EVOLUTION IN THEORY AND PRACTICE OF
DEALING WITH RETARDED CHILDREN

APPROVED:

[Signatures]

J. C. Matthews
Major Professor

E. A. Odam
Minor Professor

E. A. Odam
Director of the Department of Education

L. A. Sharp
Chairman of the Graduate Council
EVOLUTION IN THEORY AND PRACTICE OF
DEALING WITH RETARDED CHILDREN

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By

Frances Wiley, B. S.

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CHAPTER I

INTRODUCTION

Purpose of Study

After teaching for a number of years in the Lee School, an elementary school in Denton, Texas, and having encountered a number of retarded children in the various classes from year to year, the writer has become tremendously interested in this group. Therefore, this study seeks, through an analytical investigation of educational literature, to discover what has been done in the past and what is now being done in other sections of the country for retarded children in our school population.

Source of Data

An extensive study of literature in the field of the slow-learning child has been made. Numerous pamphlets, bulletins, magazine articles and books read on the subject of the education of the exceptional child were used to formulate a basis for determining the value or importance of providing special opportunities for the retarded child in the light of his usefulness to the society of which he is a very definite part.
Treatment of Data

Research in the field of the retarded child was made to discover his characteristics, the causes of retardation, the problems of the retarded child, suggestions for classification, methods of selection, diagnosis and treatment. Maladjustment problems, mental hygiene problems, disciplinary problems, social problems, financial problems, vocational problems, and instructional problems were viewed from different angles, particularly from the teacher's and from the child's viewpoint. An analysis was made of the special class, the special school, state and private institutions, the activity program in progressive education, and units of experience, all of which are steps towards a solution. A brief history of the early beginnings of each is given.

Great Number of Retarded Children

"American educators have accepted, in theory, the principle that children should have, in terms of their abilities, equal educational opportunities."¹ Since we are living in an age when child study is the basis of good instructional procedure, when prospective teachers are being trained in the proper use of pupil cumulative records, when guidance programs are being established and trained technicians are being placed in the schools to assist in the study of pupils, the idea is being

strengthened daily that more and more can be done for a child when he is understood than can be done through ignorance and force. Bureaus of tests and measurements are encouraging educators to use objective tests and to apply the results in the diagnosis of pupil ability. Children's clinics are springing up everywhere. All this is being done in the belief that such a study will make it possible to adapt both the contents and the methods of instruction so that the child will be taught better.

All this research work and child study have brought to light the fact that there are great numbers of retarded children in the United States. That is beyond dispute. We have too many statistics, surveys, and reports on the subject for American educators to longer adopt the ostrich head-in-the-sand trick of ignoring the situation. Figures do not lie. For instance, the committee on special education of the White House Conference of 1930 estimated that there was a grand total of 13,521,400 handicapped children in the United States, and that of this number only 210,802 were enrolled in special schools and classes. "Excluding some possible duplication, we still have an enormous number of children needing a special program of education."^3

^2 Ibid., p. 7.
^3 Ibid., p. 7.
The White House Conference further prepared a table, which is given below, showing the number of handicapped children in the United States: 4

<table>
<thead>
<tr>
<th>Type of handicap</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blindness (children under 20)</td>
<td>14,400</td>
</tr>
<tr>
<td>Partial sight</td>
<td>50,000</td>
</tr>
<tr>
<td>Impaired hearing</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Defective speech (5-18 years)</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Crippled conditions</td>
<td>100,000</td>
</tr>
<tr>
<td>Tubercular condition</td>
<td>332,000</td>
</tr>
<tr>
<td>Suspected tuberculosis</td>
<td>850,000</td>
</tr>
<tr>
<td>Weak or damaged heart</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Malnourished state (school age)</td>
<td>6,000,000</td>
</tr>
<tr>
<td>Behaviour problems (3 per cent of elementary)</td>
<td>675,000</td>
</tr>
<tr>
<td>Mentally retarded condition (2 per cent of elementary)</td>
<td>450,000</td>
</tr>
<tr>
<td>Grand total</td>
<td>13,521,400</td>
</tr>
</tbody>
</table>

Every community faces the problem of the child who is retarded and learns slowly in school. The committee of the White House Conference on Child Health and Protection in 1930 reported that there were 450,000 pupils

4 Ibid., p. 6.
enrolled in the elementary grades who were mentally retarded to such a degree that they required special education to make the most of their possibilities.

Since the fundamental principle involved is that each child shall be educated in keeping with his capacities, limitations, and interests, looking toward the happiest adjustment he can make in life and the most constructive contribution he can bring to society, we must realize the fact that the retarded child is in our midst. Something must be done about him.

