists.

This survey is culminated by having the state psychological staff furnish detailed psychological reports on each child. The county superintendent's staff uses this data in preparing a spot map which indicates the location of each eligible child.

The county superintendent's next responsibility is to find a classroom in some operating school building that can be legally used to house this special facility. The building supervisors of the state superintendent's staff then evaluate the building space and physical facilities, making recommendations for necessary modifications. A rental is paid by the county board to the local school district for use of the space.

The county superintendent's office then attempts to secure a fully qualified teacher from one of the teacher training institutions in the state. Rural areas frequently experience considerable difficulty in securing a fully trained qualified teacher, so it often becomes necessary to find an especially competent regular teacher who can be retrained in the education of the mentally retarded during summer sessions. A detailed certification requirement list indicating any existing deficiencies is developed for each prospective teacher. If the selected teacher does not fully meet all certification requirements at the time of his evaluation by the certification division, he must reduce his deficiency in education by taking six semester hours of work prior to his receiving a one-year provisional permit. The special teacher is required to reduce his deficiencies at the rate of six credits per year in order to have his provisional permit renewed. The usual practice has been for the county superintendent to grant salary increments to cover at least a portion of the cost for further summer school attendance and/or in recognition of advanced professional training.

After securing public financial and community support, an adequate physical plant, and a competent teacher, the county superintendent is ready to submit a plan of service to the state superintendent. When approved, this would mean that approximately two thirds to three fourths of the cost of instruction, which includes the

salary of the teacher, special books, certain equipment, and pupil lunches, plus transportation to and from the special class, will be reimbursed by the state of Wisconsin.

Local Plan of Service

This plan of service [1] has been formulated by the Bureau supervisors after considerable experience with rural special-class development and merits the attention of field consultants carrying on similar work in other states. Under Wisconsin statutes, the chief state school officer has the authority to approve or disapprove the plans for a class on the basis of his being satisfied that there is a need for such a service and that it will be operated in accordance with the statutes and standards set up by his division.

The plan of service requests such operating details as physical facilities, local plans for administration and supervision, estimated number of pupils, employment of a certified teacher, anticipated expenditures, and willingness to accept nonresident retardates if enrollment size permits. Although the administration of the program is the responsibility of the local superintendent, the school board or county is required to apply to the state superintendent for authorization and his approval of the plan assures the operating district of later participation in state aids. The operating agency is required to budget the first year out of local funds, the state's share of the cost being reimbursed in the fall following the school year in which the class was in operation. State reimbursement is subject to proration if the state appropriation is insufficient to cover all approved claims.

Rural special-education programs are of necessity area programs, since special classes for handicapped children can rarely conform strictly to school district lines if they are to be operated efficiently. This concept of special services as area centers requires a number of cooperative arrangements with respect to transportation. One district may be operating a trainable service and another an educable program, therefore, on-going existing transportation facilities such as regular high school and elementary busses are utilized whenever feasible. Since no handicapped child in Wisconsin

[1] These forms are available in limited numbers and can be obtained from Bureau for Handicapped Children, State Department of Public Instruction, 122 West Mifflin Street, Madison 3, Wis.

is required to walk to school (the law is permissive in cities of the first class), other arrangements for the transportation of retarded pupils are coordinated through the county superintendent's office. All vehicles used in transporting pupils must pass the inspection of the Wisconsin Motor Vehicle Department and carriers are required by law to have the necessary insurance coverage for public conveyances. In most instances the transportation of pupils is provided by the child's home school district with aids from state funds going to the districts offering this service.

This procedure has been utilized by Wisconsin county- and state-level school officers and citizens in the creation of 52 special classes for rural children with retarded mental development. None of these counties that have originated a class under these provisions have ever ceased operation, and 11 of these 28 counties now have two or more such county-operated classes.

While this is a relatively small percentage of the total of 292 special class units in Wisconsin, this procedure points a way for the extension of services to rural mentally handicapped children. The classes are viewed with pride by local citizenry and has led at least one county to expend over $100,000 in the development of a special school plant for its retarded pupils.

The Bureau for Handicapped Children feels that this detailed slow process of educating the community is likely to produce better results than haphazardly rushing into a special-class program. It renders maximum service without imposition, maintains the autonomy of the local school districts, and by calculated coordination brings about improved services to mentally retarded children in rural areas.

13

TEACHERS OF THE MENTALLY RETARDED

IT IS AXIOMATIC that the success of a school program for the mentally retarded is in direct proportion to the ability of its teacher. Herein lies the crux of the problem. Many school administrators have been forced to close down existing classes or unable to open new ones because an adequately trained teacher was not available. Cruel as this may sound, an incompetent or poorly prepared teacher may do more harm to a retarded child than the absence of the opportunity for special education.

How great is the need for such teachers? The United States Commissioner of Education has estimated that approximately 1,250,000 school-age children are mentally retarded, although not more than one fourth of them are receiving suitable education. Even though class enrollments for the educable retarded have tripled in the last ten years and enrollments in programs for the trainable retarded have multiplied five times, the staff is still inadequate. If all retarded children—educable, trainable, and institutionalized—were to have special-class training, it is estimated that approximately 55,000 new teachers would be needed to supplement existing teaching staffs. Realistically speaking, the goal of placement for 50 percent of such pupils is more probable. Such a placement goal would require approximately 25,000 new teachers and some 2500 more each year, assuming a replacement factor of 10 percent. Thus, during the next ten years, when more and more children will be assigned to special classes, some 2500 teachers must be recruited and trained each year.

Recognizing their responsibility for the education of teachers of

the mentally retarded, more than 100 colleges have organized curricula in this field, and an additional 100 institutions of higher education are offering summer workshops and courses in mental retardation. Many of these programs are relatively new and beset by a myriad of problems. The initial problem appears to be staffing college programs. College instructors who are specialists in mental retardation are a rare commodity. Recognizing this deficiency, Congress in 1958 enacted Public Law 85-926, which provides fellowships and funds for programs which specifically train teachers for college service. Over a ten-year period this program should train about 600 college teachers to meet the needs of an ever-growing field. In turn, these instructors will be able to alleviate the special-class teacher shortage, and in time the vicious cycle may disappear.

The second problem facing teacher-education institutions is the recruitment of suitable candidates. With the present shortage of regular-class teachers, and dozens of opportunities for placement for each candidate, it is often very difficult to encourage high-caliber undergraduates to spend additional time in preparing for a special field. Concomitantly, the teaching of mentally retarded children has not been "sold" to prospective teachers.

Still another issue facing colleges is the question of a really adequate teacher-education curriculum. Reading 52 in this section, which deals with teacher competencies, should help to resolve this dilemma.

The last problem relates to the location of teacher-education institutions. Unless the college is situated in an area where there are a sufficient number of special classes to provide a range of observation and student-teaching opportunities, clinical facilities, and other resources, students will not have the type of training that will prepare them to do a good job. Space does not permit a complete discussion of the whole question of teacher education for different levels of service, a problem which needs much study. The only realistic approach to teacher education lies in a well-staffed college program with a large-scale scholarship and recruitment plan, at a college strategically located in a city which has suitable training opportunities.

Many methods for training teachers of the retarded are being explored. Colleges are offering regular academic-year programs, intensive summer workshops, extension courses in the field, and cooperative programs with nearby residential facilities. The best

examples of the latter program are the arrangements between the Southbury and Mansfield Training schools and the State Teachers College at New Haven and the University of Connecticut; the Sonoma State Hospital and the San Francisco State College; the E. R. Johnstone Center and the Trenton (New Jersey) State College, and the Columbus State School and the Ohio State University.

Related to teacher-education programs is the matter of certification. Certification requirements and procedures vary from state to state, and reciprocity is unknown. These two factors make mobility difficult for teachers and tend to hinder program development. Currently 38 states have specific certification requirements for teachers of the mentally retarded,[1] which include general education, professional training in the education of normal children, and course work usually in the following fields: (1) foundations in the education of exceptional children, speech correction, and guidance, (2) curriculum and methods for teaching the retarded, (3) training in the crafts, and (4) either student teaching or teaching experience with mentally retarded pupils. Few states require previous teaching experience with normal children, and most states have provisions for emergency or provisional certification.

A creative teacher of the mentally retarded is invaluable. In the first article, Harold A. Delp, long associated with the Training School at Vineland, New Jersey, emphasizes three important characteristics of the special-class teacher: initiative, ingenuity, and imagination.

The Section on Exceptional Children and Youth of the U. S. Office of Education has conducted exhaustive studies on the competencies needed by teachers of the retarded. The second reading, from a report prepared by the Office's Advisory Committee on Competencies, describes the desirable qualities and skills of such teachers—their ability to create a functional curriculum and to understand and apply appropriate pedagogical procedures, and their skill in selecting, developing, and using appropriate instructional materials and equipment. The Advisory Committee on Competencies was chaired by Ivan K. Garrison.

In the final reading, Herbert Rusalem briefly comments on the special role of the teacher of the mentally retarded in an interdisciplinary setting.

[1] For an earlier report on certification standards, see Jerome H. Rothstein, "Certification Requirements for Teachers of the Mentally Retarded," *Exceptional Children*, 20:7 (April 1954), 312–316.

51 *A Philosophy for Teachers of Mentally Retarded*

HAROLD A. DELP

TRADITIONALLY, MOST EMPHASIS in education has been pointed to the so-called 3 *R*s—reading, 'riting, and 'rithmetic. The fetish still prevails that the child who is taught these three fundamental subjects in adequate amounts will automatically be able to use them in solving the problems of adult life and, hence, will be a success. In teaching mentally retarded children the old philosophy usually was one of giving the same 3 *R*s to the children in slower doses and admitting that they would not reach the same higher level needed by the mentally normal, let alone the superior, children. Too many parents today still hold to the concept that the 3 *R*s are basic to all children, regardless of concomitant conditions.

An intermediate period in education of the mentally retarded proposed de-emphasis on the 3 *R*s on the basis that these children could not in most cases reach a usual level of performance. Hence, in many classes teaching proceeded on almost a hit-or-miss basis of teaching these children "to use their hands." Then, the evidence seemed to point to the fact that, for the retarded, emphasis on the use of their hands was in many ways no more justified than the more extreme emphasis on the 3 *R*s. The approach seemed to be that each individual child had to be studied in terms of his own abilities and special disabilities, with education having the responsibility of finding the most promising areas for training each child. Because of limitations on methods, materials, as well as techniques, the difficulties of teaching these retarded children seemed to be almost insurmountable.

To alter the past emphasis, the 3 *R*s would appear to be a point of view, rather than specific answers, to at least a big part

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of the teachers' problems in the education of mentally retarded children. The 3 *Is*—*initiative, ingenuity,* and *imagination*—play a most prominent role in the teacher's approach. It is through these concepts that the teacher is able to make the most of the abilities of each child and to give him the most adequate proportions of the 3 *Rs*, the hand and sense training, the social skills and attitudes, as well as the attitudes, work habits, and work skills which give the most promise of success in later adult life wherever the child may find himself, independent in the community, in a sheltered home environment, or, even for some children, in institutions.

Initiative

"readiness and ability in initiating action; enterprise; leading to action."

—*The American College Dictionary* (Random House)

At the current level of knowledge as well as the availability of materials, the teacher of the mentally retarded must have and use initiative at a very high level. Each child is different. No class of mentally retarded children has a group of so-called "average" for whom most of the work can be pointed as is the case in a normal school graded class. The teacher is continually faced with new problems which require immediate handling, be they related to actual learning of the individuals in the more academic sense or to the actions and behavior of these children. With the "trainable" level of children this characteristic becomes even more of a problem. Children with adolescent or adult bodies and, in many cases, similar or nearly similar social ideas have minds which allow comprehension at the level of a very small child. Conflicts are bound to arise, both in the teacher's mind as well as in the child's. The initiative to work out these problems is a necessary attribute.

Ingenuity

"the quality of showing cleverness of invention or construction; skillfulness of contrivance or design, as of things, actions, etc."

—*American College Dictionary*

Motivation is a difficulty in all classrooms but seems to be

particularly so in classes for the mentally retarded. Children here have failed so often they frequently see no reason to try something new. The teacher's job is to develop materials, actions, and ideas which are related to the child's needs, in which *he* as an individual can see some relationships and which can show a sense of achievement when the child has completed them. Brain-injured children show a rather extreme variability of things they can and cannot do. The development of training activities here imposes an extreme requirement on the ingenuity of the teacher in her skill of contrivance of articles, materials, etc.

Imagination

> "the action of forming mental images or concepts of what is not actually present to the senses; the power of reproducing image stored in the memory under the suggestion of associated images or of recombining former experiences in the creation of new images different from any known by experience."
>
> —*American College Dictionary*

"Each child is an individual." How often has this statement been made in education? But regardless of this point of view, educators still find much in common among a large share of any regular class of children. To the special-class teacher, faced with a situation in which every child is literally an individual in most ways and exceptional ways at that, the day-to-day requirements never seem to repeat. Hence, a major philosophy and ability of teachers of the mentally retarded is that of "recombining former experiences in the creation of new images different from any known by experience." The primary individualities of the children force the teacher into a day-to-day, educated trial-and-error system of finding ways, means, and materials through which she can reach each child and so foster his development to the maximum of his potentials. A serious deficiency in the educational field is the lack of communication existing between teachers who perhaps have had an experience with a child which might be repeated some time and some where by another teacher with another child. A feeling for this problem by most teachers could easily reduce the number of literally different and new situations by more numerous interchanges of suggestions and ways in which problems have been met.

Team Approach

In helping the teacher use the 3 *Is*, an added attitude is the "team approach." This implies first the cooperation of several various disciplines in the diagnostic phase as well as in the area of prognosis and program planning. All too often the teacher has become accustomed to receiving merely an IQ and then expecting to base all teaching procedures on this score. A point of view even in terms of the psychological report is: Never accept a simple IQ score. A good psychological report will include such interpretations as the teacher should be able to use in the classroom in working with and teaching each individual child. For each child areas of strengths and weaknesses should be pointed out, together with probable areas of best learning. The interpretations should explain some of the behavior characteristics which will be assets or liabilities in class activities. Hence, the teacher or vocational worker has knowledge of possibilities for each child which are impossible to obtain from a simple score. It is also extremely important to know and remember that, of two children with identical IQs, the scores probably have been received through quite different patterns of performances and so mean quite different things in terms of actual teaching. We *must* have good mental test scores. But we must also have considerably more of interpretation. A reason for some errors in this direction is the tendency of schools and special classes to record the IQ but "hide" the complete report as being of little value. For special children a cumulative file should always include all complete reports and be located in such a way as to make them easily available to using personnel.

In addition to the complete use of psychological reports and insistence on receiving them, the school and teacher must expect to use more varied professional help in discovering the true facts concerning each child and in coordinating these facts for classroom use. No mechanical methods can be stated because of variations among school procedures. In many the psychologist is the responsible person in referring the child to other professionals. In some a medical officer is responsible. The teacher must be on the lookout for such added information as may allow for more understanding of the child's needs and abilities to supplement other knowledge of teaching procedures for the maximum growth of the individual. Quite

often hearing or vision problems are added to a basic retardation, and so cause a modification of teaching methods. Knowledge of other physical problems, especially that of muscular coordination, add to the picture. Diagnosis which has been established through neurological or psychiatric assistance on the team clarifies many of the limits. Quite frequently a rather severe emotional disturbance is superimposed on the basic retardation, but must be taken into account in daily teaching. In other cases the disturbance appears to be organically related and so improvement is obtained by understanding the situation as well as attempting to develop better habit control wherever possible.

Brain Injured

For many years most of our concept of the mentally retarded was based on the assumption that this is primarily a problem of heredity. Evidence assures us that much of the problem is actually the result of damage to the brain cells before, at, or shortly after birth. Some data indicate that a very large majority of all births have some difficulties with development of the brain. In many of these the natural body processes dissipate the situation so that little, if any, actual permanent damage occurs to the cells. For those other cases where the body chemistry could not take care of the problem, or where the initial problem was too great, an actual brain damage results.

The peculiarities of the brain-injured individuals have been discussed in many current books and articles. But it is important for the teacher to have some idea of the facts and what they mean for the individual child. During a comprehensive psychological examination many of these children show extreme variations among the types of activities they can perform at an almost normal level compared to those for which they show an almost complete lack of ability. In some cases the professional reports will be able to define many of these situations. In others it remains for the teacher, having information that the child probably is brain injured, to use an educated trial and error to determine the variations in learning pattern for the particular child.

Without some of the above information and concepts, many teachers use either of two extremes in their work with the individual. First, they assume that "every child must learn certain basic facts"

and so proceed to pressure every child to learn them, without consideration of the individual's particular deficits. The other extreme is that, with information of the child's limitations in a certain area, the teacher makes no attempt to allow the opportunities for learning, simply on the assumption that he will never be able to learn it. An intermediate approach would appear to be more sound. If a teacher accepts professional knowledge of the child's lack in an area, she should reduce the pressure in that area, in spite of any preconceived attitude of uniform learning and needs. On the other hand, because some children apparently are able to learn much more in an area than tests would indicate possible, she should make a variety of opportunities and motivations available so that the child will have the chance to improve, if the proper stimulus can be found. The composite approach tends to reduce the emotional tensions usually resulting from pressure to produce beyond abilities and at the same time offers opportunities to learn for those cases where the ideal approach can be found.

Certain basic assumptions probably are well founded. It would seem unlikely that a child with an IQ of 40 would ever be able to learn to read a daily newspaper or a work manual with real understanding. On the other hand, many such individuals have been able to learn skills related to general reading so as to become much more self-sufficient and productive. It is not unusual for a child of IQ 40 to learn to "read" the baseball scores, the weather forecasts with fair comprehension. But before we make too many assumptions for the individual child, the teacher should use good techniques and motivation to make materials available to verify the child's responses and results in the activity.