In the beginning of this study, let us get clearly in mind what is meant by a "retarded" child. What is the slow-learning child like? What is he like physically, mentally, socially? These are pertinent questions that must be faced by the educator.

The retarded child belongs to that group of exceptional children who deviate or vary from the normal child by a considerable amount in respect to any one of a number of traits. The retarded child is that individual who differs from others in such marked degree as to arrest our attention and to make special treatment necessary or desirable. However, ordinarily only those children are treated as exceptional who, in a given trait, differ sufficiently in degree from the ordinary run of individuals.

6 F.S. Freeman, "Who is the Exceptional Child?", Educational Administration and Supervision, XXI (December, 1935), 672–685.
so as to appear different in kind, though in the main they are, strictly speaking, the marked deviates of a single type.

In this connection it is necessary to point out briefly and specifically what is meant by extreme deviates. They are those individuals whose ranks fall a significant distance from the average, in either direction, that we regard as extreme deviates of a single type; that is, the exceptional cases. This study does not deal with exceptional children who are above the twenty-fifth percentile.

According to Terman's classification of children, upon the basis of I.Q., the children with an I.Q. of 120 or higher are considered very superior or in the genius class; those below 70 are definitely feebleminded. Terman also says that one per cent of any unselected group of children will have I.Q.'s of 130 or better and that another one per cent will have I.Q.'s of 70 or less. Five per cent have I.Q.'s of 122 or above, and another five per cent are 78 or below.

Again, one may say that every retarded child is an exceptional child, but not every exceptional child is a retarded child.

Not all cities accept the same standard in

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7Lewis M. Terman, The Measurement of Intelligence, p. 73.
deciding which of their children are mentally exceptional. Some cities consider them exceptional if they have an I. Q. of 130 and above or of 70 and below; the former constitute the gifted or very bright children, the latter the retarded and feeble-minded.

Mentally retarded children are designated, in most schools, as those who because of poor intellectual endowment are unable to cope with the standard requirements of regular grades and are therefore considered fit subjects for enrollment in a so-called special class or school for intellectually subnormal children. These include approximately the lowest two to five per cent of the school population. The term "mentally retarded" is thus used to include both lower and higher grades of subnormality. Some children, of course, are so seriously retarded in both social and intellectual development that they are more accurately termed "feeble-minded." Others are much closer to the border-line of intellectual normality.

In respect to physical development, the mentally retarded come very near to the normal group. Their accomplishments in all physical activities approach closely the accomplishments of the normal children. 

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8 Heck, op. cit., p. 4.
10 Ingram, op. cit., p. 33.
never get away from the basic fact that children are variable. No two are exactly alike, except possibly in the case of identical twins, any more than two leaves on a tree are identical. That there are physical differences among children need hardly be pointed out. Not only are there such crude deviations as are represented by total blindness and deafness; by physical deformities that handicap future usefulness; by tubercular, anemic, and other debilitating factors, such as weak heart. There are also physical differences more difficult to discern and to measure, and differences in the rate of development toward maturity. Physiological and anatomical age, when we have learned to measure them with exactness, will be more reliable as an index to a child's physical status than our present chronological age, just as today we depend more on the mental age than on the chronological age in determining a child's intelligence. One writer makes this significant statement: "The most outstanding characteristic of childhood, as of all living matter, is 11 variation."

The mentally retarded child approaches nearer to the normal child in sensory acuity and motor ability than in more definitely intellectual processes. He enjoys the handling of materials and the actual

11 John L. Horn, The Education of Exceptional Children, p. 5.
operations in construction of any product. The retarded child can generally be taught to be proficient in hand skills. This accounts for the widespread use of industrial and vocational schools for retarded children as a means of solving their problems. Another author takes a different view of the physical development of the dull child by saying, "His muscular coordinations and motor skill are inferior."

Socially, the retarded child is having, as he grows older, many of the experiences of normal children of his own age. With adolescent maturity comes the development of strong emotional tendencies, interest in vocations, in the home, in friendships, and in the other sex. In all of these relations the retarded child is more or less dominated by selfish interests. He takes a narrow individualistic point of view, and often lacks control of personal feelings. It is difficult for him to subordinate himself to the interests of the group. In other words, the retarded child presents a problem of social maladjustment.

The retarded child is a problem. Mental ability is perhaps the most significant factor today in

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12 Ingram, op. cit., p. 34.
predicting success in and making adjustments to school life for the majority of children. The retarded child has a slower rate of development than the normal child. He has a limited ability to apply in one situation experiences learned in another, to anticipate consequences, and to criticize his own conduct.

In order to get a more vivid picture of the retarded child and the problems he presents, we shall now consider the different types of retarded children and their various characteristics from several viewpoints.

Plan of Thesis

This study is organized and presented in six chapters. Chapter I is the introduction. It presents the purpose of the study, the source and treatment of the data, statistics showing the large number of retarded scholastics, together with a definition of the retarded child. Chapter II describes the various types and characteristics of retarded children. The causes of educational retardation are discussed in Chapter III. Chapter IV deals with the problems of retardation, including maladjustment problems, mental hygiene problems, disciplinary problems, social problems, moral problems, vocational and instructional problems. In Chapter V specific methods used in solving the problems of retardation are analyzed. These include the
special class, the special public school, the state and private institution, and the unit of experience in progressive education. The conclusions follow in Chapter VI. The concluding statements are based wholly upon the facts secured in the analytical investigation of educational literature.
CHAPTER II

TYPES AND CHARACTERISTICS OF RETARDED CHILDREN

We often speak glibly of the "backward or retarded" child as if we thought of him as being in an all inclusive group. Educators who have made a study of the retarded child find that the group may be broken up into several definite classifications. These characteristics are analyzed in this chapter.

One writer breaks up the group of retarded children into two specific divisions: the temporarily retarded group and the permanently retarded group. The first group includes those children who are retarded because of physical handicaps, such as bad tonsils, adenoids or teeth, weak eyes, poor lighting and ventilating systems in the classroom, and bad home surroundings which may include malnutrition, improper diet, loss of sleep and other things of like nature. These physical handicaps are often removable or curable. After these handicaps are either removed or mitigated, the children show marked improvement in scholastic progress.

Then there is the permanently retarded group which

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1 W. J. E. Wallin, Personality Maladjustments and Mental Hygiene, p. 184.
includes a great variety of groups and types of children who are subject to intellectual defects or limitations. It embraces all children whose mental abilities are limited in some way. This group may be divided further into two main subdivisions: the generically deficient and retarded, and the specifically handicapped.

The generically deficient and backward group includes the children who fall at the lower end of the curve of distribution of general intelligence, the one per cent, more or less, who are the most deficient in general ability and intelligence. This constitutes the mentally deficient group.²

The generically deficient and retarded group also includes the next higher level of mental ability, the two or three per cent who constitute the group of so-called "border-line" backward children.³ Their I.Q.'s range from 75 to 89. This is the group made up of morons who often cause disciplinary troubles in school, and, unless the school socializes them, they may become criminals. However, they are capable of more adjustments than the lower grade of mentally deficient children,⁴ but no amount of training can ever raise them to

²Wallin, op. cit., p. 184.
³Ibid., p. 184.
⁴Ingram, op. cit., p. 21.
the level of the attainments of which the children of mentally normal capacity are capable of achieving.

Then there is the other group of children who are handicapped in schools in which progress in subject matter alone has been stressed. These children manifest specific intellectual disabilities or limitations. They constitute about ten or fifteen per cent of the scholastics.

However, not all children who are scholastically retarded are also intellectually handicapped. Those subject to specific disability may not be subject to intellectual limitations. Their special handicaps may be due to many causes other than intellectual limitations. They may be due, for example, to poor teaching methods in the classroom, lack of home training, lack of application, physical weakness, unfortunate emotional conditions, poor attendance and being too far advanced for their chronological age (often the result of unwise, over-ambitious parents who prevaricate about the child's age in order to send him to school a year early - hence the child is too immature to keep up with the rest of the class, and becomes scholastically retarded).

There is still another type of retarded child. This is the innately dull child, commonly called the "dullard." He is not a high grade moron.

He is definitely normal as an individual whose general alertness is simply below average. He is organized along normal lines. He is slow-witted. He
is not weak-witted. He has some mental stamina and stability. When we describe him as a low-grade normal, we do it in no derogatory sense. He is backward in school, he is slow in making progress in abstract academic subjects, but in a natural sphere he succeeds.\(^5\)

He makes his way in the world, while even the highest grade moron lacks "common sense" that is essential to independent existence.\(^6\)

Recognition has been slower in the case of the less retarded or dull-normal child. He cannot be termed mentally defective, since he adapts himself to his social environment outside of school. His lack of adaptation is chiefly scholastic, especially in our academically minded school systems.\(^7\)

He cannot possibly, even with maximum effort, keep pace in school progress with the brighter normal children of his own age.

A second classification of retarded children is that given by J. N. Emery when he says\(^8\) the backward or "below grade" pupil group naturally resolves itself into two divisions, each of which is capable of at least two subdivisions.