The time may come when prognosis of brain damage as to location, type, and implications will be technically more complete. As the fields of neurology, biochemistry, psychology, and others develop new techniques and procedures, the help to the teacher and others working directly with a brain-injured child will greatly increase. To this extent our results in the child's learning and development will improve.

Clinical Teaching

Perhaps an attitude which would help the teacher is the acceptance of her work as "clinical teaching." By this is implied a

variety of methods, techniques, and approaches which at the extreme accept each child as a different individual. It has been said that, in regular public school, there is no such thing as a normal fifth-grade class—if by this is meant that each child is capable of and is producing at fifth grade in each area of school learning. Within every such class there is a range of chronological ages, a wider range of mental ages, together with all the variations of individual abilities and interests. If more regular classroom teachers could get away from the feeling that they should be teaching the identical material at the same time to every student, much improvement in learning should be obtained. In the special class it might be said that every child is more or less an extreme when compared to the regular classroom. At the same time these children are different from each other in many ways. The teacher must teach in such a way that she is able to develop a certain amount of group feeling and coordination and at the same time be able to consider all of the extreme individual differences present. One method long discussed in college classes on methods is the "experience unit." This allows a theme which is of interest to at least the majority of the class to hold the class unity. At the same time each child can be progressing at his own level and in the directions which offer the most opportunities for success and future educational development. It is here that the 3 *Is* enter completely into the everyday teaching practices.

Summary

Obviously, the 3 *Is* will not, in themselves, solve all of the problems of special-class teachers. And what is described here for teachers of the mentally retarded is in many ways equally true for teachers of all special fields—the deaf, the crippled, the gifted, etc. Perhaps, however, the point of view will help some of those teachers who feel at a loss as to solving their daily problems of teaching the children under their care. A feeling of at least partial security can develop from the knowledge that there is no panacea, no "canned" set of methods and materials, by which exceptional children can be taught. Rather that, by the very nature of their exceptional differences, the imposition is on the teacher to find the key for each individual child by which he can develop into a more happy, self-sufficient, and partially productive member of society in the future.

52 Competencies Needed by Teachers of the Mentally Retarded

ROMAINE P. MACKIE, HAROLD M. WILLIAMS, and LLOYD M. DUNN

CERTAIN *personal and professional qualifications* are required for teaching mentally retarded children in school, interpreting them to parents and the community, and helping them to find their place in a society that does not always understand and accept them. While it is obvious that these teachers need the qualities desired in all teachers, there are other qualifications in which they differ. This report attempts to point up the special qualifications that apply to teachers of these children.

Certain personal characteristics seem to be essential to the teacher of the mentally retarded, irrespective of the class setting, the chronological or mental age of the children, or the curriculum to be followed. He should be genuinely interested in the mentally retarded. Preferably this interest should not be motivated by strong feelings derived from personal identification. He must have a high level of acceptance of the limited capacities of mentally retarded children to conform to the educational and social standards generally set by the school and the community. He must have a high degree of aptitude, ingenuity, and originality in providing and adapting materials and methods to the various levels and types of the mentally retarded. He must be intellectually curious about the learning characteristics of the mentally retarded.

There is little exact knowledge about the way in which men-

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tally retarded learn, and there is a lack of appropriate and special methodology pertaining directly to them. However, the teacher should know the story of the pioneer efforts which were made on behalf of these children. He should know about the work of Itard, Seguin, Montessori, Decroly, and others whose experiments and techniques of teaching brought about a change of attitude toward the mentally retarded. He should have a knowledge of current literature and research dealing with mentally retarded children and their training.

The teacher should have a knowledge of associations and organizations whose purposes are to promote an understanding of the mentally retarded or to plan for their education.

These statements on teacher qualifications have implications for teacher education. They have been included in the introduction because they are general in nature and, while they specifically apply to special teachers of the mentally retarded, they should apply to any person who is responsible for the education of mentally retarded children. The *distinctive competencies* have been grouped under four broad headings:

1. Understanding the characteristics of the mentally retarded child and his place in society.
2. Developing a functional curriculum through relating the broad personal and social needs of the mentally retarded.
3. Understanding and applying pedagogical procedures based on an understanding of the known learning characteristics of the mentally retarded.
4. Selecting, developing, and using appropriate instructional materials and equipment in teaching mentally retarded children.

Understanding the Mentally Retarded Child and His Place in Society

To understand the mentally retarded child, the teacher needs insight into the dynamic factors involved in the emergence of individual social roles.

To appreciate fully the overt behavior of the mentally retarded child and the personal difficulties he experiences in a social world, teachers of the mentally retarded should have a basic *understanding of the normal growth processes of all children.* A knowledge of the way in which the physical nature sets the limits for potential growth,

the factors in and experiences necessary to wholesome and mature emotional development, and the growth of intellectual ability contribute to the teacher's understanding of the process. The intimate and dynamic relationship of these elements influences the personal effectiveness of an individual and should be recognized by every teacher of the mentally retarded.

In mentally retarded children, the *effect of the physical nature* may manifest itself in a wide variety of physical abnormalities. The various physical causes of retardation impose limits on intellectual potential which range from the low-grade bed-fast individual to the dull-normal group.

The mentally retarded child, with his physical and intellectual handicaps, often encounters difficulties in fulfilling his basic needs and thus meets with frustration. In many instances his appearance may be unattractive, his movements awkward and ungainly, causing him to be rejected by others. His limited intelligence frequently prevents him from choosing socially acceptable behavior patterns and overcoming this frustration. Unusual behavior leads to further frustration and further rejection. The greater the frustration, the more likely the development of peculiar behavior patterns and the less likely the mentally retarded child will find social acceptance.

Developing a Functional Curriculum

A functional curriculum may be defined as an organization of learning experiences to cover a certain scope and sequence, the purpose of which is to help children develop and to live enriched and meaningful lives in our democratic society. The content of this curriculum should be selected on the basis of the fundamental needs (mental, physical, social, and emotional) of the mentally retarded as individuals in society.

As has been stated before, the mental processes of the mentally retarded differ to some degree quantitatively and qualitatively from "normal" mental processes. These differences determine the scope and sequence of the curriculum. The "scope" is directly related to the "kinds" of learning experience the child needs to enable him to fulfill his optimum role as a mentally retarded adult. The "sequence" must conform to the processes of concept formation in mentally retarded children.

Teachers of the mentally retarded usually have to *develop their*

own curriculum. Few schools have established curriculum guides, or a body of facts and information to which all mentally retarded children should be exposed, or a sequence of learning experiences which are related to the various developmental levels of mentally retarded children.

The curriculum for the mentally retarded must provide for the child who enters special education at the primary level as well as the child who is placed after several years in regular classes. It must provide for the child who enters the special class at the beginning of the school year as well as the child who is placed sometime during the year. It must provide for the child who is spending his first year in the special class as well as the child who is enrolled for his third year in the class. It must provide for the child who is at the lower limits of educability as well as a child who is at the upper limits.

Regardless of the age of the children or the level of the classes, primary, elementary, or secondary, the teacher must have *knowledge and skill in class-room organization and management.* A curriculum which provides for small-group and individualized instruction must be organized. The teacher must be able to organize the daily program based upon the total maturity of the class and arrange the grouping relative to the chronological age, the social maturity, the mental development, the physical maturity, the emotional stability, and the educational achievement of the individuals in the class. In the organization of educational programs for the mentally retarded, grouping according to these factors has usually been considered, and various kinds of plans have evolved that resulted in some degree of homogeneity. The teacher, however, rarely has a class that is completely homogeneous, and hence must be able to organize effective learning groups within the class organization.

The teacher must be adept at establishing classroom routines. The school day must be orderly and well-planned since mentally retarded children gain security and stability from following a familiar routine. Habit training is essential, and orderly routine in the classroom is an aid in the adjustment of these children. Excursions, assembly programs, parties, and other unusual happenings may be planned and may result in enrichment in the lives of these boys and girls, but they pay the highest dividends when introduced after the usual routine has been established.

Teachers of the mentally retarded will need *knowledge and skill in the field of practical arts and vocations* as these areas are emphasized in the curriculum. They must recognize the need for

personal, social, and vocational guidance and be able to provide it because guidance counselors are frequently not available. When the services of an experienced counselor are available, the teacher must know how to interpret the mentally retarded adolescent to him. The adolescent retardate may require considerable emotional support and approval from the teacher to negate the poor effects of previous failures in the school and the community. Provisions must be made in the curriculum to meet this need.

Understanding and Applying Appropriate Pedagogical Procedures

It has been stated that little is known about exactly how the mentally retarded learn and that there is a lack of appropriate and special methodology pertaining directly to them. However, the teacher of these children should have knowledge and skill in *applying pedagogical procedures based on an understanding of those learning characteristics of the mentally retarded* which have been generally accepted. All procedures used in teaching these children should be based on the total maturity level reached by each individual within the group. This is necessary because there is more diversification in the various levels of development—chronological, physiological, mental, emotional, and social maturity—than is usually represented in regular grade groups.

The teacher must have training in the *methods that are specific to the learning characteristics of the mentally retarded.* It has been stated in this report that the learning process for the mentally retarded seems to differ quantitatively and qualitatively from the "normal." Methods courses have probably tended to emphasize the former and minimize the latter, perhaps because of lack of objective evidence. From their experience in the classrooms with mental retardates, the members of this committee feel that qualitative differences cannot be ignored. In the use of diagnostic instruments the "quality" of the response to a stimulus gives an indication of these differences. It is known that (without special help) many concepts of the mentally retarded are confused, distorted, and less functional than those of normal children (witness the retarded child in a "regular" classroom). If application is to be made to this difference, the teacher must have skill in methodology (as a result of knowl-

edges and training) that explicitly points up the steps in the development of concepts.

The teacher must have skill in determining when additional "steps" need to be evolved and to fit the steps into systematic instruction. He must have knowledge and skill in the use of cues, reduced cues, and possibilities for generalizations. He must be able to evolve methods (as a result of his knowledge and training) that will enable him to test the functionality of specific concepts for the child.

Since these children lack a high level of ability to generalize and have great difficulty with abstractions, the teacher should use concrete materials and simple, direct methods of presenting lessons. They need to remain for a longer time on the concrete manipulative level and to progress gradually to more abstract learning. The use of verbal symbols begins early as the teacher encourages the pupils to talk about their experiences. Such visual symbols as words and numbers are abstractions, and only the most simple of these should be presented to retarded children in the early stages of their learning. The teacher must be able to use methods that do not require from the children a high degree of reading and interpretation of directions.

The teacher must be *skilled in methods of observation of the child* during the learning process. He should know how to record his observations effectively, how to identify the needs revealed, how to employ appropriate corrective measures, and how to evaluate the effectiveness of the procedures used.

Mentally retarded children have a slow rate of learning; the teacher must therefore *know how to allow adequate time for each phase,* developing concepts slowly, simply, and in sequential order over an extended period of time. Since mental retardates tend to have a relatively short attention span, the learning periods must not be too long and must be well motivated. Because these children often have poor retentive ability, the teacher must be skillful in furnishing meaningful repetition in a variety of situations to sustain interest.

The teacher should *know how to utilize a variety of teaching approaches* to any lesson rather than to rely upon a single technique. These children, regardless of age, must be repeatedly shown how to do things. All directions must be simple and explicit whether they pertain to a learning situation or to control of behavior. It is

necessary for the teacher to use a simple vocabulary to enable them to grasp meanings and follow directions.

The teacher must be able to use methods that will allow the child to *learn as a result of exploration.* He must be able to use methods of explicit instruction for the development of those desired concepts which were fostered by the exploration. He must be able to recognize when experiences have not fostered desired concepts. He must be able to restructure situations so that the concept may be isolated for specific instruction.

The teacher must know how to make the *experiences of the children concrete and meaningful* through the use of audio-visual materials. The children can be supplied with much that they are unable to get from the printed page. It has been demonstrated that audio-visual instruction is worthwhile in teaching the retarded child.

The teacher must be able to use *methods that are related to the interest and social behavior* of the mentally retarded. The teacher should recognize that these children can be taught most successfully through seeing, feeling, and participating. He must know how to provide for this active participation either through real or contrived experiences. He should know how to direct them in story building, role playing, and group dramatizations.

These children are easily confused by the introduction of too many requirements simultaneously. They can learn to conform when confronted by a few rules, especially if they have had a voice in formulating the rules and if they understand what they are expected to do. It is essential that the teacher be able to establish guideposts for behavior early in the school year. He must be consistent in requiring observance of the rules if the classroom management is to be effective and the pupils are to learn to assume responsibility for their own actions. The teacher must apply his knowledge of the difficulties that mentally retarded children may have in formulating social concepts as they do in developing academic concepts.

The teacher must be able to *develop methodology that provides structured situations for meeting the "life needs"* of the mental retardate. This means that the teacher, as a result of his understanding of the mentally retarded, must make some predictions on the possible social positions of these children. He must make some assumptions as to the present needs of the child (outside of school). He must evolve methodology to "fill in the gaps" that are now present. He

cannot assume that the unstructured experiences outside of class fill these gaps.

The knowledges and skills required of the teacher of the mental retardate will *vary depending upon the age group of the children concerned.* An understanding of the learning characteristics of the mentally retarded presupposes that the teacher will, as a result, employ certain special methods and adapt "regular" methods regardless of the age group he is teaching.

The teacher must know and be able to use methods that are adaptable to the various developmental levels. The teacher of the *young retarded child* with chronological age (CA) below 6 will need to understand and have skill in using good preschool methods. He should know how to provide for the development of good physical health with special attention given to training in health habits and personal care. Mentally retarded children tend to remain socially isolated, and they are usually too immature and lacking in experience to proceed without leadership. The teacher must be able to recognize which children should remain in parallel play activities as well as those who are ready for group activity. He must know how to organize a program around play activities and how to encourage free play, since these children often lack sufficient imagination to initiate their own play.

The teacher of the *retarded child of elementary school age* (CA 6-12) needs to know how to provide a readiness program which may extend for a three- to five-year period instead of the six- to ten-week readiness periods usual in elementary school programs. The teacher must know how to stimulate intellectual development and provide opportunities for verbal and other forms of self-expression. He should understand how to utilize stories, conversations about experiences, trips, dramatizations, games, and pictures to encourage growth in language development. The program will include intensive training in visual, auditory, and kinesthetic perception. The teacher must have skill in providing eye-hand coordination games and exercises, constructive activities, and developmental language experiences. The teacher must know how to provide such a readiness program and at the same time delay formal instruction. If these children are expected to deal with symbols too early or to understand content material beyond their maturational level, future educational disabilities may occur.

The teacher of the elementary-age child must know what ac-

tivities and equipment to use to help children develop motor coordination. Habit training in health, work, safety, and social relations should be a continuous program. An understanding of the need for and ways of building language and number concepts is of considerable importance. The teacher must know how to use specific methods of teaching tool subjects that have proved successful with mentally retarded children.

The teacher of the *adolescent mentally retarded* should know how to relate the activities or learning experiences to the mental retardates' needs in the major areas of living. He should know the procedures to follow to give the pupils practice in solving their everyday problems in living. He should know how to provide training that will develop habits and attitudes that contribute to successful job experience. In situations where occupational training is possible the teacher needs to know how to survey the local community for jobs at the retardates functioning levels; to classify the jobs into job areas; and to develop curricular experiences in and out of school that will have practical application to the present and future.

The teacher needs knowledge and skill in providing a *program of re-education for the retarded child who has experienced failure in previous attempts* to compete with other children of higher ability. Many mentally retarded children are placed in special-education programs during the school year or after several years in the regular grades. Children who have tried and failed in school need a different approach from those who are inexperienced in school. The former require procedures adapted to their present attitudes and to their disabilities. The latter can profit from readiness programs established especially for the beginner who is mentally retarded. The teacher must be prepared to work with both groups.

The teacher must know how to ascertain the child's attitude toward a subject in which he has failed, how to judge his present readiness for the subject, both mentally and emotionally, as well as how to find the most effective way of teaching him. The teacher must be able to administer tests that measure the child's level of achievement or readiness or that indicate ways in which he may learn best, and to evaluate and utilize the results. He must be able to help the child establish new goals.

Most remedial instruction has been developed for individuals with normal intelligence, but some clinical procedures have been established for the mentally retarded and reported in enough detail for other educators to use them. Teachers should have professional

preparation in order to apply the clinical teaching and remedial procedures that are presently available.

The teacher must have a *knowledge of developmental speech* and be able to recognize speech disabilities as differentiated from retarded speech development. He should know how to develop language with retarded children. He should have the ability to recognize the speech disorders which should be referred to a speech therapist.

The teacher should have skill in providing training in *oral and written language development* for the mentally retarded. Language development in the early years is an integral part of the readiness program. Acceptable language and the ability to communicate effectively with others must be developed and emphasized throughout the school life of mentally retarded boys and girls.

It is essential that the teacher *know how to establish a mental health program.* He must know how to reestablish a feeling of security and must be aware of the hazards to the mental health of the mentally retarded child. Some of these hazards are failure, rejection or overprotection by parents, rejection by peers or community, and insecurity resulting from the child's fear that he cannot succeed. The teacher must know methods of redirecting these children, how to provide for success, and how to help them establish new individual goals. He must have insight in dealing with personality development, recognize behavior as symptomatic, and look beneath the surface for the causative factors. He must have skill in counseling mental retardates.

Some children have more than one handicap which necessitates special educational provisions. They are usually placed in a class where they can benefit most from the special service in relation to their major handicap. The teacher of the mentally retarded should know the educational provisions to make for children who are mentally retarded and also have some other handicap.