The first group is called the "out-of-step-pupils", which includes the otherwise normal boy or girl who for some reason, either extended illness, recovery from an

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\(^6\) P. M. Bachelard, *The Education of the Retarded Child*, p. 15.

\(^7\) Ingram, *op. cit.*, p. 20.

operation, or some equally valid cause, has been out of school for an extended period of time; and the normal pupil who enters a yearly promotion system from a semianual one, and is "off the beat," either six months ahead or half a year behind the work of the regular grades to which he is nearest, or who lacks on account of this transfer certain portions of subjects which his class has already taken.

In these cases the problem is comparatively simple, merely a matter of adjustment that in time will take care of itself. The pupil of this type is ordinarily normal, is usually willing and even eager to regain the lost ground, and rarely presents disciplinary problems.

In the second group there are two common types: the hopelessly dull pupil with a low intelligence quotient, and the pupil mentally alert and bright enough, but whose attitude toward school work is lazy, hostile, and defiant. Both of these latter types tend to develop into disciplinary problems. Either they cannot work or they will not work, and, in either case, a room made up largely or wholly of these types is well on the way toward becoming a disciplinary school.

A third classification of retarded children includes

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9 E. H. Hartens, "For Exceptional Children: What States Have Done During the Past Twenty Years," School Life, XXI December, 1933, p. 36.
seven subheads. Briefly listed, these divisions are as follows:

1. The blind and the partially seeing group
2. The deaf and the hard of hearing
3. The crippled
4. The speech defectives
5. Delicate children
6. The mentally deficient
7. Children who present serious problems of behavior.

A fourth classification, and this will be discussed more at length, includes three big types of retarded children. The first type mentioned is the socially handicapped child who is defined as a truant and delinquent. This group of children has been unable to accept and live up to the social standards set by society. These children refuse to conform to the customs and modes of their group. This group also includes youths who are incorrigible, who steal, and who get into sex troubles.

The second type listed in the fourth classification is the physically handicapped child. This grouping includes the crippled child, the blind and the low-visioned child, the deaf and the hard of hearing child, the speech defectives, and the delicate child. Heck includes in the division with the delicate child, the

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10 Heck, op. cit., Ill.-
anemic, the child of lowered vitality, the tubercular, the
malnourished, the tired child, the cases of incipient
tuberculosis that are not active, the heart cases, and
children weakened physically by influenza or pneumonia.
The delicate child is one who is not in perfect health,
who cannot stand the strenuous play of the average child,
and who needs additional physical care if his system is to
become rugged enough to overcome disease and to meet all
the demands of the play and work life of the average youth.
The term "delicate child" includes any child not ill enough
to remain at home but so weak physically that he needs
physical care.

The third type in the fourth classification of re-
tarded children includes the mentally exceptional chil-
dren. In this study, the discussion will be limited to
children of low I. Q.

For the purposes of education, Frampton and Rowell
say that the retarded child may be divided into four
large classifications: (1) the physically handicapped,
(2) the mentally handicapped, (3) the socially handi-
capped, and (4) persons with combinations of physical,
mental, or social handicaps.

The physically handicapped may be subdivided into

11Merle E. Frampton and Hugh G. Rowell, Education of
the Handicapped, V. 1, 1-3.
three groups: (a) those whose handicap involves one or more special senses, including the blind, the partially sighted, the deaf, the hard of hearing, and the deaf and blind; (b) those whose handicap results in motor disability or limitation, including orthopedic cases (infantile paralysis, spastic conditions, osteomyelitis, bone tuberculosis, and congenital defects and deformities), cardiaacs, those suffering from respiratory diseases in certain stages, malnutrition cases; and (c) those with various types of defective speech of any origin.

The mentally handicapped include: (a) children who in native intellectual capacity fall in the lower ranges of human intelligence; for example, low average, morons, feeble-minded, imbeciles, and idiots; (b) children who have suffered accident or disease resulting in impairment of mental functions; and (c) children suffering from emotional instability, psychopathic states, and insanity. Among the mentally handicapped are types educable in regular classes, in special classes, in homes, or in special institutions. At present the limits of educability of such persons are more or less determined by the native endowment of the individual, and the function of education of the mentally handicapped is considered largely a matter of choice and preparation for lower level occupations which involve only simple skills or
elementary repetitive mental processes. However, much may be done for the mentally handicapped through provision of opportunities for the enrichment of their lives.