Selecting, Developing, and Using Appropriate Instructional Materials and Equipment

As has been stated before, there are few special types of materials or equipment designed exclusively for the education of the mentally retarded. This does not mean that there is no need for special materials. Publishing houses are reluctant to print materials

which have a limited circulation. In addition, they often lack staff members who understand the specific nature of materials required. The implications of these facts are that teachers of the mentally retarded must have *specific skills in developing materials* appropriate to the immediate problem and to the organized curriculum, and in using all of them in such a way as to meet the individual and group needs effectively.

The teacher must therefore have a knowledge of the *sources of materials and equipment.* Most special teachers have to depend upon their own resources for examining free materials, adaptable audio-visual aids, and descriptions of equipment. A program cannot be built on "scraps." All teachers should be able to demonstrate resourcefulness in the use of waste materials. This skill is valuable to the special teacher inasmuch as the use of "waste materials" offers an opportunity to stress economy and resourcefulness to the students.

The teacher must be able to *develop and adapt materials that are related to the learning characteristics* of mentally retarded children. It is not enough for him to provide more of the same kind of materials at a particular grade level. Mentally retarded children need to have the "steps" in the development of a specific concept "spelled out." A teacher must have the ability to develop the materials following the principles of how mentally retarded children learn.

It is not enough to say that the teacher should be able to develop and adapt materials for the various achievement levels. Such *materials must be appropriate to the developmental level of the child.* They must be related to his present need, but they must also be related to his past and future experiences with other materials. They must be related to the child's development of various concepts. In preparing and adapting materials the teacher should be guided by the possibility of the child's making functional use of them. These "new" materials should be appropriate to the child's mental, social, and physical level, which means that in the preparation of materials the teacher will be guided by his understanding of the various developmental patterns of the mentally retarded. He will prepare materials to build and strengthen "selected" concepts in keeping with the "planned" curriculum. He will adapt and develop materials in keeping with his knowledge of the methods that are most successful with mentally retarded children. To do this he must have training that should lead to skills in the use of develop-

mental materials, whether they are concrete objects or verbal symbols.

Materials and equipment must be *related to the curriculum organization and room organization.* As has been stated before, these children lack creativity and ability to generalize. They require structured situations wherein preconceived outcomes are sought. The teacher must be able to plan materials so that the pattern becomes evident and familiar to the pupils. When children are working with familiar materials or following a planned pattern the teacher can have several groups and individuals "working" at the same time. He must know how to provide a room organization, from the standpoint of location of materials and equipment, that facilitates rather than hinders the achievement of the objectives of the program.

The teacher must know how to *develop and adapt materials in relation to the interests* of the mentally retarded children. Again, this means not only that the teacher must find materials commensurate with interest of children at a certain level of achievement or social maturity, but also that the teacher must recognize the various social, mental, and academic developmental levels demonstrated by a group of mentally retarded children and by each child. Interest, attention, and progress are so interrelated that the "performance" and interests of the mentally retarded are better guides for selection of materials than "normative" guides that do not consider the problem of mental retardation.

Mentally retarded children typically have *little creative ability, yet they have a need to express themselves.* The materials must provide an experiential background from which the children can draw in this self-expression. The teachers must know how to adapt and develop materials that provide opportunities for learning through exploration. They must also know how to provide materials that lead to the development of preconceived concepts. Teachers at the primary level must know what materials are appropriate to a child with poor coordination who lacks concepts of color, shape, and form. As the child's motor control improves, and his knowledge of form, shape, and color increases, teachers will need to know appropriate materials (or how to adapt materials used formerly) which will help him develop skills in cooperating on projects and in expressing himself through the various media.

The teacher must know how to *relate materials to the life needs* of the mentally retarded. This presupposes that he has some in-

sight into the possible social positions that the mentally retarded may enjoy as adults. The teacher would be less than realistic if he supplied children with materials simply because they can "do" or "use" them. It is possible to be realistic without being fatalistic. To this end, the teacher must know how to select, provide, and adapt materials which are more than "busy work."

As the pupil reaches adolescence the teacher must provide for the *strengthening and development of prevocational, vocational, and avocational skills and knowledge.* An employment blank should not be the first experience that a mentally retarded child has with material requiring him to give information about himself. The teacher working with pupils at this age level must know how to select room equipment that is in keeping with the vocational and social possibilities for the retarded in their local community.

53 *The Special Teacher on the Interdisciplinary Team*

HERBERT RUSALEM

THE GROWING INFLUENCE of psychological and sociological thinking upon education has served to introduce professional workers from many fields into active participation in the schools. Special education intensifies the need for professional teamwork, and creates interdisciplinary problems not usually found in general education. For example, the nature of the student population in special education is such that the physician's role may expand and reach directly into the classroom. Similarly, a program of special education may require the services of professional personnel who are rarely encountered in the general education program, such as physical and occupational therapists and rehabilitation counselors. In many instances, the preservation of educational values and the

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unique role of the special teacher have not always been protected in this integrative process.

Effective teamwork depends upon many factors, some of which are:

1. Communication between teachers and other professionals that is free from semantic difficulties.
2. Definition of team function in which the teacher's essential role is made secure and which assures each participating discipline an area of work which is consistent with its competency and role on the educational team.
3. Prevention of conflict between team cooperation and individual enterprise and responsibility.
4. Development of an interdisciplinary cohesiveness that is as meaningful to the child and his parents as it is on organization charts and in the perceptions of the participants.
5. Avoidance of individual and often conflicting personality needs of the participants in the team process.
6. Achieving leadership and coordination that provide maximum service with minimum expenditure of time and money.

Teamwork Problems of the Special Teacher

More than other educators, the special teacher is likely to be surrounded by psychologists, social workers, physicians, therapists, and others. Each is competent in his own field, and is essential to the development of a program for exceptional children. These nonteaching professional workers provide the special teacher with needed information and interpretation, but they may also attempt to teach the teacher how to use their data in the classroom environment. When unschooled and inexperienced team members cease to communicate and interpret and begin to usurp the teacher's role, they may be sowing the seeds of inadequate teamwork. In some classrooms, the role of the teacher has been subtly whittled away until many classroom activities are the products of the judgment of nonteachers.

On any team, the teacher is the specialist in teaching. Much as a physician will use data from other fields to fashion his diagnostic and treatment program, the special teacher should value the factual contributions of team members and their perceptions of the child's needs. However, the planning of the education program and the

specific content and methods used in the classroom lie clearly within the decision-making area of the special teacher. To abdicate any segment of this responsibility to another profession may be tantamount to assigning this function to a less professionally competent person.

Special-education programs involve many nonclassroom activities, including medical treatment, special therapies, individual counseling, social service planning, and certain aspects of prevocational training. Even in a program that is well balanced in terms of instruction and other services, exceptional children tend to spend less time in the classroom than other children. When the programs are less well balanced, the deprivation of classroom experiences may become significant. Everyone interrupts the special teacher's program of instruction, and the time and continuity of effort which are the hallmarks of a good educational program may be sacrificed. If classroom instruction is to be considered as important as any other team service, then the special educator should be certain, when the child's program is planned, that adequate time is provided for the achievement of the educational objectives of the program. This planning should take into account not only the number of hours available for teaching, but also the availability of sufficiently large blocks of time distributed throughout the school day in such a way as to favor learning.

Some team members must work in such a way that flexibility in their schedules is required. Yet the school, if it provides an adequate budget for the services, retains some rights in the situation, namely, to devise a schedule that meets the needs of the over-all educational program. To a certain degree, flexibility is a major value in good teamwork, but the instructional program must be protected from undue dilution by the demands of other services.

The Status of Teachers

The acknowledged position of the physician, the weight of the doctorate, the specialized knowledge of the psychologist, the skills of social workers with the dynamics of human behavior and community resources, the allied medical know-how of the therapist, and the occupational sophistication of vocational counselors may make the teacher appear to be a less skilled and less professional member of the team. Though this problem has its root in the general status

of teachers in our society, it can be minimized. The interdisciplinary team is not only a diagnostic instrument; it is also a learning device for the participants. Through the respect the teacher has for her own profession, through her belief that teaching is the keystone of the helping process for exceptional children, and through remaining firm against all attempts to dilute her role, the teacher may educate other members of the team. Independent action by dynamic teachers can create a status structure on the team that is disproportionate to that found in the larger society.

Classroom Responsibilities

Most classroom functions cannot be reassigned, rescheduled, or composed of time segments which are relatively free for independent action, and teachers are thus often limited in their team activities. The difficulties in obtaining qualified substitutes, the restrictions of administrative policy, and the sometimes prevalent idea that the teacher is endowed with some special characteristic that favors her nonparticipation on the team serve to make her less "available" than other team members.

The teacher's position in relation to the class group will inevitably restrict her out-of-class activities, but they are necessary within limits. The scheduling of conferences at times feasible for the teacher to attend, and the provision of qualified substitutes must reflect the idea that the teacher is an important member of the team.

Training for Teamwork

Effective team effort in special education is not "doing what comes naturally." The special skills and understandings essential to success in interdisciplinary teamwork are usually covered in teacher-education programs, though perhaps more incidentally than deliberately. Curriculum planning in teacher education might desirably include required course work in group dynamics, participation in interprofessional class groups, and opportunities for the observation of and participation in interdisciplinary meetings in local schools, hospitals, and rehabilitation centers.

The participation of the special teacher on the interdisciplinary

team requires administrative support, intrateam cooperation, and professional self-awareness on the part of the teacher. The teacher's role on the team is not only of equal status to that of other participants but also is of a distinctive and essential nature. With preparation and assistance, the teacher can add a valuable dimension to the team.

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RESEARCH

THE STUDY OF mental retardation was a stepchild of scientific research until 1950. An attitude of hopelessness toward it prevailed, and except for the work of a few undaunted, highly dedicated workers like Itard, Seguin, Binet, Goddard, Doll, Benda, and Wallin, little was accomplished. What research there was, poorly supported and little publicized, was devoted to institutional programs. Except for the laboratory at the Training School, Vineland, New Jersey, and a small number of institutional and clinical projects, research in the area of mental retardation was unknown. Nonetheless, it is amazing how much progress was made on this limited basis and the impact that it has had on recent programs.

The first impetus for well-organized research was given by Samuel A. Kirk, when he established the Institute for Research on Exceptional Children at the University of Illinois shortly after World War II. This was followed by the monumental studies of Masland, Sarason, and Gladwin,[1] which were sponsored by the National Association for Retarded Children and the National Institute of Mental Health and provided a framework for future inquiry.

The recent increase in public and private funds available for scientific study has made possible hundreds of investigations in the fields of education, psychology, medicine, psychiatry, neurology, and social work. The federal government has now stepped into the field actively. Coordinated federally supported research programs sponsored by the Department of Health, Education and Welfare are attacking problems relating to mental retardation from every possible angle. The enactment of Public Law 78-410 in 1950 provided funds

[1] Richard L. Masland, Seymour B. Sarason, and Thomas Gladwin, *Mental Subnormality* (New York: Basic Books, 1958).

for the National Institute of Mental Health and the National Institute of Neurological Diseases and Blindness to investigate methods of prevention and treatment techniques, and to conduct longitudinal studies in the biological, behavioral, and social sciences. A variety of studies are being made in the medical field,[2] including, among others, (1) a study evaluating the causes of retardation originating during pregnancy and early infancy; (2) studies in heredity, genetics, asphyxia, and biochemical disorders, and (3) a nation-wide analysis of 40,000 mothers and their infants to age 6 to determine the etiology, both known and unsuspected, of retardation.

In the field of education and psychology, federal funds are provided under Public Law 83-531 for the Cooperative Research Program,* administered by the U. S. Office of Education. At this writing, the program has under contract with colleges, universities, and state departments of education 62 projects dealing with educable and trainable mentally retarded children. These projects are studying children ranging in age from preschool to adolescence, day-school and residential programs, and mental retardation among urban and rural populations.

One of the most interesting and fruitful projects has been the Technical Planning Study in Mental Retardation, sponsored by the American Association of Mental Deficiency.[3] The purposes of this survey have been to disseminate research findings, to delineate promising areas of research, and to promote institutional, national, state, and local planning. So far the study has published a *Ten-year Index of the American Journal of Mental Deficiency* (for July 1947 to April 1957), *A Manual on Diagnostic Nomenclature* (for an excerpt from this manual, see pp. 84–98), and the *Study of Working Relationships between University and Residential Facilities.* Another important publication is the report of the Symposium on Research

[2] Department of Health, Education and Welfare: National Institute of Mental Health, *Highlights of Progress in Mental Health Research;* National Institute of Neurological Diseases and Blindness, *Highlights of Progress in Research on Neurological and Sensory Disorders;* Children's Bureau, *Research Relating to Mentally Retarded Children* (Washington, D. C.: Government Printing Office, 1960).

* For a description and details of the Cooperative Research Program, see U. S. Office of Education, *Bulletins,* Cooperative Research Projects Reports, OE-12007 (1958), and OE-12004 (1960).—ED. NOTE.

[3] Herschel W. Nisonger, "Status of the AAMD Project on Technical Planning on Mental Retardation," *American Journal of Mental Deficiency,* 63:2 (September 1958), 360–362.

Design and Methodology in Mental Retardation, conducted in collaboration with the Woods Schools.[4]

Private funds are financing other important experimental studies. Working under a Ford Foundation grant at the California Institute of Technology, Linus Pauling, the Nobel laureate, is conducting a long-term study of biochemical aspects of mental retardation. The Johns Hopkins University and Massachusetts General Hospital have established research centers with funds from the Joseph P. Kennedy, Jr., Foundation.

Information about research in the field is also becoming more accessible. In 1960 Harvard University and the New York State College of Education at Albany began to distribute project descriptions and summaries of final reports of the Cooperative Research Program; they are also converting research findings into forms useful for teachers. Research in rehabilitation will be reported in a new governmental journal entitled *Rehabilitation Record.*

In the first article, Lloyd M. Dunn and Rudolph J. Capobianco review 118 studies on mental retardation relating to terminology, prevalence, school programs, adult adjustment, speech and language development, learning theory, and the influence of motivation on performance. Their bibliography is a comprehensive list of recent literature in the field.

The Edward R. Johnstone Center at Bordentown, New Jersey, is unique; it attempts to integrate programs of institutional training for the retarded, teacher preparation, and research. Louis Schwartz, of the New Jersey State Teachers College at Trenton, describes the program at the institution, which is a treatment and training center for potentially "returnable" retarded individuals. Working closely with the State Teachers College, the New Jersey Department of Institutions and Agencies, and the New Jersey Rehabilitation Commission, the Johnstone Center has facilities for teacher education, staff preparation, basic and applied research, as well as rehabilitation for the retarded.

[4] Leonard J. Duhl (ed.), "Symposium on Research Design and Methodology in Mental Retardation," *American Journal of Mental Deficiency,* 64:2 (September 1959), entire issue.

54 *Mental Retardation: A Review of Research*

LLOYD M. DUNN and RUDOLPH J. CAPOBIANCO [1]

SINCE THE REVIEW six years ago by Kirk and Kolstoe (60),* there has been a gratifying increase in psychological and educational research concerning persons who are mentally retarded. In the field of psychology much of this expansion has been stimulated or supported by the National Institutes of Health. The impetus in education has resulted in part from Public Law 83-576 of 1957, which is administered by the U. S. Office of Education. Since two thirds of the original appropriation was earmarked for research in education of the mentally retarded, it is not surprising that a large proportion of the first projects initiated—41 out of 72—were in this area (72). This cooperative research program has not been in operation long enough for us to identify trends.

The increase in noteworthy educational research prompts a reduction in emphasis on psychological investigations; thus, studies in psychometrics, projectives, psychotherapeutics, sociometrics, and perception are here omitted. The exception, because of its interest to educators, is learning and motivation.

Only a few of the most significant books on mental retardation published within the last six years are noted here. In education, Wallin (109) provided a major reference emphasizing historical, philosophical, and organizational aspects of a public school program

From *Review of Educational Research,* 29 (December 1959), 451–470. Reprinted with the permission of the American Educational Research Association and the authors. Dr. Dunn is coordinator of special education, George Peabody College; Dr. Capobianco is associate professor of educational psychology, University of Minnesota.

[1] The reviewers wish to acknowledge the assistance of Frederic Girardeau, who prepared the material for the section on learning and motivation.

* Numbers in parentheses refer to items in the Bibliography at the end of the article.—ED. NOTE.

for the educable retardate. Ingram's revision of her text (52) retained emphasis on the unit method of teaching the educable. A comprehensive guide for educators on teaching procedures for trainable children remains to be written; however, Kirk, Karnes, and Kirk's manual (59), primarily designed for parents, is a helpful guide for teachers.

In psychology, Clarke and Clarke (17), two British psychologists, produced what is probably the most up-to-date and comprehensive review of the status of psychological knowledge. It is refreshing to see writing prompted by research findings (nearly 1000 citations). Sarason and Gladwin (92) made a third edition of Sarason's standard reference by adding a reprint of a review on psychological and cultural problems of mental subnormality already published twice elsewhere (76, 91). The body of the text was not revised.

Doll (23), Michal-Smith (78), O'Connor and Tizard (82), and Stacey and DeMartino (101) also wrote or edited books for professional readers. A second volume of *Psychopathology and Education of the Brain-injured Child* was published by Strauss and Kephart (103), a physician and a psychologist. It failed to stimulate critical thinking and research as much as the first volume by Strauss and Lehtinen (104), but elaborated on some diagnostic techniques employed to differentiate between exogenicity and endogenicity. Davies and Ecob's revision (20) of Davies' 1930 text failed to keep pace with new knowledge and trends although it was written from a view which considers the retardate a person rather than a statistic.

Though no attempt is made to review medical research here, two major texts by British physicians, Hilliard and Kirman (47) and Tredgold and Soddy (108), should be noted, and another medical reference (75) must be cited.

Masland (75) provided a comprehensive survey of research on the prevention of mental subnormality, and concluded that retardation is largely due to congenital factors. Conversely, Sarason and Gladwin (91, 92), a psychologist and an anthropologist, believed social and cultural deprivation the principal etiological factor. This apparent conflict subsides if it is borne in mind that physicians are primarily concerned with severely retarded persons who are also frequently physically handicapped, whereas social scientists center their attention on the much larger, mildly retarded subgroup.

There were more articles, pamphlets, and nontechnical books, abstracted in the *American Journal of Mental Deficiency, Psycho-*

logical Abstracts, and *Rehabilitation Literature.* Graham and Mullen (38) published a major compilation of articles for the 1950–1955 period. A valuable ten-year index of the *American Journal of Mental Deficiency* for 1947–1957 was prepared by Moury (80). Williams and Wallin (113) reviewed writings on the education of the severely retarded child.

The *American Journal of Mental Deficiency* and the *Training School Bulletin* continued to devote themselves exclusively to professional articles on mental retardation. Foreign journals in the field included the *Australian Journal on the Education of Backward Children,* the *Journal of Mental Deficiency Research,* and the *Journal of the Midland Mental Deficiency Society* (the two latter being British publications first issued in 1957 and 1959, respectively).

Terminology

Lack of agreement on terminology continued to harass researchers and reviewers. However, educators and psychologists appeared to be moving toward agreement that *mental retardation* should be used as a broad generic term including a wide range of psychological and physical syndromes which have one common denominator—subnormal intellectual development. Since intelligence is a continuous function, the demarcation line between normality and subnormality remains elusive.

In practice, mental retardation is coming to mean an IQ score below 75 or 80 on valid, repeated administrations of an individual intelligence test. More and more the term *mental deficiency* is reserved for that small proportion of mentally retarded persons who, as adults, are likely to be "socially incompetent." To permit evaluation and replication of research, careful attention should be given to two articles by Cantor (10, 11) which presented a strong case for defining the terms *mental retardation* and *mental deficiency* operationally, using test scores.

Within the last six years, educators arrived at functional, though tentative, subdivisions of mentally retarded children. These categories are: (*a*) the "educable mentally retarded," with IQs of approximately 50 to 75, who appear to have sufficient potential to acquire skills in the basic school subjects; (*b*) the "trainable mentally retarded," with IQs of approximately 30 to 50, who seem to have the capacity to communicate orally, to care for themselves

physically, and to become economically productive in sheltered environments, yet who cannot be expected to become literate; and (*c*) the "custodial mentally retarded," with IQs below approximately 30, who are unable to acquire skills even in self-help and thus require permanent care. The newest trend in education is the shift of emphasis from the educable to the trainable child.

Prevalence

Attempts to determine the prevalence of mental retardation and mental deficiency continued to be clouded by both problems of definition and inadequate measuring methods.

If one defines the mentally retarded as having an IQ of 75 or below, the group comprises approximately 6 percent of the school population on the Revised Stanford-Binet (106) and 5 percent on the Wechsler Intelligence Scale for Children (110), all but a fraction of a percent falling in the 50–75 IQ range. Unfortunately, this frame of reference has not been widely employed.

A contrasting approach was used in a widely quoted, epidemiological study conducted in Onondaga County, New York, wherein referral to a social agency as either actual or suspected mental retardation was taken as the criterion. Under this condition, the prevalence figures were inflated for school-age children; they rose from 2 to 3 percent in the pre- and post-school periods to a high of 8 percent in the 10–15-year age span.

Kirk and Weiner (61) pointed out the distortion resulting from the overinclusive definition of mental retardation used in the Onondaga study, since many educationally retarded youngsters are suspected of mental retardation. They reported on a survey in Hawaii which differentiated between mental retardation and educational retardation and found 2.36 percent of pupils to be mentally retarded. The Hawaii figure supports a prevailing belief among educators that educable retarded children compose 2 to 3 percent of the school population.

This figure is not inconsistent with intelligence-test-score percentages if one defines *educable pupils* as only those with IQs between 50 and 75 who are not making satisfactory progress in the regular grades and who, therefore, require special educational services. There has been a general belief among educators in the past that approximately one half of the group with intelligence test

scores of 50 to 75 are in need of special education. Such a contention, however, is challenged later in this article.

Two studies—in Illinois and in Michigan—to determine the prevalence of trainable children were reported by Wirtz and Guenther (115). The Illinois study (36) found the proportion to be 0.23 percent of the schoolage population, and the Michigan results (42) were 0.34 percent.

The number of people with mental deficiency—mentally retarded persons who are socially incompetent—apparently approximates 1 percent of the general population. The Lewis study (66) in England and the Lemkau, Tietze, and Cooper study (65) in the United States corroborate this estimate. However, a study by Herlitz and Redin (46) in 1955 reported less than 1 percent of Swedish children between the ages of 2 and 11 to be mentally deficient.

School Programs for Educable Pupils

Today there are three basic school placement procedures for children with IQ scores of 50 to 75. By far the largest number still receive their education in the regular grades; special classes provide for the next largest group; a much smaller number are educated in residential schools. A few are enrolled in special day schools, in programs for the homebound, or in regular classrooms, receiving periodic help from an especially prepared itinerant teacher.

Philosophically and scientifically, there remains lack of agreement on best approaches for educating these pupils. Nevertheless, few experts would disagree with placement in regular classes when the retardate is able to achieve up to his capacity, is generally accepted by his peers, and is not an undue problem to the school, his parents, or the community. The rapid increase in special classes (89) suggests that probably more than 50 percent of these children are unable to meet these stringent criteria.

Growing uncertainty has developed about both the upper and lower IQ limits of eligibility for special-class placement. Some state and local school systems have raised the upper limit to an IQ of 80, partly because of increases in urbanization, technology, and mass education. Because few children who score in the 50-to-60 range attain literacy, there have been some demands to raise the lower limit to 60. To partially resolve these problems, a few cities

established a two-track special-class program for *low* and *high* educables, rather than change the IQ limits of 50–75 to 60–80.

Increased attention to educable pupils who have reached adolescence is an important recent development. Lavalli and Levine (64) used sociodrama to prepare them for such interpersonal situations as dating, marriage, and employment. Kahn (55) reported a project for teaching retarded adolescents to drive automobiles. Stinchcomb (102) described programs for gradually moving the retarded adolescent from school to occupation by means of part-time employment.

Cassidy and Stanton (16), with a stratified sampling of special-class and regular-class educables in Ohio, used an exhaustive battery of psychological and educational tests as well as a questionnaire to compare the performances of the two groups. Results showed the regular-class retardates to be superior in academic achievement and the special-class pupils to be superior in personality and social adjustment. Questionnaire results demonstrated that special-class teachers were more interested in social and personal adjustment for their pupils than in academic prowess. The academic superiority of the regular-class retardates is not surprising in view of the fact that the better academically oriented retardates in all probability remained in regular classes whereas the poorer ones were placed in special classes.

Blatt (7) also compared special-class and regular-class retardates on a number of variables. Unlike the results of the Ohio study, the achievement levels of the two groups were close. However, Blatt did find the special-class group more socially mature and emotionally stable than the regular-class retardates. Lapp (63) found retarded children in regular classes on a part-time basis to be accepted by their normal peers. This finding is surprising in light of the sociometric studies described in the 1953 *Review*, and a replication of the Johnson studies by Miller (79) with the similar result that educable retardates in the regular grades tend to be socially segregated when physically integrated.

Reading and arithmetic continued to be the only academic areas investigated. Dunn and Capobianco (25) observed that most studies of reading are of a survey nature and that findings conflict. Comparison of special-class retardates and intellectually normal children of equivalent mental ages found the retardates inferior on all achievement tests of silent and oral reading. No significant differ-

ence between the groups on sound-blending skills was seen; judging by this criterion, the phonetic approach to the teaching of reading should work equally well for the two groups.

Capobianco and Miller (14) compared the qualitative and quantitative differences in reading ability of exogenous and endogenous mentally retarded boys, and found no significant differences between the two groups in their reading achievement or, for the most part, in their patterns of reading errors. However, the range of performance of the exogenous group was consistently broader than that of the endogenous group. Capobianco and Funk (13) compared intellectual, neurological, and perceptual processes related to reading in exogenous and endogenous children and found few differences.

Studying the arithmetic processes of the educable retardate, Dunn and Capobianco (25) compared endogenous and exogenous groups and found no significant differences in computation, reasoning, achievement, reversals, and understanding the concept of zero. Results of these studies support the conclusion that teaching techniques should be based on symptomatology (behavioral characteristics) rather than etiology; they raise doubts about the utility of the dichotomy, *exogenous* (brain-injured) and *endogenous* (cultural-familial).

Effects of a prolonged preacademic program for educable retardates were reported by Weiner (111), and the impact of preschool training on later school achievement was studied by Kirk (57). The latter investigation found that children from both adequate and inadequate home situations made significantly greater gains in social development than contrast groups from the same situation during preschool years. However, the control children from adequate homes were not significantly different from their control group after regular school experience. Kirk concluded that six years of age is not too late to begin a school program for children from adequate homes, but preschool training and/or early foster-home placement would facilitate development of children from inadequate homes.

Little attention was given to the distinctive competencies needed by teachers of mentally retarded children over and above those required by a good regular classroom teacher. However, Mackie, Williams, and Dunn (71), by means of a nation-wide survey of educators' opinions, identified 100 skills and abilities,

providing a valuable guide to teachers and teacher-education institutions.

School Programs for Trainable Pupils

Since 1953, the growth of special day classes for the trainable retardate has been remarkable. In 1957, Goldberg (34) reported 22,000 such children receiving some schooling—16,000 in day classes and 6000 in residential facilities.

Many articles described goals and objectives for training classes. Guidelines to curriculum planning were developed by Amoss and others (1), Hafemeister (43), Johnson (53), the Illinois State Department of Public Instruction (51), McCaw (69), and the Wisconsin Department of Public Instruction (112). Increase in number of special classes was accompanied by research as to their effectiveness. However, most studies were of the survey type, and the absence of control groups was conspicuous.

The problem of determining criteria for special-class placement remained a controversial issue. Kirk (58) formulated a composite list from descriptions given in various state laws and regulations, including: IQs roughly between 30 and 50, ineligible for educable classes but not totally dependent, potentialities for self-help and social adjustment in the home and neighborhood, and limited economic usefulness. Wirtz (114) described the trainable group in terms of their educational, social, and occupational characteristics.

Goldstein (35) studied the lower limits of eligibility for special training, finding that Kuhlmann IQs of less than 25 denote eventual exclusion from the programs, IQs 25 to 34 indicate some—though less—chance for exclusion, and IQs over 35 tend to indicate retention in the program. Results of the Illinois and New York projects on severely retarded children, reported by Goldstein (36) and Johnson and Capobianco (54), respectively, substantiated these findings. These studies also concluded that the improvements demonstrated from the training programs paralleled the mental-age growth curve as indicated by IQ scores, and that progress during the first year of training was greater than during the second year.

Another noncontrolled evaluative study with similar results

was reported by Guenther (41, 42). Reynolds, Ellis, and Kiland (87) reported an evaluation of trainable classes in Minnesota where attempts to teach reading, writing, and arithmetic were unsuccessful. Parents were found to lower their levels of aspiration for their children in academic subjects after the pupils had been in special classes for some time.

The only attempt at a controlled study of the effects of training in special classes were reported by both Dunn (24) and Hottel (48). Matched pairs of trainable children at home and in special day classes were compared. It was found that over a one-year period the school group, as a whole, did not make gains large enough to be statistically significant from the changes made by the home group. Similarly, changes in parent-child relations made by the two groups were not significantly different. However, when the subjects were subdivided into high (40 to 50) and low (30 to 40) IQ groups and the data reanalyzed, intellectual growth among the high IQ subgroup who attended school was found to be significantly greater than that of the high IQ subgroup who remained at home or that of the low IQ subgroups both at home and at school. This type of controlled study needs to be repeated on a longitudinal basis, though the practical problems of conducting such an investigation may be insurmountable. In the meantime it would appear that the lower IQ limit of eligibility for special classes for the trainable should probably be raised from 25–30 to 35–40. Day-care centers are likely to be established for youngsters with IQ scores below the 35 to 40 mark.

Hudson (50), observing classroom procedures for trainable children, identified seven teaching techniques and 15 major lesson areas. Her tentative check list of teaching competence, which was developed from items discriminating more and less effective teaching, should be valuable in teacher education.

Farber (32), a sociologist, began a noteworthy series of studies on family integration as affected by a severely retarded child. Not directly related to school programs, his findings bear on decisions concerning day- versus residential-school placement of a child. He found that a severely retarded boy at home is more disruptive for parents than a girl, especially over age 10; older normal sisters are negatively affected by a severely retarded child in the home, whereas normal boys are benefited in that they are given more freedom; a severely retarded child has the greatest negative effect on family integration in homes of high socioeconomic level; Catholic

parents are less affected by a severely retarded child in the home than are non-Catholic parents.

Adult Adjustment

Studies of the adult retardate's adjustment to the community were continued. They are reviewed separately below for the educable and trainable.

Educable Adults Occupational adjustment studies were reported by Bobroff (8), Cassidy and Phelps (15), Collmann and Newlyn (18, 19), Flescher (33), and Phelps (84). Primary reasons for job failures included temperamental instability, lack of responsibility, inability to take advice, unsatisfactory home conditions, inefficiency, and low frustration tolerance. O'Connor (81) also concluded that failures in industry are often for reasons other than lack of ability.

Goldstein (37), in a comprehensive review, concluded from comparative studies of retardates and normals that educables cease to be thought of as retarded as they make acceptable adjustment in the community. Most of them marry, raise families, buy houses, and become gainfully employed, usually at unskilled or semiskilled jobs. Adjustment may thus account for the difficulty encountered in obtaining samplings of adult retardates.

Porter and Milazzo (86) compared post-school adjustment of special class and regular class "graduates" and found that special-class retardates conform better to social standards, drift less from place to place, and are economically more self-sufficient. This study lends support to others (7, 16) already named. The evidence indicates that special-class placement for the educable retarded is desirable.

Trainable Adults Only one follow-up study of trainables was found. In an investigation based on interviews with 520 parents of severely retarded pupils formerly enrolled in New York City classes during the period 1929 to 1955, Saenger (90) set forth data, the interpretation of which gave a more hopeful picture than that presented by Delp and Lorenz (21) whose study was reported by Kirk and Kolstoe (60). Delp and Lorenz found 50 percent living at home; Saenger, two thirds. Saenger found that of the remaining

one third, 26 percent were institutionalized and 8 percent had died since leaving school. No relation was seen between institutionalization and parental income, education, or family size; however, there was high correlation between the existence of behavior problems and institutionalization.

Farber's findings (32) indicate other factors which should enter decisions concerning residential school placement. Twelve percent of Delp and Lorenz's 84 subjects worked for pay at one time; Saenger found one quarter to have held paying jobs at one time or another; employed men outnumbered employed women 4 to 1. Most performed simple tasks such as sweeping, dusting, washing dishes, or messenger services. There is need for follow-up studies of this type.

O'Connor and Tizard (82) stimulated research in studying employability of British retardates with IQs below 50. Loos and Tizard (67) studied trainable persons in a workshop setting. After training, these employables' output of folded boxes was found to be greater than that of high-grade retardates. Consistency, however, was not as characteristic of trainables as it was for the higher-grade retardates.

In recent years, a number of experimental sheltered workshops for adolescents and adults with sub-50 IQs have been established through grants from the U. S. Office of Vocational Rehabilitation. Reports of their effectiveness will add more needed knowledge to this relatively new field.

Speech and Language Development

After long neglect, problems of speech and language development in mentally retarded children received attention. Schlanger and Gottsleben (98) found no single speech syndrome peculiar to the mentally retarded. Among a residential school population, Schlanger (96) found 30 percent of a group of institutionalized children to have hearing losses. No doubt this factor complicates the therapeutic process.

In another study, Schlanger (95) reported that varying presentations of extraneous background stimuli did not affect the performance of brain-injured children on a word-choice test. He concluded that a concomitant relationship exists between speech development and auditory word discrimination in these children, both functions being markedly delayed.

In still another investigation, Schlanger (94) concluded that Mongoloids develop least and familials most in oral language; wide variations were noted in language abilities among organics. Comparing two matched groups of retarded children representing institutional and home environments, Schlanger (93 reported significantly greater verbal output on the part of the group living at home.

A qualitative analysis of vocabulary responses of mentally retarded children reported by Papania (83) demonstrated that even though ability to define abstractions increases with mental age, retarded groups gave more concrete definitions to Binet vocabulary cards. A comparison of the differential language facility of 30 brain-injured and 33 non-brain-injured institutionalized mentally retarded subjects with 100 normal children was reported by Sievers (100). Normals tended to be superior to non-brain-injured subjects on tests requiring expression without semantic meaning and superior to the brain-injured in over-all language facility.

Durrell and Sullivan (26), reporting on the language achievement of educable children, stated that many difficulties encountered in the primary and intermediate grades would be alleviated by systematic instruction in reading, speaking, and writing. DiCarlo (22), studying achieving and nonachieving retardates, concluded that the achievers use more nouns in their speech, less slang, and fewer word approximations than the nonachievers. Even though the statistical evaluation of the structure of language did not differentiate the achievers and nonachievers, a comparison with normal children on mean length of response and proportion of total elaborated sentences indicated that the nonachievers were a year and a half more retarded than achievers on the same scales.

Mecham (77), having developed tests to measure selected aspects of speech in mentally retarded children, employed these instruments in an appraisal of a speech therapy program among retarded children. He found significant improvement, independent of IQ, in articulation, auditory discrimination, memory span (auditory), and average sentence length. Schneider and Vallon (99) and Schlanger (97) noted other instances of improvement in speech of the mentally retarded following speech therapy. Strazzulla (105), in a comparison of two groups of Mongoloid children (one group received therapy), demonstrated positive results and concluded that Mongoloids deserve the opportunity of a speech and language program.