The socially handicapped may be differentiated from the physically or mentally handicapped, though physical and mental handicaps may be contributory or coexistent, by the fact that their chief limitation in meeting the problems of life appears in behavior maladjustments; for example, in delinquency, in destitution, in dependency, or in crime. The group of the socially handicapped undoubtedly includes the largest number of persons and the widest ramifications of problems. At present, because of rapidly shifting points of view, it is probably the least understood and the least stabilized group.

The various types of socially handicapped, even in the restricted sense in which the expression is used, are too many to enumerate in this study. They range from those who may be educated in regular or special classes to those who must be segregated in special institutions, such as homes for the destitute, homes for delinquents, juvenile institutions like those for orphans, or prisons. In the larger sense the socially handicapped embrace all who, through accident, disease, or maladjustment on their own part, or the exigencies of society, fail to achieve and maintain a fairly normal economic and social status.
Various educators are, in the main, more or less agreed on the characteristics of the retarded child. The opinions of different writers on this subject will be given below.

George Hill suggests the following intellectual characteristics of children of below average ability:\textsuperscript{12}

1. The slow learner shows a general tendency toward slow reaction, resulting in a general slowness in absorbing information. In the content subjects this is commonly, though not always, related to slowness in reading and poor comprehension.

2. The slow learner shows inability to transfer what is learned in one situation to another situation. It can never be assumed that the slow learning child will have learned a thing unless he has been taught it directly.

3. The slow learner usually has a short span of attention and lacks the power of concentration over long periods of time.

4. The slow learner tends to be illogical, due in part to his lack of ideas. He is apt to jump at conclusions without an adequate background of evidence.

5. The slow learner tends to lack the power to work under his own steam. He needs constant and detailed direction; he lacks initiative.

\textsuperscript{12}George E. Hill, "The Psychological Basis for Methods in Teaching Pupils of Different Ability Levels," \textit{The Social Studies}, XXIX (October, 1938), 250-253.
6. The slow learner finds it difficult and in many cases impossible, to draw general conclusions from what to him is a confusing array of facts.

7. The slow learner finds it difficult to work with abstractions. Usually he will be quite uninterested in anything except the immediate and concrete.

8. The slow learner tends to lack the ability to evaluate his own efforts and may be unusually sensitive to evaluation coming from others, especially if the criticism is negative.

9. Finally, the slow learner usually has a rather narrow range of interests, although many times his range of interests is unnecessarily limited by unfavorable home conditions.

In addition, the retarded child is often emotionally less stable than the brighter pupils. He is more apt than not to come from a home lacking in culture and refinement with the result that his neager abilities have lacked the stimulus to the development that they need. He is apt to resort to bullying with the result that he becomes unpopular. This in turn adds to his difficulties of social adjustment. It is of some significance to note that our juvenile delinquents are coming in alarming proportions from the group of boys and girls classified as dull by the schools.
Another writer characterizes the retarded child, briefly, as follows. The retarded child has:

1. Poor habits of study
2. Deficient vocabulary
3. Faulty habits of attention
4. Lack of comprehension and organization ability for ideas.

Usually, the retarded child learns to walk late, learns very slowly and sometimes incompletely learns muscular performances. He generally has speech defects and is slow in expressing himself. His sense organs of touch, sight, and hearing function imperfectly and are often defective. As has been indicated before, the retarded child has short attention and ambition spans; he is not resourceful, and he lacks judgment, reasoning ability, and mental aggression. He is often depressed and apathetic. "Usually no one child exhibits all these disabilities, but all dull and mentally retarded children exhibit one or more of them in varying degree."

Horseworthy and Whitley state that the sense discrimination of subnormal children is generally weak. They

14 A. E. Inskeep, Teaching Dull and Retarded Children, p. 11.
usually have poor muscular coordination, poor control of physical functions of bladder and bowels, sex organs, and sense organs. Emotional instability causes them to become easily excited over trivial matters. "Mentally they are sluggish, unduly suggestible, have little creative imagination, and a poor memory. They form habits very slowly." Their reasoning ability is very limited, therefore they are scarcely able to analyze or generalize.

Baker contends that undesirable traits of character are more prominent in the retarded child than in higher types. Quoting from another authority he says:

McElwee used as a checklist of fourteen characteristics such as schoolwork, good effort, quietness, obedience, and stubbornness, on inferior and superior groups — and while there was an encouraging presence of desirable traits in all levels they were much more predominant in the superior.

In summarizing the opinions of five hundred Detroit elementary teachers, he found that the dull were considered to be unsocial, selfish, self-centered, lacking in initiative, and honeycombed with all manners of educational disabilities.