Johnson and Capobianco (54) matched two groups of severely retarded children on mental age and intelligence quotient. After

one year of exposure to a special language-development program, the experimental group showed no significant improvement over the control group which received no formal training. Lubman (68) reported that Mongoloid children demonstrated more rapid and permanent improvement resulting from a speech program than did a group of brain-injured children of comparable intelligence.

An individual-instruction group of low-grade Mongoloid children compared by Kolstoe (62) to a noninstruction group revealed a small but significant IQ increase as measured by the Kuhlmann test. The instruction group also demonstrated significant improvement in certain language measures and structured observations.

Summarizing research on speech and language development of mentally retarded children, Harrison (44) stated that effort should be made to develop diagnostic scales, evaluate therapeutic programs, and investigate speech and language development during the preschool period. Though a few studies of the effects of therapy have yielded negative results, research in general has been reassuring and indicates that speech correctionists should give more attention to this field.

Learning

Increased research on the learning and motivation of the mentally retarded is a major trend of the past six years. That learning has been neglected was evidenced by McPherson's first review (73), which located only 14 articles between 1904 and 1948 involving learning in the mentally retarded. Her second summary (74) listed 14 additional studies up to 1958. Recent activity reveals increased productivity, improved methodology, and a shift in orientation.

Two approaches have been advanced: one emphasizing studies with application to the classroom, the other oriented toward basic learning theory. Complete reconciliation of these views is doubtful, but a trend toward studies which contribute both to theory and to educational practices is indicated. Up to now, the learning-theory-oriented psychologists have outstripped the classroom-learning-oriented educators in their search for evidence.

A concept which has received attention is *set*. Barnett and Cantor (3) showed that a group of mental retardates can form "discrimination sets"; that is, as a result of prior training on a similar problem, improve performance on a visual discrimination

problem involving rectilineal shapes. Bensberg (6) studied the effect of "attention sets" on subsequent performance in a paired-associates learning situation, utilizing five groups of retarded subjects and demonstrating that attention sets, both kind and degree, established during pretraining facilitate the learning of later similar tasks. The results were interpreted as supporting the mediation hypothesis, in that response-produced cues built up during pretraining carry over to mediate in a new learning task.

Harlow's concept of "learning set" stimulated research. Ellis (28) demonstrated the formation of discrimination learning sets in two groups of mental retardates, a high MA group forming more efficient sets than a low MA group. Using the four boards of the Minnesota Spatial Relations Test, Tizard and Loos (107) found some indication that trainables progressively improve over the series of boards; however, only six subjects were used, and there was no test of significant improvement.

House and Zeaman (49) found a group of severely retarded children unable to form learning sets over a series of 60 discrimination problems although the objects within each pair differed multidimensionally. In comparing the learning-set performances of normal and educable children, Kaufman and Peterson (56) observed that normal children made more correct responses than retarded children on 48 object-quality problems, a significantly greater percentage of stimulus-perseveration errors being made by the retarded group (which did not include clinical types such as Mongoloids).

The concept of "acquired distinctiveness of cues" received study. Essentially, this concept states that the learning of associations during pre-training (usually learning verbal labels or names for stimuli) facilitates later discrimination learning. Cantor and Hottel (12) gave two groups of retarded subjects a paired-associates task involving pushing one button in response to one geometric figure, pushing a second button in response to a second form, and eliminating responses to a third button; the group which had previously learned names for the stimuli appearing in the paired-associates task made significantly fewer errors on the transfer task than a control group which had learned names for stimuli irrelevant to the paired-associates task.

Barnett, Ellis, and Pryer (5) obtained evidence supporting the acquired distinctiveness of cues; a group of retarded subjects who had learned distinctive names for two stimuli performed significantly

better in the "test phase" than did subjects who during pretraining had been required merely to discriminate between stimuli. The study by Bensberg (6), previously mentioned, may also be viewed as evidence supporting the acquired distinctiveness of cues formulation. Cantor (9) found no evidence to support this formulation in a group trained with stimuli relevant to the transfer task (a paired-associates task); subjects demonstrated no differences from a group pretrained with irrelevant stimuli. His supposition was that the subjects acquired little or no habit strength for the associations despite 45 presentations of the two pairs of stimuli during pretraining.

A number of studies dealt with the individual-difference variable of intelligence and its effect upon the parameters of learning laws. Hull contended that individual-difference variables would affect the empirical constants of behavioral laws (for example, rate of learning and asymptote of learning) but not the basic form of the laws. Characteristics of the individual organism, especially those having to do with capacity, will become increasingly important as behavioral science becomes able to predict more precisely.

Although many of the studies previously described included MA and IQ comparisons, perhaps the most systematic and vigorous attempt to investigate individual difference variables had been made by Ellis and his colleagues. Most of the investigations have demonstrated a positive relationship between intellectual development and learning ability. Ellis and Sloan (30) found that performance on oddity problems (one stimulus different from four similar ones) is somewhat dependent on intellectual development. In another experiment, Ellis and Sloan (31) found pursuit-rotor performance to be related to MA. Despite possible methodological weaknesses, such comparisons were believed helpful to establish training curriculums.

McCulloch, Reswick, and Roy (70) found among mental defectives a positive relationship between intellectual level and word learning. Reynolds and Stacey (88) found normals generally superior to subnormals in mirror-drawing performance although educables were capable of vast improvement. Variability was greater among the subnormals, who "would seem to call for more versatile teachers and teaching methods if maximum learning is to take place in such a heterogeneous group."

Several studies saw no positive relationship between intellectual development and learning tasks. Plenderlith (85) found no differ-

ence between normals and feeble-minded of the same MA on discrimination learning and discrimination-reversal learning problems. Eisman (27) compared (in terms of IQ and MA) superior, average, and retarded adolescents attending a public junior high school. She found no significant differences among the three groups in speed of learning a paired-associate problem, in stimulus generation, or in retention over a one-week or a one-month period.

Other investigations were diverse. Barnett (2) found no difference between mentally retarded subjects and normals on a measure of stimulus generalization, both groups showing a typical generalization gradient. Barnett and Cantor (4), investigating motor learning on a pursuit rotor, found that distributed practice results in superior performance as compared with massed practice, and that significantly more reminiscence followed massed practice than distributed practice.

Zeaman, House, and Orlando (117) demonstrated that special training conditions are important in visual-discrimination learning for trainables. In a later and summary article Zeaman (116) reviewed evidence as to whether the mentally retarded have an attention deficit not attributable to motivation, emotion, memory, or understanding of the rules.

Griffith and Spitz (39), and Griffith, Spitz, and Lipman (40) investigated concept formation in mentally retarded and normal subjects. Their studies utilized verbal mediators in concept formation; subjects were presented groups of words and asked to draw an abstraction (classify them) and later to give a definition for each word. They found that normals are superior to retarded subjects of the same MA; retarded subjects must be able to define approximately two thirds of the words in a group to classify them successfully.

Motivation

The influence of motivation on the performance of the mentally retarded received increased study. O'Connor and Tizard (82) reported several studies dealing with motivation. Trainables who were given targets to beat (based on their previous performance) exhibited superior performance on a "leg-persistence test" when compared with a group given only constant verbal encouragement. O'Connor and Tizard's report (82) of studies by Claridge and by

Walton and Begg indicated that social approval for trainables is an effective incentive. Similarly, Zigler, Hodgden, and Stevenson (118) found that verbal support positively affects performance of normal subjects.

Ellis and Pryer (29) found no evidence that primary reinforcement is more efficacious than secondary reinforcement in a discrimination-learning situation. A group of retarded subjects who received candy as a reward performed no differently during either acquisition or extinction than a group who received a piece of yellow drawing paper. Also, when the primary-reward group was divided, those who were zero to three hours hungry performed at the same level as those who were three to five hours hungry.

Heber (45), by means of a motor task, tested the hypothesis that a difference in performance exists between two groups of retarded subjects as a function of magnitude of reward; a "high-preference incentive" group performed significantly better than a "low-preference incentive" group. Also in agreement with a prediction from Hullian theory, when the high-preference incentive group was shifted to a less preferred incentive, a rapid, significant decrement in performance occurred. Conversely, the low-preference incentive group, when shifted to a more preferred incentive, showed a rapid, significant increment in performance.

Generally, the findings indicate: (*a*) Mentally retarded subjects do form learning sets, that is, "learn how to learn." (*b*) Learning curves of mentally retarded subjects approximate those of normals, but the rate of learning is slower and the level reached is not as high. (*c*) Children with IQs below 50 do profit from training. (*d*) Intelligence, as measured by standardized tests, is a substantial predictor for learning certain laboratory tasks although many studies do not bear this out. (*e*) Verbal labels for stimuli facilitate the learning process. (*f*) Verbal praise is effective as motivation. (*g*) Certain classifications used in the past, for example, exogenous versus endogenous, do not appear as useful as some workers expected for differentiating groups in learning ability, and hence *may not* be useful for educational purposes.

Prospectus

Medical progress has upset nature's law of "survival of the fittest." Atomic radiation is modifying human determinates. Urban-

ization, mechanization, and automation will reduce employment opportunities for the retarded. These factors, along with great population increase, bring the problem of education for retarded children into new prominence. During the last six years the schools have accepted responsibility for the trainable mentally retarded, a group formerly excused from public education. The challenge is to find ways to prepare intellectually subnormal children for a life with much, or all, of their time free from paid labor.

The increase in research since 1953 brings us to the threshold of an era of intense activity. The investigation of one problem has exposed, in almost logarithmic fashion, many others. Opportunity to test hypotheses has been made greater than ever before by Public Law 83-576 (The Cooperative Research Program) and such statistical refinements as non-parametrics, factor analysis, and the control of significant variables by covariance and other techniques.

The greatest opportunity, however, is for creation of new educational approaches. Much may come out of rearrangements of old concepts catalyzed by new ideas. A conspicuous example of logical originality is that of Strauss and Lehtinen (104). The effectiveness of their specialized educational techniques for pupils with the Strauss behavioral syndrome remains to be substantiated or refuted. In either event, they may have contributed more to the field than anyone since Binet.

For the trainable mentally retarded there has been no major scientific breakthrough comparable to the Montessori system. The effectiveness of present-day, informal day-class programs has been found generally negative. New methods and materials need to be devised. The next decade might appropriately see better balance between the inductive and deductive aspects of the scientific method.

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55 The Johnstone Training and Research Center

LOUIS SCHWARTZ

THE DEDICATION of the Edward R. Johnstone Training and Research Center at Bordentown last August marked another "giant step" in New Jersey's expanded program in the rehabilitation of the mentally retarded.

Recent dramatic advances in the field of mental retardation by federal-state agencies, public schools, and private parent organizations and an awakened professional and community interest in the general area of mental health appropriately set the tone for the official opening of the Johnstone Center.

Embodied in the legislative statutes establishing the Johnstone Center in the fall of 1955 is an emerging philosophy recognizing the rights of each individual to education and training as a potentially contributing member of society. Secondly is government's role in promoting and conducting research into a condition previously conceived of as "essentially incurable." And perhaps of most significance is the interagency cooperation of the departments of Institutions and Agencies, Education, and Labor and Industry, integrating and coordinating their efforts in behalf of the mentally retarded.

Maurice G. Kott,[1] Director, Division of Mental Retardation, upon the establishment of the Johnstone Center, outlined the intended function of the new institution in Bordentown and its role

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[1] Maurice G. Kott, "An Expanded Mental Deficiency Program," *The Welfare Reporter,* New Jersey Department of Institutions and Agencies, VII:6 (October 1955).

within the department's over-all expanded mental deficiency program.

The past two years at Bordentown, site of the former Manual Training School, have witnessed plant remodeling and renovation, staff recruitment, initial student admissions, and exploratory program development, in preparing for the attainment of the Center's aims and objectives as prescribed by law.[2]

Objectives

1. *The rapid treatment of the mentally retarded to permit their return to the community in a constructive capacity.* The primary goal of the Center is for an early return of the student to his home or to a family-care program in the community, prepared as nearly as is possible to make a fully independent social and economic adjustment. Realistically, however, those students unable to attain the aforementioned because of their personal limitations, limited professional skills and techniques, and/or the limited acceptance of them by their community will return to the community in a sheltered release as a transition stage pending the amelioration of these conditions.

2. *To serve as a resource for training teachers, in cooperation with the Department of Education, in the education and training of such persons in the public schools.* In cooperation with the Department of Education through the State Teachers College at Trenton, undergraduate and graduate courses for teachers of the mentally retarded, demonstration classes, practice teaching, and summer workshops will be conducted on the campus of the Johnstone Center.

3. *To train instructors in the care, treatment, and training of the mentally retarded in other institutions.* Staff and facilities, including social services, speech and hearing programs, and cottage life, will be made available for these purposes in the preparation of personnel in the field of mental retardation.

4. *To conduct research in the field of mental retardation.* The objective of the research program at the Johnstone Center is the conception, design, and conduct of basic and applied studies in the

[2] *New Jersey Statutes Annotated,* Titles 28–30, Institutions and Agencies, 30:4–177.20–30.

psychological, educational, vocational, sociological, and medical aspects of mental retardation.

5. *To promote research and development in the care, treatment, and prevention of mental disabilities.* Staff and facilities of the Center will be made available to assist the Department of Institutions and Agencies in this general field as may be indicated.

The Training Program

The Johnstone Center is a short-term residential habilitation facility for high-grade, mentally retarded boys and girls ranging in age from approximately 12 to 20. The population for this Center will come primarily from other state institutions for the mentally deficient, with direct admissions provided for under specific circumstances. At first, there were over 200 boys and girls in residence at the Center engaged in a comprehensive special-education and vocational-habilitation program geared toward the selective placement of these students within the community as quickly as feasible.

By late winter, 350 students were in residence, with the projected capacity for 500 awaiting allocation of funds for the renovation of a fourth dormitory cottage.

Approach

The problem of mental retardation presents such a myriad of medical, social, psychological, educational, and vocational handicaps that no one technique leads toward its amelioration. A multidisciplinary team approach initiates a dynamic and positive habilitation process, designed to take the retardate through evaluation, training, and placement. This is the philosophical basis for the training program at the Johnstone Center. The habilitation process subscribes to the concept of individual differences and in every professional, student-service, and administrative activity is designed and initiated with a view toward maximum benefit for the mentally retarded student.

The integration of multidisciplinary professional services required in the team approach to a specific individual becomes the planned synchronization of activities leading from evaluation to

training to the culmination of the student's program when he attains the height and the extent of his abilities.

Coordination and direction of habilitation services and their processes are dependent upon an administrative structure which measures and guides their progress, is sensitive and flexible to their changing needs, and above all, insures for the student a personally meaningful and socially useful habilitation experience.

Step-by-step Habilitation Process

1. Evaluation Programs and services for the mentally retarded which are predicated on the worth and dignity of the individual to his family and community are concerned initially with a realistic appraisal of his capacities, abilities, and interests.

All students, upon admission to the Center, enter into an observation and diagnostic period for approximately two to three months. A scheduled program of orientation, cottage-life assignment, medical and dental examinations, psychological evaluation, social case-work study, and speech and hearing appraisal are routinely provided each student. A "living evaluation" in a preadmission class and prevocational workshop will be provided each student to observe and evaluate his interests, abilities, and relationships, in a variety of actual situations.

The findings and observations of the evaluation team is presented for review at a Student Review Committee and the recommendations serve to initiate the next step in the habilitation process as indicated.

2. Training The institutionalized retardate, because he has never, or practically never, lived a normal life, is almost completely unprepared to benefit from the usual rehabilitation procedures. No known residential training program for the mentally retarded can possibly provide him with the experiences and activities of normal living. Habilitation, therefore, becomes the gradual step-by-step process that attempts to aid the individual attain the highest level of functioning that may be possible for him. The habilitation process is dependent upon a knowledge and insight into the nature of the individual, an awareness of his developmental pattern, the skill and resources to help him reach self-determination, and a community acceptance by his family and industry, based not merely

upon sympathy and pity, but rather upon his demonstrated abilities and values as a contributing member of society.

The habilitation experiences provided retarded students at the Johnstone Center are essentially within the areas of educational, occupational, and recreational services. In addition, psychological, social-service, religious, and other programs are integrated into the over-all effort in the training of the student for community adjustment.

Educational services are responsible for the development of all academic programs as well as those designed to develop manipulative skills such as manual training, arts and crafts, physical education, domestic science, sewing, etc. Attention is also given to speech, hearing, vision for the partially sighted, and community living experiences.

Occupational services are directed toward the preparation of each student for economic competency. Prevocational activities are provided in order to give each student an opportunity to practice in a variety of occupational experiences at the unskilled job level. More practical experience is later provided in a number of jobs throughout the institution (food service, laundry, maintenance, housekeeping, gardening, poultry husbandry, etc.). Realistic job training is made available through "day-work" experience through employment in the community (restaurant, car washing, farm labor, housekeeping). Last fall simulated industrial training was provided through a "sheltered" workshop program (assembly-type production).

Recreational services are planned for "off-duty" hours of the students with particular attention to evening hours, week ends, and holidays. Careful planning is done in developing dormitory recreational programs. Special attention is given to programs for the various holidays. Intramural sports are organized (baseball, basketball, volleyball, etc.). Movies are held weekly. A "varsity" team is organized for baseball and competes in the Bordentown Township League. Frequent trips are taken for community recreational experiences. A boy scout troop and ground observer corps are organized and functioning on campus. Coeducational recreational activities are planned.

3. Placement of the student in the community, as the basic objective of the Johnstone Center, is guided by the following four factors as conceived of by the Division of Mental Retardation:

a. Changes in family and community circumstances
b. Readiness for employment following training
c. Community living as a training technique
d. Community programs

Coordinated by Social Services at the Center, the placement phase of the habilitation process is dependent upon the close working cooperation of several agencies in the state. The field services office of the Division of Mental Retardation serves the Johnstone Center in evaluating and preparing the community situation for the "graduate" of the school. In addition, field services maintains supervision of the student on community placement and provides the individual and his family with follow-up services that may be indicated.

The Research Program [3]

The Research Department of the Center will be staffed by six researchers. In addition to the director, three behavioral scientists will do research in the psychological, educational, and sociological aspects of mental retardation. When facilities become available, there will also be a medical research unit consisting of a research physician and a laboratory technician.

The evolving research program at the Center is conceived of as falling into the two main categories of basic and applied research. Basic research includes studies designed to reach a better understanding of the mentally retarded child's basic learning processes, intellectual structure, personality characteristics, and perceptual characteristics. In the medical research area, a greater understanding of the neurologic and biochemical characteristics of mentally retarded children must be achieved. In all of these problems posed under the heading of basic research, the emphasis is on greater understanding. The acquisition of ever more accurate knowledge in this field requires no further justification.

Yet, basic research studies are only a first step in the development of a total research program for the mentally retarded. Granted that the results of such studies may provide us with advanced knowledge of intellectual structure and principles of learning, the next logical step would be the initiation of an applied research program. This program would make use of our improved theoretical understanding of the nature of mental retardation in designing studies to find better educational meth-

[3] The following paragraphs are from Leonard S. Blackman, "A Research Department in a State Residential School," *Exceptional Children,* 24:3 (November 1957), 107–109.

ods, more reasonable curricula, and improved techniques for psychological treatment and residential school management.

In an ideal research program, then, basic research gives us understanding and increased knowledge while applied research follows up to put our new understanding to work in a constructive and beneficial way. At present, due to the immediate service needs of a new residential school, both applied and basic research are in progress.

Interagency Cooperation

Cooperative intergovernmental efforts among several state agencies highlight the opportunities now available to the mentally retarded in New Jersey.

February 1956 marked a significant conference at the Johnstone Center in Bordentown. "Vocational Adjustment of the Mentally Retarded" was the theme of a two-day meeting attended by four state agencies and their professional staff. The Division of Mental Retardation of the Department of Institutions and Agencies, the New Jersey Rehabilitation Commission and the State Employment Service of the Department of Labor and Industry, and the office of Special Education of the State Department of Education joined together for a common effort on behalf of the mentally retarded.

Subsequent working relationships have been initiated as a result of this conference and have already increased the numbers of retarded persons served by the various agencies.

The New Jersey Rehabilitation Commission, as part of their expanded services to the mentally retarded and mentally disabled in the state, works closely with the Johnstone Center in providing our students with necessary evaluations, physical restoration services, and employment training and assists in their selective job placement.

During the summer of 1957, a psychological internship program was initiated, in cooperation with the State University, Rutgers, and the Department of Institutions and Agencies, and conducted at the Johnstone Center. Faculty status by Rutgers University was extended to the Johnstone Center's director of research and principal clinical psychologist in supervising the psychological intern in his work at Bordentown.

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A LOOK AT THE FUTURE

EVERY DECADE SINCE 1910, the President of the United States has convened a White House Conference on Children and Youth. The conference stems from the grass roots and is living proof of a democracy at work. Millions of citizens, working through official committees in all states and territories, participate in small-scale conferences leading up to the nation-wide meeting in Washington, D. C. Every aspect of the needs of children and youth is explored by these citizen groups as well as by various public and private organizations.

The sixth (1960) White House Conference appraised the problems relating to mental retardation in great detail and presented its recommendations to the nation as a blueprint for an action program for the next decade. The summary statement in the following reading presents the "facts" and the challenges that must be faced by all interested in the plight of the retarded. Great credit is due to Mrs. Elizabeth Boggs, formerly president of the National Association for Retarded Children, for her outstanding leadership in the sections of the conference dealing with mentally retarded children, youths, and adults.

Throughout the various publications issued preceding and following the conference,* a genuine note of hopefulness for a

* Eli Ginzberg (ed.), *The Nation's Children;* Vol. 1, *The Family and Social Change;* Vol. 2, *Development and Education;* Vol. 3, *Problems and Prospects* (New York: Columbia University Press, 1960). Other publications of especial interest issued by the 1960 White House Conference on Children and Youth are: *Focus on Children and Youth,* pp. 275–306; *The States Report on Children and Youth,* pp. 84–88, 119–122, 169–174; *Children and Youth in the 1960's,* pp. 263–293; and *Information Sheets on Children and Youth,* pp. 115–164, 177–182.

better future for all retarded individuals can be noted. The recommendations of the conference, which follow, provide the reader with a fitting culmination to this volume. It is truly a statement of *all* people interested in America's five million retardates.

56 *The White House Conference on Children and Youth*

These Are the Facts *

JOHN W. GARDNER, member of the President's National Committee for the 1960 White House Conference on Children and Youth, writing the Preamble for these sessions, stated, "We recognize that never before, indeed never in our history, has it been more important that we strengthen our free society and demonstrate its creative potentialities by insuring that each child fulfills the promise that is in him." He continued, "In appraising the problems of children and youth in 1960, we have recognized the devastating rapidity of change that marks this moment in history. We have sought to understand the impact of this change, and to grasp its implications for our future efforts." This statement lays the basis for the facts and recommendations for the years to come.

The facts are:

That there are 5,000,000 retarded individuals of all ages in America;

That 70 percent of all lifetime disabilities originating in childhood are the result of mental retardation;

That there is an estimated population of 43,000,000 children between the ages of 5 and 17, of which almost 1,000,000 are retarded in this age range and require special education;

That not more than one fourth of the number of eligible re-

* This section is from the 1960 White House Conference on Children and Youth, *Information Sheets on Children and Youth* (Washington, D. C.: White House Conference on Children and Youth, 1960).

tarded children have been placed in special classes, even though in the last decade the number of classes for the educable has doubled and for the trainable multiplied five times;

That 95 out of 100,000 citizens in the United States are receiving care in residential institutions for the mentally retarded. All states except Alaska and Nevada have at least one state facility;

That 35,000 retarded individuals are currently residents of mental hospitals, when in reality, they should be in institutions specifically for the retarded;

That, of the number of retarded individuals admitted to state institutions for the first time, 85 percent are under 20 years of age;

The trend is toward very large state institutions, with over half the present facilities accommodating more than 1000 residents each, and 40 percent have a capacity of 1500 to 5000;

The proportion of institutionalized educable retarded individuals is dropping, but the proportion of institutionalized children with IQs below 50 is increasing considerably;

In public institutions for the retarded, there are 3.5 patients for each employee;

More than one half the states are now accepting for residential care some retarded children under the age of 5;

That $250,000,000 a year is being spent by state governments to operate institutions for 150,000 retarded individuals;

That between 1950–1957, 10,000 beds were added to institutions for the mentally retarded, but there are approximately 10,000–15,000 on waiting lists for admission;

That there are 27,000 educable and trainable school-age children in state institutions, but only one fourth of this number are enrolled in any type of educational program.

Recommendations *

General

That the needs of mentally handicapped children be recognized as those of all children, with additional needs for special care arising from the nature of the handicap.

* This section is from the White House Conference on Children and Youth, *Recommendations* (Washington, D. C.: White House Conference on Children and Youth, 1960).

State Action

That, in accordance with the recommendations of the Council of State Governments, each State establish a permanent structure to coordinate all public and private services for the mentally handicapped, to review legislation, and to carry out over-all long-range planning in relation to other services;

That such planning be undertaken as a joint effort by all major tax-supported and voluntary resources within the state;

That it develop a comprehensive state program of diagnosis, education for the trainable child, rehabilitation, guidance, and care throughout the life-span of the individual, coordinated at the state and local level by a specific committee, commission, or agency;

And that it include an inventory and evaluation of existing programs by a broadly representative study group of state agency heads, together with adult citizens and youth; proposals for local community programs and activities to serve the mentally handicapped living at home, and for state institutional treatment and training aimed at returning as many as possible to the community.

That state administrative responsibilities for the mentally handicapped be delegated to the government departments best fitted to deal constructively with the primary aspects of the problem.

That the states standardize their methods of collecting data on the incidence of mental handicaps.

Community Resources

That the nation's communities and their individual citizens actively assume responsibility for mobilizing community services broad enough to meet the special needs of mentally handicapped children.

That community programs for the mentally handicapped be coordinated by community council committees representing all disciplines and agencies concerned.

That such urgently needed community facilities for the mentally handicapped as the following be developed and improved at an accelerated rate:

diagnostic and treatment clinics
public health services
preschool nurseries
day-care centers

special education
avocational and prevocational services
sheltered workshops and other work opportunities
vocational guidance, counseling, habilitation, and rehabilitation services
foster homes, residential treatment centers
recreational opportunities, in existing programs where feasible; or in special programs as needed; camps
parent counseling and homemaker services
opportunities for religious participation

That all services for the mentally handicapped be—
continuously and scientifically evaluated to insure necessary improvement and change;
operated under proper licensing procedures and standards;
accessible to those in need of them and preferably integrated with centers of research and personnel training.

That churches and synagogues minister to the mentally handicapped child and his family—
by providing trained chaplains to serve in institutions;
by training ministers and seminary students for this ministry;
by establishing facilities for the mentally handicapped if needed as part of a community plan;
by counseling with the mentally handicapped child and his family;
by educating church members regarding the handicapped;
by receiving handicapped children into the church school and other activities, providing trained staff and suitable curriculum material.

That youth be provided with fuller and more accurate information concerning normal and abnormal child development, and with opportunities for professional and volunteer services to the mentally handicapped.

That parent and lay groups and voluntary agencies be commended for their leadership and effort on behalf of the mentally handicapped.

Prevention

That greater emphasis be placed on study and research in the field of genetics, and on genetic counseling, to decrease and prevent the hereditary forms of mental retardation.

That programs for the early diagnosis and treatment of conditions such as phenylketonuria, craniostenosis, hypothyroidism, and blood-factor incompatibilities be made available through public health services or hospital laboratories, in order to prevent some mental deficiencies.

That special attention be paid to the care and treatment of mentally retarded children in deprived and underprivileged groups, and particularly to preventing socially determined mental retardation through improving the economic, social, educational, and nutritional situation.

Diagnosis and Identification

That community facilities for diagnosis and identification—
be readily accessible to anyone suspected of a mental handicap;
provide integrated diagnostic study involving all necessary professional skills;
provide counseling, including parent-to-parent counseling where appropriate, as an integral part of the service;
direct special attention to the needs of rural areas.

That services for adequate identification and treatment be planned, organized, and distributed to be available—
as early as possible;
as continuously as possible;
with as little dislocation as possible;
with as much social restoration as possible;
and be integrated at the local level with all the available health, education, and welfare services.

That all schools provide multidiscipline services for identification of mental handicaps at the start of a child's school experience, with evaluation throughout his education.

Families of Mentally Handicapped Children

That all agencies concerned with mentally handicapped children recognize the primary role of the family, its rights and responsibilities for decision making and total-life planning for the child in consultation with qualified agencies and institutions, and its right to full community services such as—
family and child-care agency services;
financial assistance for nursing and medical services for the child, if necessary;

home-training and management programs to improve the child's capacity for self-care and help the parents handle its daily living problems;

day-care and homemaker services and short-term residential care to stabilize family life and provide the child with group experience.

That enforced separation of mentally handicapped children from their families be effected only where neglect or threat to the community has been established through legal process; and that agencies provide selective placement for such children in foster-family homes, small-group residential facilities, and institutions.

That a guardian be provided for the person and estate of the mentally handicapped child, by the parents, through testamentary procedures, or by other means if the parents cannot act.

Education

That the public school's responsibilities include the provision of—

a program for all educable mentally handicapped children from kindergarten through secondary school;

a program for the trainable retarded child, adapted to his individual needs and abilities;

supervised work experience;

follow-up in cooperation with representatives of management, labor, and vocational rehabilitation;

class size to allow for appropriate instruction;

special professionally trained teachers, supervisors, and administrators;

enforcement of acceptable minimum standards for certification of teachers;

inservice training courses on mental handicaps, available to all public school teachers;

counseling to families of mentally handicapped children;

interpretation of specialized educational services to parents and the public.

That each state enact legislation defining the public school's responsibilities to guarantee the trainable child adequate educational opportunities.

That local school funds for the education and training of mentally handicapped children and youth be supplemented by federal and state aid.

Institutions for Residential Care

That federal programs currently available for local educational and health services be extended to provide funds for residential facilities for mentally handicapped children.

That residential care be viewed as an integral part of total community services for the prevention as well as alleviation of the problems of mentally handicapped children and their families; and that the administration and staff of each institution undertake as far as possible—

- to provide a comprehensive living situation, including social life; health services equal to the community's best; opportunity for education, training, recreation, employment, and spiritual growth;
- to extend these facilities to nonresidents when appropriate;
- to admit individuals only on the basis of a clinical examination sufficient to determine whether residential care is necessary;
- to release or discharge children to the family or other community-care programs as soon as practicable for the welfare of the child and the community;
- to arrange for extramural services where necessary for the support of the child upon his release;
- to create in the institution and the community a climate of understanding and acceptance of the mentally handicapped as children of God, citizens of the world, members of a family and a community with the basic rights and integrity of all individuals; and to work with all public groups for support of services for the mentally handicapped;
- to lead in recommending legislation necessary for the institution's fulfillment of its role;
- to participate in organized research.

That admission procedures to state institutions for the mentally handicapped be made as simple as possible, with voluntary admissions encouraged in all states.

That scientifically valid data be developed for determining the optimum size of institutions.

Personnel

That the following measures be taken in order to secure more adequately trained personnel for diagnosis, treatment, and educa-

tion of the mentally handicapped and counseling their families:

a broad program of recruitment, starting in high school, intensified in college, and continuing among qualified adults;

provision of public and private grants and scholarships;

provision in the professional school curriculum of specific training and education for those who will work with the mentally handicapped;

cooperation by institutions with schools, colleges, and universities in training staff workers in the various disciplines;

employment by institutions only of personnel who meet established standards of professional competence;

provision of inservice training, institutes, and workshops, with emphasis on early assessment techniques and counseling, for professionals who have complete formal training;

efforts to raise the status and salaries of workers with the mentally handicapped and provision, if necessary, of wage scales above those in comparable occupations in other fields;

orientation courses and continuing education for volunteer workers with the mentally handicapped.

Research

That, in order to improve the treatment and training of mentally handicapped children and youth, research be undertaken in these areas:

the nature of intellectual skills required to permit the mentally retarded to function independently in the several sectors of our society;

differential abilities in the mentally retarded, for better understanding of individual differences beyond the unitary IQ index;

development of guidelines for grouping children according to their learning characteristics;

assessment of the cumulative effects of continuous developmental programs;

factors contributing to an unfavorable stereotype of the mentally retarded in public and professional groups, for action programs to modify this stereotype.

That a uniform method of recording and reporting data be developed and adopted to facilitate research in mental retardation.

That financial support of promising programs of research and training of research personnel in the field of mental handicaps be multiplied many times.

APPENDIX

Clinical Programs for Mentally Retarded Children

State	City	Clinic	Ages accepted	Area served
Alabama	Montgomery	Diagnostic and Guidance Clinic, Montgomery Spastic Children's School	to 17	Greater Montgomery area and surrounding counties
Alaska	Anchorage	Demonstration Project for Mentally Retarded Children	to 16	Greater Anchorage Health District and other areas of Southcentral Alaska
	Ketchikan	Ketchikan Mental Retardation Diagnostic Clinic, Ketchikan Health Department	not specified	Southeast Alaska
Arizona	Phoenix	Child Development Center	to 8	Maricopa County
Arkansas	Little Rock	Child Development Center	to 21	state
California	Los Angeles	Los Angeles Clinic for the Study of Mental Retardation, Out-Patient Department, Children's Hospital	under 1	Los Angeles County
		Guidance Center, Exceptional Children's Foundation	all ages	Los Angeles Greater area
Colorado	Colorado Springs	Mental Retardation Clinic, El Paso City-County Health Department	to 21	El Paso County

Source: Adapted from Children's Bureau, U. S. Department of Health, Education and Welfare, *Clinical Programs for Mentally Retarded Children.* Prepared by Rudolf P. Hormuth, 1959.