Elizabeth Long describes the learning characteristics thus:

17. Ibid., p. 521.
18. Ibid., p. 522.
The dull learners are slow in forming associations, especially between words and ideas. In other words, they require concrete expression and have difficulty in using symbols. Acquiring the symbols of learning consequently is a real challenge to the dull mind, and the application of these symbols as tools for larger meanings is correspondingly difficult. Principles as well as facts have to be kept in mind by keeping them more or less concrete. They are not only slow in making associations, but unable to call up and apply a multiplicity of associations or to coordinate two or more mental functions. This fact makes complete mental problems beyond them. They do not grasp long or complicated problems or even statements. Their mental associations are very simple and so require simplicity in the words which symbolize them.

The retarded child lacks mental alertness, initiative, and ability to analyze and to reason. Besides having poor judgment, he cannot use auto-criticism, for he is unable to sit and realize his own standards in workmanship. He cannot observe closely and accurately and recognize familiar elements in new situations; he cannot detect his own errors. He not only learns slowly, but he also forgets quickly.

A dominant social characteristic of the retarded child is his narrow individualism and utter lack of group consciousness. Social studies, social service, assembly work and health education will aid in developing him and in bringing about social adjustment.

Margaret A Bittner, in a study made for the

purpose of reducing failures in a New York public school system, found the mental characteristics of two extreme groups of children to be as follows:  

Group One, average I. Q. of 117. These characteristics will not be listed, as this study does not deal with this group.

Group Two, average I. Q. of 39.

1. Must learn through experiences or dealing with concrete objects

2. Are slow learners

3. Require a maximum of repetition and drill

4. Show little originality

5. Have poorly developed reasoning power

6. Capable of rote memory.

After listing these characteristics, Miss Bittner and her corps of teachers recommended instruction for these two groups. Since this thesis concerns the retarded child, only the suggestions for the second group will be presented, and this will be done in Chapter V.  

Elizabeth Hester claims that the social and personality maladjustments that result from the unequal

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competition between the retarded child and his mentally superior classmates in the regular class placement cause the development of undesirable social characteristics and personality traits and school misbehavior problems on the part of the retarded child. She says that in the typical schoolroom the atypical child is very sad and depressed, as well as a very disturbing person. He finds himself so far behind the other children that he is in a constant state of confusion and bewilderment. Fear develops, followed by hatred for his teacher and classmates. "Simple Simon fishing in a bucket could create no more disturbance than the idle atypical boy in a room of normal children." His restless hands bend pins, not to use in fishing, but to annoy his neighbors. Having nothing to do the whole day, he gets into trouble in the schoolroom and elsewhere.
CHAPTER III

CAUSES OF RETARDATION

The problem of retardation is not a new one. Due to the fact that a greater per cent of the children go to school, it is probably more universal among our various school groups than ever before. The development of compulsory school laws and a better enforcement of the provisions of them have presented added responsibilities to our schools.1

If society is to require individuals to remain in school until they have reached a fairly advanced stage of maturity, and in our enlightened and complex social age this would appear to be a necessity, it must make some provision for those who are not able to profit in the organization of the materials of our present school curriculum. Slow learning ability, lack of interest, poor foundation, physical|disabilities, diseased conditions, and undesirable home and community surroundings are among the outstanding causes of educational retardation.

In the typical American public school, seventeen per cent or more of the pupils finish the first grade unable

1Garrison, op. cit., p. 195.
really to read first grade material without help. By the end of grade three, it has been estimated that forty percent of all pupils fall below the norms required for handling the fourth grade reading curriculum without handicap. Thus it appears that our curriculum makes a demand for a reading skill which a large percentage of our pupils have not acquired. Special disabilities in spelling, arithmetic, handwriting, and other school abilities may exist at an early age to affect the child’s school adjustments.

Personality maladjustments develop as a result of the interaction between the pupil and the various physical forces of his environment. No individual is absolutely doomed to personality maladjustments; but certainly some characteristics come into conflict with physical and social demands to a greater degree than others, and thus cause certain types of individuals to develop maladjustments with a high degree of frequency. The results of studies suggest that retardation in reading hinders general educational progress, and that its removal permits the general progress to approach the limits set by the mental age. In the light of this, maladjustments may appear readily from lack of reading readiness or from other disabilities at an early school age period.

The child who constantly repeats grades becomes

\[\text{Ibid., p. 196.}\]
discouraged and develops a feeling of hopelessness, since he does not have the confidence that is essential for self-respect that comes from success in school work. An overgrown boy who has been held back in a grade with small children becomes ashamed and self-conscious. His reactions to these feelings may take one or a combination of many forms, such as indifference, misbehavior, truancy, and even delinquency. Unwholesome emotional experiences at home are intimately related to children’s failures in school work.