Clinical Programs for Mentally Retarded Children (continued)

State	City	Clinic	Ages accepted	Area served
Colorado (*continued*)	Denver	Boettcher Evaluation Clinic, Children's Hospital	to 18	state
	Pueblo	Mental Retardation Clinic, Pueblo City-County Health Department	to 21	Pueblo and Pueblo County
Connecticut	Bridgeport	Diagnostic Clinic for Mentally Retarded Children and Adults, Kennedy Center	all ages	Greater Bridgeport area
District of Columbia	Washington	Clinic for Services for the Retarded Child, Gales Child Health Center	preschool and school	District of Columbia
		Retarded Children's Clinic, Georgetown University Hospital	to 12	District of Columbia metropolitan and Chesapeake area
Florida	Miami	Clinic for the Mentally Retarded Child, Developmental Evaluation Clinic	primarily preschool	Dade County
Georgia	Columbus	Clinic for Mentally Retarded Children, District Health Department	preteen	Health District 35
Hawaii	Honolulu	Evaluation Clinic for Mentally Retarded Children	to 21	itinerant except on Oahu

Idaho	Boise	Special Mental Retardation Project, Idaho State Board of Health	to 21	state
Illinois	Chicago	Child Development Clinic, Children's Memorial Hospital	to 16	Chicago
		The Dr. Julian D. Levinson Research Foundation for Mentally Retarded Children	to 17	Cook County
Indiana	Lafayette	Achievement Center for Children	to 15	Tippecanoe County
Iowa	Iowa City	Child Development Clinic, Department of Pediatrics, University of Iowa Medical School	to 19	state
Kansas	Kansas City	Children's Rehabilitation Center, University of Kansas Medical Center	through teen-age	no limitations
Louisiana	New Orleans	Louisiana Evaluation Center	to 22	state
Maine	Waterville	Mental Retardation Clinic, Thayer Hospital	under 5	state
Maryland	Baltimore	Diagnostic and Evaluation Centers for Rehabilitation of Handicapped Children	to 21	state
Massachusetts	Boston	Retardation Unit, Counseling Service for Mentally Retarded Children, Children's Medical Center	to 21	state

Clinical Programs for Mentally Retarded Children (continued)

State	City	Clinic	Ages accepted	Area served
Massachusetts (*continued*)	Boston (*continued*)	Preschool Retarded Children's Program of Greater Boston	3 to 7	Greater Boston
	Cambridge	Cambridge Service for Retarded Children	to 18	Cambridge
Michigan	Ann Arbor	Training Program for Professional Personnel Regarding Care of Mentally Retarded Children, University of Michigan	to 14	state
Minnesota	Fergus Falls	Mental Retardation Project	to 21	Becker, Clay, Otter Tail, and Wilkin counties
Missouri	St. Louis	Child Evaluation Clinic, Washington University School of Medicine	all ages	Greater St. Louis
		Mental Evaluation Clinic, Cardinal Glennon Memorial Hospital for Children	to 14	state
Nevada	Las Vegas	Las Vegas Clinic for Retarded Children, Out-Patient Hospital Southern Nevada Memorial Hospital	to 8	Las Vegas area
	Reno	Reno Clinic for Retarded Children, Washoe Medical Center	to 8	Reno, northeastern California, and northern Nevada

New Hampshire	Laconia	Clinic for Retarded Children, Laconia Hospital	to 21	state
New Jersey	East Orange	Guidance Clinic for the Retarded of the Essex Unit	all ages	Essex County
	Morristown	Evaluation Clinic for Mentally Retarded Children, Morristown Memorial Hospital	to 21	Morris, Sussex, Warren, and Somerset counties
	Passaic	Retarded Children's Clinic with Diagnostic and Counseling Services, St. Mary's Hospital	through young adulthood	Bergen, Passaic, and Essex counties
New Mexico	Santa Fe	The Child Development Center	to 8½	Santa Fe area
New York	Buffalo	Buffalo Diagnostic and Counseling Study Center for Mentally Retarded Children, Rehabilitation Center, Children's Hospital of Buffalo and Crippled Children's Guild	preschool	Buffalo
	Mahopac	The Children's Clinic, Mahopac Hospital	all ages	Putnam County
	New York City	Developmental Evaluation Clinic, Albert Einstein College of Medicine, Yeshiva University	all ages	primarily the Bronx
		Mental Retardation Center, Flower–Fifth Avenue Hospitals, New York Medical College	to 11	no geographical limitations

Clinical Programs for Mentally Retarded Children (continued)

State	City	Clinic	Ages accepted	Area served
New York (*continued*)	New York City (*continued*)	Morris J. Solomon Clinic for Retarded Children, Jewish Hospital of Brooklyn	to 14	Brooklyn
		Long Island Consultation Center, Inc.	3 and above	Queens, Nassau counties
		Lenox Hill Hospital	under 4	New York metropolitan area
		The Shield of David Institute for Retarded Children	to 12	New York metropolitan area
		Kennedy Child Study Center	3 to 8	Catholic Archdiocese of New York
	Rochester	Mental Retardation Diagnostic Clinic, Strong Memorial Hospital	to 21	Monroe County and surrounding area
	White Plains	Diagnostic and Guidance Clinic for Retarded Children, the Winifred Masterson Burke Relief Foundation	to 13	Westchester County
North Carolina	Chapel Hill	Pediatric Clinic, North Carolina Memorial Hospital	to 16	North Carolina
	Gastonia	Gaston Center for Handicapped Children	5 to 17	Gaston, Cleveland, and Lincoln counties
Ohio	Cincinnati	Hamilton County Diagnostic Clinic for the Mentally Retarded	all ages	state

	Columbus	Clinic for the Mentally Retarded, Columbus State School	all ages	state
		Clinic of Child Development	to 6	state
Oklahoma	Tulsa	Oklahoma Mental Retardation Training Center, Out-Patient Department, Children's Medical Center	to 18	Northeastern Oklahoma
Oregon	Eugene	Diagnostic and Follow-up Center for Mentally Retarded Children, Lane County Health Department	to 18	Lane County
Pennsylvania	Elwyn	Out-Patient Clinic and Research Center (For the Study of Retarded Children), Elwyn Training School	5 to 18	Delaware and Montgomery counties
	Langhorne	Child Study, Treatment and Research Center, The Woods Schools	5 to 18	Lower Bucks County
	Philadelphia	Mental Retardation Unit, St. Christopher's Hospital for Children	through adolescence	Philadelphia and surrounding counties
Rhode Island	Providence	Mental Retardation Clinic, Charles V. Chapin Hospital	preschool	state
		Retarded Children's Clinic, Mental Hygiene Service, Rhode Island Department of Social Welfare	all ages	state

Clinical Programs for Mentally Retarded Children (continued)

State	City	Clinic	Ages accepted	Area served
South Carolina	Charleston	Evaluation Clinic for Mentally Retarded Children, Medical College Hospital	under 7	state
Tennessee	Memphis	Out-Patient Clinic for Mentally Retarded Children, LeBonheur Children's Hospital	preschool	Memphis and surrounding areas
Utah	Salt Lake City	Children's Health Center	to 21	state
Virginia	Arlington	Arlington Consultation and Evaluation Clinic	preschool	state
	Norfolk	Norfolk Consultation and Evaluation Clinic	preschool	state
	Richmond	Consultation and Evaluation Clinic for the Child with Special Problems, Medical College of Virginia	preschool	state
Washington	Seattle	Clinic for Child Study, University of Washington Medical School	to 8	Pierce, Snohomish, Clallam, Jefferson, and King counties
		Diagnostic and Counseling Clinic, Out-Patient Department, Children's Orthopedic Hospital	to 14	state

	Tacoma	Tacoma-Pierce County Mental Retardation Clinic, Tacoma-Pierce County Health Department	to 21	Pierce County
West Virginia	Charleston	Evaluation and Consultation Clinic for Mentally Retarded Children, Memorial Hospital	to 16	state
Wisconsin	Madison	Child Psychiatry Clinic, Departments of Psychiatry and Pediatrics, University of Wisconsin Hospitals	to 12	state

Films on Mental Retardation

The listings for each of the films indicate (1) the title; (2) whether a film is in color or black and white; (3) the running time, and (4) an abbreviated form of the major source of procurement. A directory of film sources used in this listing will be found at the end of this section. All films listed have sound tracks and are 16 mm.

The films are classified under the following major headings: (1) Growth and Development; (2) Clinical Aspects; (3) The Educable Mentally Retarded; (4) The Trainable Mentally Retarded; (5) Institutional Programs; (6) Parent Education, and (7) Community Programs.

Growth and Development

Child Guidance Clinic. Black and white, 23 min., Contemporary.
A documentary filmed at a Canadian mental-health clinic. Specific episodes include contact by a psychologist with a child and his parents, an interview with a psychiatric social worker, and a demonstration of play therapy.

Child Study: The Search. Black and white, 27 min., PCR.
Shows new ideas and techniques that help to determine normalcy in children.

Embryology of Human Behavior. Color, 28 min., IFB.
Traces the development of behavior patterns in the human infant, showing how normal growth produces a progressive sequence of behavior patterns. Depicts the normal course of development of eye and hand coordination step by step and age by age. Applies the laws of growth to the study of normal, deviate, and deficient children. Also shows how a physician applies a developmental diagnosis.

Human Abilities and Mental Growth. Black and white, 30 min., NET.
Discusses the testing of human abilities and mental growth. Explains how the IQ is calculated. Contrasts the two-factor and multifactor theories of intelligence. Describes the various kinds of tests available for testing primary abilities.

Individual Differences. Black and white, 29 min., NET.
Establishes the frame of reference for the remaining films in the series (see the two films below). Explains that individual differences

From Jerome H. Rothstein and Thomas O'Connor, *Films on the Handicapped,* 1955–1958 (Washington, D. C.: National Education Association, Council on Exceptional Children, 1955). Reprinted with the permission of the authors and the Council.

in children occur in physical, mental, and emotional growth and development. Describes and illustrates the special and dynamic problems of the exceptional child.

Mental Growth and Achievement. Black and white, 30 min., NET.
Discusses intelligence and achievement and the methods of testing intelligence. Points out the necessity for appreciating the difference between intelligence and achievement. Demonstrates the application of an intelligence test on four children.

Nature vs. Nurture. Black and white, 30 min., NET.
Discusses the roles of heredity and environment in determining behavior and personality. Explains how the genes in the chromosomes act as carriers of inherited characteristics. Considers the statistics of heredity as discovered by Mendel. Explains the facts of family resemblances and the role of cultural, economic, and psychological factors in social inheritance.

Clinical Aspects

The Cerebral Palsied Child. Black and white, 29 min., NET.
Defines cerebral palsy and explains how physical disability, psychological problems, mental subnormality, and the great number of clinical types add to the complexity of diagnosing this affliction. Uses filmed sequences to show the physical characteristics of the three major classifications of cerebral palsy. Dramatizes the problems faced by many parents whose children are afflicted.

Clinical Types of Mental Deficiency Black and white, 39 min., PCR.
Lists causes of mental deficiency under headings of environmental and genetic factors. Classifies mental deficiencies in terms of psychological test results and basic pathology. Shows examples of the test behavior of normals, morons, imbeciles, and idiots. Employs brain models and pneumo-encephalograms to explain basic brain pathologies. Shows examples of the physical and behavioral characteristics of cases of microcephalus, hydrocephalus, cretinism, Mongolism, and several types of epilepsy and cerebral palsy.

Diagnosis of Childhood Schizophrenia. Black and white, 30 min., PCR.
Deals with the problem of diagnosing different types of psychotic children. Shows a clinical team of psychiatrists, social workers, and psychologists at work. Indicates how evidence of ego fragmentation is uncovered and how family history, personal history, medical examinations, psychological tests, and clinical observations are analyzed. Illustrates its points by showing cases under clinical observation. Emphasizes the tentative nature of diagnosis and shows the possibilities for treatment following diagnosis.

The Epileptic Child. Black and white, 29 min., NET.
Discusses the special problems confronting the child with epilepsy. Defines epilepsy and explains the epileptic seizure. A mother of an epileptic child discusses the social problems which arise from her child's affliction. A group of young people with epilepsy are inter-

viewed and discuss the problems they have had and must face. Points out the role of heredity in epilepsy and discusses counseling services available.

How the Nervous System Works. Black and white, 30 min., NET.
Explains the nervous system and its functions. Shows how a stimulus produces a response. Illustrates with diagrams, how nervous impulses are conducted along the nerves. Demonstrates reflex action. Discusses the membrane theory of nerve conduction.

I.Q. and Crime. Black and white, 30 min., NET.
Discusses psychic problems and their relationship to criminality. Deals primarily with the mentally deficient individual. Explains congenital and developmental problems, organic brain damage, and deterioration.

I.Q. and Delinquency. Black and white, 29 min., NET.
Discusses and refutes some often-heard ideas about the relationships between mental ability and crime. Presents interviews with two delinquents—one high, one low, in mental ability. Each interview is followed by a discussion of the case.

Perception. Black and white, 17 min., PCR.
Defines perception and illustrates perceptual constancy, attention, expectancy or set, and perception as an organizing process in terms of everyday experience.

Testing and Individual Therapy for the Aphasic Patient. Color, 18 min., PCR.
Discusses testing and rehabilitation procedures for aphasics of different types and methods of psychological and personality testing. Uses records of patients undergoing therapy for motor, sensory, and formulation aphasia.

Testing Intelligence with the Stanford-Binet. Black and white, 18 min., PCR.
Presents excerpts from four administrations of the Stanford-Binet: two six-year-olds (IQs 104 and 156) and two ten-year-olds (IQs 100 and 80). Indicates techniques of rapport and standardized administration. Presents concepts and computation of MA and IQ in detail.

What Is Anna? Color, 25 min., Billings.
Shows the developmental and social history of a young girl who manifests the characteristics of pseudo-retardation. Portrays the role of the diagnostic clinic and of various medical assessment devices. Demonstrates various psychotherapy techniques.

What the Brain Does. Black and white, 30 min., NET.
Describes the different levels of the central nervous system from the spinal cord to the cerebral cortex. Uses a model of the brain to point out how various bodily functions are controlled by different areas of the brain. Discusses projection in vision, topological projections, mass action, and the function of the frontal lobes. Reviews the evolutions of the nervous system.

The Educable Mentally Retarded

Arts and Crafts for the Slow Learner. Black and white, 27 min., SWS.
Shows an arts-and-crafts-centered program for educable mentally retarded children. Demonstrates many different arts and crafts media.

Class for Tommy. Black and white, 25 min., Bailey.
Produced by the Los Angeles Elementary School District. Documents the day of a mentally retarded child in an experimental special class which emphasizes training in social maturity.

Educable Mentally Handicapped. Black and white, 29 min., NET.
Discusses the special problems of educable mentally handicapped children. Explains who they are, the problems they face in the community and the school, and what can be done to help them. Uses still photos and filmed sequences of a special class for these children to show the place of the school in meeting the needs of the mentally handicapped.

Give Them a Chance. Black and white, 12 min., PCR.
Documents a typical day in a special education class (for children of chronological ages 7–13, mental ages 3–9), showing characteristic activities and teaching techniques. Filmed at a public school in Pennsylvania.

New Experiences for the Mentally Retarded. Black and white, 20 min., Virginia.
Presents a variety of educational and recreational activities for the mentally retarded. Emphasizes methods of teaching and the development of self-confidence and social maturity.

There Was a Door. Black and white, 38 min., Contemporary.
Deals with the care and treatment of the mentally retarded. Emphasizes the trend in Great Britain today toward treatment, training, and social services within the general community rather than in large and remote institutions. Presents a point of view, not an over-all solution, by focusing on the dilemma of one family.

They Also Learn. Black and white, 14 min., USD.
Shows the program of a residential summer school for both educable and trainable children at the University of South Dakota. Shows teacher training, psychological diagnosis, and staff evaluation procedures.

What about Johnny? Color. film strip, San Diego.
Demonstrates the program for educable mentally retarded pupils in San Diego County and California. A narrator's guide describes the various frames. Discusses the legal responsibilities for the establishment of programs for the mentally retarded; the objectives of the program; the selection and placement of pupils in special training classes; and the organization of various curricular activities including social studies, health education, arithmetic, manual skills, recreational activities, and citizenship. A section on guidance concludes the presentation.

The Trainable Mentally Retarded

And Crown Thy Good. Color, 35 min., Orchard.
A comprehensive report, covering one community's accomplishment in providing for their severely retarded children over a period of six years. Demonstrates training procedures and teaching techniques used in the Orchard School. Shows excellent use of materials and staff, including well-trained volunteers.

Eternal Children. Black and white, 16 min., IFB.
An attempt to answer such questions as: who are the mentally retarded and what is being done to help them? Offers a simple presentation of the etiology of retardation, with a description of the differing levels. Emphasizes that many retarded children can be taught simple, repetitive tasks to help them become reasonably independent.

Into the Light. Color, 15 min., CDC.
Describes a Dallas community school program for trainable retarded children. Also shows a parent being interviewed by a physician.

Into the Sunlight. Color, 15 min., Ontario.
The story of the 1957 residential summer camp held at Belwood, Ontario, a pilot project of the Ontario Association for Retarded Children. Fifty boys and fifty girls with IQs below 50 attended this three-week camp. Shows usual camp activities, such as hiking, nature study, swimming, games, and crafts, modified to meet the needs of retarded children.

A Light to My Path. Color, 15 min., Tampa.
Shows the training of a mentally retarded child from nursery school through sheltered workshop. Filmed at the MacDonald Training Center, a community project in Tampa, Florida. Emphasizes the trainable child.

One Small Candle. Color, 18 min., Orchard.
Covers procedures in a clinic and private school for the severely retarded and multiple handicapped. Shows the types of examination a parent may expect in such a clinic. Dr. Abraham Levinson, a pediatric psychiatrist, and his medical staff stress correct guidance of the child by the parent. Teachers demonstrate occupational therapy, recreational activity, psychological testing, and job training for the retarded child.

Orange Grove. Color, 20 min., Orange.
Shows the two-week camping program for trainable mentally retarded children, operated as an integral part of the Orange Grove School program.

Programs for the Severely Retarded. Color, 30 min., Michigan.
Shows the program of the Lapeer State School, Lapeer, Michigan, for the severely mentally retarded. Shows that with proper guidance and encouragement, the severely retarded can participate in group activities and can learn to do handwork and to care for themselves. Demonstrates how the severely physically-mentally handicapped can

be taught skills such as painting, writing, typing, and better self-care. (Bell and Howell Magnetic Soundstrip Projector required.)

Recreation Unlimited. Black and white, 15 min., Houston.
Shows a summer recreational program for the mentally retarded. Shows the children participating in swimming, folk dancing, acting, and crafts. (Accompanied by 7½-inch tape recording.)

Trainable Mentally Retarded. Black and white, 29 min., NET.
Discusses the special problems of the severely mentally retarded child. Illustrates the relationship of these children to their family and neighbors. Describes the use of private and public day schools and their objectives. Uses classroom scenes to show the characteristics of the mentally retarded. Stresses the importance of the home and of the need for constant supervision.

Institutional Programs

The Caswell Story. Color, 15 min., Caswell.
Shows the admission procedure of a state training school for children. Shows the physical and psychological examination and various activities of the institution.

Children Limited. Color, 30 min., Washington.
Describes the over-all problem of mental retardation. Portrays institutional care of mentally retarded children in the state of Washington's two resident schools. Discusses the need for other types of service at the community level. Explains the possibilities, importance, and advantages of occupational therapy, physical and recreational therapy, and job training. Indicates the importance of home care and the cooperation of the parent and the child within his environment.

The Least of These. Black and white, 20 min., N. J.
Tells the story of an institutional program for the mentally deficient. Illustrates programs for recreational, physical, and occupational therapy. Shows how handicapped individuals can learn to perform simple, useful skills. Traces the history of community attitudes toward the mentally deficient.

Life at the Enid State School. Color, 20 min., Enid.
Depicts the facilities, organization, and program of a state school for the mentally retarded. Particularly emphasizes the importance of good administration and the crucial role of staff members in the successful operation of a school. Considers the physical, educational, and psychological aspects in the care and training of patients at a state school. (Bell and Howell Magnetic Soundstrip Projector required.)

Precious Jewels. Color, 35 min., Children's Retreat.
Reviews a hospital-school program for all levels of mentally retarded children, with emphasis on the educable and trainable youngster. Shows the facilities of a modern, well-staffed, religious institution.

The Wassaic Story. Black and white, 30 min., Association.
Describes the Wassaic State School, New York, and its 4000 patients

—mentally retarded children and adults of all ages and degrees of retardation. Shows both good and poor sides of the program, a habit-training class, occupational therapy, recreational activities, and the custodial wards and detention areas for the disturbed and delinquent retarded which are not usually seen by the public.

Parent Education

Almost Forgotten Children. Color, 10 min., Minneapolis.
Describes the gift drive for children and adults in Minnesota institutions. Shows how gifts were assembled at 26 collection stations in the Minneapolis area, sorted, taken to six state institutions, and distributed by the institution personnel.

The Beloved Child. Black and white, 17 min., Milwaukee.
Describes how the Milwaukee County ARC developed a community approach to the problem of educating the trainable child. Shows medical diagnosis, trainable classes, a sheltered workshop, and recreational activities.

A Child Is Waiting. Black and white, 60 min., Association.
A drama enacted in a private school for retarded children. It tells the story of Reuben, who has been rejected by his mother, and of a would-be teacher who becomes too emotionally involved in her work and whose thinking is eventually clarified by the director of the school.

Forget Not These Children. Black and white, 20 min., N. J.
Describes community and institutional services for retarded children in New Jersey. Instructional and recreational activities by professionals with specialized training show parents of such children and lay groups that the problem of mental deficiency may not always be hopeless.

Tuesday's Child. Color, 14 min., Association.
Stresses the problems, hurts, and frustrations which arise from mental retardation in children. Centers on the problems of one child, but projects its story to include all who must labor under the handicap of limited mental faculties. In particular, discusses the harmful effects of prejudice on the part of unthinkingly unkind neighbors and the lack of special school training.

Community Programs

Beyond the Shadows. Color, 26 min., Colorado.*
Describes the step-by-step action taken in one city by community members to help the mentally retarded children who were unable to benefit from local special education or state institutions. Shows how the cooperation of state and local agencies was secured in establishing complete health, welfare, and evaluation services.

* Available only on loan to Colorado residents. It has been purchased, however, by a number of other state agencies.

The Community and the Exceptional Child. Black and white, 29 min., NET.

Examines the role of the community in helping the exceptional child achieve his maximum potential. Discusses the many agencies in the community which contribute to the growth and development of exceptional children, reviews the many and varied types of exceptionality, and stresses the importance of special services for exceptional children.

Exceptional Children: Confidential File. Black and white, 26 min., Guild.

A kinescope production of the Paul Coates television series entitled *Confidential File.* Deals with the problems of the severely mentally retarded child. The reporter interviews parents of mentally retarded children and discusses parental attitudes, planning for these children, and the realistic needs for acceptance on the part of parents and community.

Help Wanted. Black and white, 27 min., Houston JL.

Surveys the mental-health facilities of Houston, Texas, emphasizing their limitations and indicating the need for a greatly expanded program. Includes a brief account of some of the services provided by the Houston Council for Retarded Children.

No Less Precious. Black and white, 14 min., Association.

Summarizes briefly what is being done for mentally retarded children throughout the country. A fast-moving newsreel on mental retardation featuring some new developments and programs in this field. Narrated by Walter Cronkite.

The Public Health Nurse and the Mentally Retarded Child. Color, 18 min., IFB.

Shows the public health nurse using teaching skills and nursing techniques in her work with the mentally retarded child, his family, and the community. Demonstrates the team approach.

FILM SOURCES

The films listed in this section may be obtained from the following sources. In addition, many state departments of education, mental hygiene, and public health and many college or university audio-visual centers have excellent film libraries and loan services.

Association	Association Films, 561 Hillgrove Ave., LaGrange, Ill.; 1108 Jackson St., Dallas, Tex.; 799 Stevenson St., San Francisco, Calif.; Broad and Elm Streets, Ridgefield, N. J.
Bailey	Bailey Films, 2044 N. Berendo St., Hollywood 27, Calif.
Billings	Billings Mental Hygiene Clinic, 1500 N. 30th St., Billings, Mont.
Caswell	Director of Public Relations, Caswell Training School, Kingston, N. C.

CDC	Children's Development Center, 3612 Cedar Springs, Dallas, Tex.
Children's Retreat	Children's Retreat and Training School, 6850 Division Ave. S., Grand Rapids, Mich.
Colorado	Colorado State Department of Public Health, 4210 E. 11th Ave., Denver 20, Colo.
Contemporary	Contemporary Films, 13 E. 37th St., New York 16, N. Y.
Enid	Enid State School, Enid, Okla.
Guild	Guild Film Company, 460 Park Ave., New York 22, N. Y.; 8255 W. Sunset Blvd., Los Angeles, Calif.
Houston	Houston Council for Retarded Children, 8350 Leafy Lane, Houston, Tex.
Houston JL	Junior League of Houston, 500 Stuart Ave., Houston, Tex.
IFB	International Film Bureau, 57 E. Jackson Blvd., Chicago 4, Ill.
Michigan	Michigan Association for Retarded Children, 1025 Braman St., Lansing, Mich.
Milwaukee	Milwaukee County Association for Retarded Children, 1426 West Lake St., Milwaukee, Wis.
Minneapolis	Minneapolis Association for Retarded Children, 2742 Hennepin Ave., Minneapolis 8, Minn.
NET	NET Film Service, Audio-Visual Department, University of Indiana, Bloomington, Ind.
N. J.*	New Jersey State Department of Institutions and Agencies, Trenton, N. J.
Ontario ARC	Ontario Association for Retarded Children, 55 York St., Ontario, Can.
Orange	Orange Grove School, Chattanooga, Tenn.
Orchard	Orchard School, 8600 Grosse Pt. Rd., Skokie, Ill.
PCR	Psychological Cinema Register, Pennsylvania State University, University Park, Penn.
Princeton	Princeton Film Center, 252 Nassau St., Princeton, N. J.
San Diego	Office of the County Superintendent of Schools, San Diego, Calif.
SWS	SWS Films, 744 N. Fuller Ave., Hollywood 46, Calif.
Tampa	Film Secretary, Junior League, 935 Franklin Rd., Tampa, Fla.

* Available only to New Jersey residents. These films may be purchased or previewed through the Princeton Film Center.

USD	Psychology Department, University of South Dakota, Vermillion, S. D.
Virginia	Audio-Visual Department, Virginia State Department of Education, Richmond, Va.
Washington	Washington Association for Retarded Children, State Office, 4008 Arcade Building, Seattle 1, Wash.

A Survey of Literature on Mental Retardation

Research Journals

British Journal of Mental Deficiency Research, semiannually. Box 143, Owings Mills, Maryland.

Child Development Publications. Purdue University, Lafayette, Indiana.

Council for Exceptional Children Research Monograph Series. The Council, 1201 16th Street N. W., Washington, D. C.

Johnstone Research Bulletin. E. R. Johnstone Center, Bordentown, New Jersey.

Peabody Research Bulletin in Special Education. George Peabody College, Nashville, Tennessee.

Project News, bimonthly. American Association on Mental Deficiency, Technical Research Project Office, 1601 West Broad Street, Columbus, Ohio.

Publications of the AAMD

Special publications of the American Association on Mental Deficiency may be obtained by writing the Association headquarters, P. O. Box 96, Willimantic, Connecticut. The following publications are of special interest:

"Vocational Rehabilitation of the Mentally Retarded," *American Journal of Mental Deficiency* (*AJMD*), 57:2 (October 1952), entire issue.

Masland, Richard L., "The Prevention of Mental Retardation," and Seymour B. Sarason and Thomas Gladwin, "Psychological and Cultural Problems in Mental Subnormality: A Review of the Research," *AJMD,* 62:6 (May 1958), entire issue.*

A Ten-Year Index of the American Journal of Mental Deficiency, Supplement No. 1, 62:6 (May 1958).

* The complete report has been published under the title *Mental Subnormality* by Masland, Sarason, and Gladwin (New York: Basic Books, 1958). Masland's work has also been published separately by the American Medical Association, *Journal of Diseases of Children,* 95:1 (January 1958). The Sarason-Gladwin report has also been published as a separate *Genetic Psychology Monograph,* 1957–1958, pp. 3–290, and as a supplement to Sarason, *Psychological Problems of Mental Deficiency,* 3d ed. (New York: Harper & Brothers, 1959).

A Manual of Terminology and Classification in Mental Retardation, Monograph supplement to the *AJMD,* 64:2 (September 1959).

"Symposium on Research Design and Methodology in Mental Retardation," *AJMD,* 64:2 (September 1959), entire issue. Also published as the 1959 edition of the *Proceedings* of the Woods School Conference.

Cooperative Programs of Training and Research in Mental Retardation (Yellow Springs, Ohio: Antioch Press, 1959).

HEW Publications

A number of publications dealing directly with the subject of mental retardation have been issued by various agencies within the Department of Health, Education and Welfare, and can be obtained from the Department of the U. S. Government Printing Office, Washington 25, D. C. The agencies primarily concerned with such material are the Office of Education, the Office of Vocational Rehabilitation, the Children's Bureau, and the National Institutes of Mental Health and Neurological Diseases and Blindness. The bimonthly *List of Selected Governmental Publications,* prepared by the Government Printing Office, provides information on new federal publications in this field. The following publications may be especially useful:

Curriculum Adjustments for the Mentally Retarded, Office of Education (O. E.) Bulletin 1950, No. 2.

The Forward Look: The Severely Retarded Child Goes to School, O. E. Bulletin 1950, No. 11.

College and University Programs for Preparation of Teachers of Exceptional Children, O. E. Bulletin 1954, No. 13.

State Certification Requirements for Teachers of Exceptional Children, O. E. Bulletin 1954, No. 1.

The Child Who Is Mentally Retarded, Children's Bureau Folder No. 43, 1956.

Special Education Personnel in State Departments of Education, O. E. Bulletin 1956, No. 6.

Teachers of Children Who Are Mentally Retarded, O. E. Bulletin 1957, No. 3.

Education of the Severely Retarded Child: A Bibliography, O. E. Bulletin 1959, No. 12.

Highlights of Progress in Mental Health Research, Public Health Service Publication No. 736, 1959.

Highlights of Progress in Research on Neurological and Sensory Disorders, Public Health Service Publication No. 737, 1959.

Mentally Retarded Children at Home: A Manual for Parents, Children's Bureau Publication No. 374, 1959.

Preparation of Mentally Retarded Youth for Gainful Employment, O. E. Bulletin 1959, No. 28.

Cooperative Research Projects, Part I: Mental Retardation, O. E. 12004, 1960.

Mongolism: Hope through Research, Children's Bureau Folder No. 50, 1960.

Professional Preparation for Teachers of Exceptional Children: An Overview, O. E. Bulletin 1959, No. 6.

Research Relating to Mentally Retarded Children, Children's Bureau, No. 1, 1960.

Publications of the States

Various state agencies throughout the country have taken a great interest in mental retardation, and many of their publications devote space to work in this field. Many states have published guides and bulletins concerning the organization, curriculum, and legal provisions of programs for the mentally retarded; these may be obtained from the state superintendent of public instruction or some other such official. Many city school systems have published similar reports. Of special value are the bulletins prepared by three states:

California: State Department of Education, Sacramento.

Illinois: Commission for Handicapped Children, 160 North La Salle Street, Chicago, and State Department of Public Instruction, Springfield.

New York: Interdepartmental Health Resources Board, Albany.

Three publications issued by state agencies are also worthy of special mention:

The Public Health News, State Department of Public Health, Trenton, New Jersey.

The Welfare Reporter, State Department of Institutions and Agencies, Trenton, New Jersey.

Mental Hygiene News, State Department of Mental Hygiene, Albany, New York.

Publications of the NARC

In addition to its bimonthly newspaper, *Children Limited,* the National Association for Retarded Children prepares reprints of important journal articles, original reports of conferences and clinics, bibliographies, and brochures. Further information may be obtained by writing to the executive director, NARC, 386 Park Avenue South, New York 16, New York.

Woods School Proceedings

The *Woods School Proceedings* are completely devoted to the subject of mental retardation and are important contributions to the literature. These reports have been published annually since 1934, and are available through the Woods School, Langhorne, Pennsylvania.

Special Library Services

The National Society for Crippled Children and Adults, through its library services, prepares for distribution literature packets which contain reprints, leaflets, and bibliographies. They also lend materials to communities, colleges, and professional persons who have difficulty in locating references needed in their work.

The National Library of Medicine, an agency of the U. S. Public Health Service at Bethesda, Maryland, lends to other libraries either original copies or photocopies of materials in its collection. Although its vast collection of American and foreign documents primarily emphasizes medical materials, allied disciplines are well represented.

Abstracting and Indexing Services

Indexes and abstracted materials are excellent time-saving devices. The list of journals in mental retardation and related fields which follows indicates also where they are abstracted and indexed. *Rehabilitation Literature,* a publication of the National Society for Crippled Children and Adults (2023 West Ogden Ave., Chicago, Ill.) abstracts selected journal articles and reports in the field of mental retardation and has available bibliographical services. Abstracts of dissertations, in printed and microfilm form, are available through the University of Michigan, Ann Arbor.

Journals in Mental Retardation and Related Fields

Abbreviations

AJMD	*American Journal of Mental Deficiency*
Ed A	*Education Abstracts*
Ed I	*Education Index*
EM	*Excerpta Medica*
IM	*Index Medicus*
PA	*Psychological Abstracts*
PAIS	*Public Affairs Information Service*
RL	*Rehabilitation Literature*

Journal	Indexed	Abstracted
Mental Retardation		
American Journal of Mental Deficiency	*PA*	*PA, RL*
Children Limited (bimonthly newspaper of NARC)		
Exceptional Children	*Ed I*	*PA, RL, AJMD*
Journal of Mental Deficiency Research	*EM*	*AJMD*
Nervous Child	*Ed I*	*PA*
Training School Bulletin	*Ed I*	*AJMD, PA*
Education		
American School Board Journal	*Ed I*	*PA*
Clearing House	*Ed I*	*Ed A*
Education	*Ed I*	*Ed A, PA*
Educational Administration & Supervision	*Ed I*	*Ed A, PA*
Elementary School Journal	*Ed I*	*Ed A, PA*
Grade Teacher	*Ed I*	*Ed A*
High Points	*Ed I*	*Ed A*
Instructor	*Ed I*	*Ed A*
Journal of Educational Research	*Ed I*	*Ed A, PA*
Journal of Educational Sociology	*Ed I, PAIS*	*PA*
Nation's Schools	*Ed I*	*Ed A*
NEA Journal	*Ed I*	*PA*
NEA National Association of Secondary School Principals Bulletin	*Ed I*	*Ed A*
Peabody Journal of Education	*Ed I*	*PA*
Review of Educational Research	*Ed I*	*PA*
School and Society	*Ed I*	*PA*

Journal	Indexed	Abstracted
School Life	*Ed I*	*Ed A*
Teachers' College Record	*Ed I*	*PA*
Child Study		
Child Development	*Ed I*	*PA*
Child Study	*Ed I, PA*	*PA*
Children	*PA*	*PA*
Understanding the Child	*Ed I, PA*	*PA*
Psychology		
American Journal of Orthopsychiatry	*IM*	*AJMD*
Genetic Psychology Monographs	*IM*	*AJMD, PA*
Journal of Clinical Psychology	*Ed I*	*AJMD*
Journal of Consulting Psychology	*Ed I*	*AJMD, PA*
Journal of Educational Psychology	*Ed I*	*AJMD*
Medicine, Psychiatry, and Genetics		
American Journal of Human Genetics	*IM*	*AJMD*
American Journal of Psychiatry	*IM*	*AJMD, PA*
AMA Journal of Diseases of Children	*IM*	*AJMD, PA*
Journal of American Medical Association	*IM*	*AJMD, PA*
Pediatrics	*IM*	*AJMD, PA*
Guidance, Rehabilitation, and Speech		
Journal of Rehabilitation	*IM*	*PA, RL*
Journal of Speech and Hearing Disorders	*Ed I*	*PA, RL*
Journal of Speech and Hearing Research	*Ed I*	*PA, RL*
Personnel and Guidance Journal (formerly, *Occupations*)	*Ed I*	*PA, RL*
Rehabilitation Literature	*IM*	*PA*
Rehabilitation Record	*IM*	*PA, RL*
Vocational Guidance Quarterly	*PAIS*	*PA, RL*
Social Work and Sociology		
American Journal of Sociology	*PAIS*	*PA*
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