Garrison says the major causes of school failures are: (1) those resulting from the nature of school organizations and policies, (2) those resulting from the temperament of the child, and (3) those in which the home and neighborhood conditions play an important part.

Buckingham reports, after consideration of experiments dealing with the progress of several thousand Illinois school children, that only about one-third of the children did better work after repeating the grade, while the other two-thirds showed little or no improvement and, in a number of cases, did worse work than before.

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3 Ibid., p. 163.
4 B. R. Buckingham, Research for Teachers, p. 303.
The most serious results of non-promotion or failure of school children are in the effects it has on their personality and character. The most evident phase of this is the development of a defeatist attitude. Very many retarded children have this attitude. Failures in school life are likely to color more or less permanently their attitudes and general behavior. Defeated and discouraged, they resort to other activities and develop unwholesome and undesirable attitudes towards society. They have learned thoroughly through experience the "opportunist doctrine." They take advantage wherever they can of each other, of the school, and of the world outside. Their lot in life can be only that of the hewers of wood and drawers of water in the ranks of unskilled labor.

Among the many factors that may operate in retarding a child in his school progress, the more prominent are the speaking of a foreign language in the home, entering school at too early an age, entering school at a comparatively advanced age, irregular attendance due to physical defects or weaknesses, inefficient teaching, unsuitable courses of study, and frequent changes of schools attended.

Cyril Burt\textsuperscript{5} gives a good list of causes that are

\textsuperscript{5}Cyril Burt, \textit{The Backward Child}, pp. 89-93.
contributory to retardation of school children: (1) physical conditions which include health defects, (2) extreme weakness in forming associations between words and ideas, (3) low or weak imagination, (4) inadequate memory, (5) mental immaturity (over-ambitious parents who "push" their children and enroll them in school before they are sufficiently developed are largely to blame for this), (6) low reading ability, (7) fear of school subjects, (8) unsound mental health, dominated by the "I can't" factor.

Causative factors of stupidity are: (1) glandular disturbances, (2) interferences of emotional factors, (3) interplay of pupil attitudes, (4) physical defects such as poor vision and hearing, (5) malnutrition, (6) over-eating of some types of food, (7) ill health, (8) lack of sleep, (9) fatigue, (10) poor habits of study, (11) maladjustments: inferiority feelings and phobias, and (12) lack of understanding of teachers in regard to the slow learning child.

These factors are further emphasized through the lack of curriculum revision in the direction of the needs of the slow learners, through the lack of funds with which to provide more equipment, more teachers and more materials and supplies for the education of the retarded child.

Much of the difficulty in the way of retardation and failure of children is due to the traditional procedure of offering them the standardized instructional program
when they have reached the age prescribed for school entrance, disregarding almost entirely individual differences. It has been proved that a fairly large percentage of six year old children are not ready to enter school and be given a formal reading program because they lack physical, mental and social development. Physical handicaps can often be corrected somewhat speedily; however, physical immaturity as well as mental immaturity can be overcome only by time. As the child advances in age, chronologically, there will likely be a concomitant advance mentally, though not necessarily in equal degree. Social development will depend upon the environment and also on the program offered in school. Attempting to teach immature children before they are ready for the formal instruction accepted as standard for first grade often results in a failure complex which accompanies them throughout their school careers and is never overcome. After several years of this hopelessness, children are tagged as failures with little attempt on the part of teachers to do much about them since their cases are thought to be hopeless. As a result, children are moved from grade to grade and become indifferent to the whole

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school program. This maladjustment, in many instances, leads to delinquency later on, with society wondering why and asking how it can be corrected.

Leonard P. Ayres also indicts our school curriculum by saying that our courses of study, as at present constituted, are fitted not to the low child or to the average child but to the unusually bright one. He maintains this argument by saying that the children who are retarded on account of late entrance are found to be only a small part of all of the retarded children. Taking the average of conditions found in the city schools, says Ayres, the figures show that for every child who is making more than normally rapid progress there are from eight to ten children who are making abnormally slow progress. He further says there is no one cause for retardation. Late entrance is a potent factor; irregular attendance is another. In both cases time lost through illness plays an important part. Children with certain physical defects make nearly nine per cent slower progress than do the children who are found on examination to have no defects. Children having some defects, like adenoids for instance, are retarded still more. There is also little relation between the percentage of foreigners in the different cities and the amount of retardation found in their schools. Some of our most foreign

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7 L. P. Ayres, Lackards in Our Schools, p. 25.
cities make very good records, while in some of our most American cities school conditions are very bad. In the country as a whole there are more illiterates proportionately among native whites of native parents than among native whites of foreign parents, and school attendance is more general among the latter than among the former.

It was found in a New York investigation by the Russell Sage Foundation in 1907 that there are decided differences between the different races in the matter of school progress and retardation. There the Germans made the best records, followed by Americans, Russians, English, Irish, and Italians, in that order. Everywhere it has been shown that ignorance of the English language is a handicap that is quickly and easily overcome and has little influence on retardation.

It has now been established by clinical experiences that retardation and its corresponding features, laziness, indifference, carelessness and truancy, are the signs of a deep personality distress which we comprehend under the term discouragement, and so the child cannot go on. To punish him is only to deepen his distress and to injure his mind.

The main causes of retardation, according to McBride,

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are (1) word-blindness, due to an incipient left-handedness, (2) an inferiority feeling due to repressive experience, (3) excessive school curriculum and (4) retreat from too high a standard set by parents. Inherited mental deficiency as a cause of retardation is not included.

Left-handed children have difficulty because they read reversely from right to left. Very often these children are diagnosed as stupid or feeble-minded. The peculiarity of their mental defect makes them twist words by an unusual defect known as word-blindness. Though normal in other respects, they are unable to make normal progress in learning on account of this deficiency.

Some time ago, educators made an investigation into the cause of backwardness. It was found that failure in normal progress was due to inferiority feeling in fifty per cent of the cases. It is quite true that this much-talked-about thing called an inferiority complex or sense of guilt is a definite factor menancing mental health and is a specific cause of retardation. This reminds one of a story read in a book once of two men who were watching all the various creatures in the Reptile House at the Brookfield Zoo. They were in front of the alligator pen and one man remarked: "No one ever slapped an alligator on the back and said, 'Be an alligator, old man!' You know he'll be an alligator. He can't help it. But you
sometimes slap a man on the back and say, 'Be a man, old chap!' And you can't be so sure that he will be a man."

This is a very interesting and often true remark. Inferior performance is the special prerogative of those children who quite often are capable of much better performance. All students are physically, mentally, morally, socially, and vocationally guilty of inferior performances. Maybe it is because of laziness, inertia, or lack of courage, but the fact remains that they fail to realize themselves at their best. They need something to stir them, to stimulate them; they are too content to vegetate when they really might live. An inferiority complex is one of the greatest plagues of human life. It is debilitating, inhibiting; it prevents achievement; it causes untold misery, and yet it is common to many of our retarded children. Alfred Adler built up his method of Individual Psychology on this very problem of inferiority. It begins and ends with that problem. We fail to realize that much of a child's "badness" is merely an effort on his part to get the attention of adults, to be the center of attraction. Adler says we all strive to achieve significance, to overcome inferiority, and that out of these two things fundamentally comes the driving force of all endeavor. How to meet this problem of inferiority on the part of the pupil is a problem that will
be discussed later in this study.

In discussing the school curriculum as another cause of retardation, McBride says that school methods provide for the needs of the average child only. The retarded child is expected to master too much subject matter that is entirely too difficult for him. Children of illiterate parents are also handicapped in making progress in school.

Another cause of retardation is the too-high standard in intellectual achievement that many parents set for their children. This puts the child in a state of perpetual nervous tension.

Another age-old question that was investigated by the Russell Sage Foundation in New York in 1907 was the relative standing of the two sexes in the matter of retardation. In this investigation it was found that thirteen per cent more boys were retarded than girls and that thirteen per cent more repeaters were among the boys than among the girls, or that the percentage of girls who complete the common school course is seventeen per cent greater than the percentage of boys. This means that our schools, as at present constituted, are far better fitted to the needs of the girls than they are to those of the boys.

E. L. Cornell conducted a most interesting experiment
on "Why are more boys than girls retarded in school?"
At the outset there are two explanations given: (1) girls are more docile than boys and so give less trouble, and (2) more boys are subnormal mentally because there is a wider distribution of intelligence among boys, and consequently more individual cases occur at the low extreme as well as at the high extreme of intelligence.

In the examination of children, who were seriously retarded in school progress, for selection for special classes, there were more boys selected than there were girls. The former comprised seventy per cent. The following comparisons were made: (1) differences in age-grade status of retarded boys and girls; (2) differences in mental age and I.Q.'s as determined by the Stanford-Binet scale; (3) differences in mental age as determined by the performance scale; (4) differences as determined by specific tests of the Stanford-Binet scale; (5) differences in personality traits, and (6) differences in school attitudes.

A summary of the findings includes the following points:

1. A little more than twice as many boys as girls were selected for examination because of school retardation.

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retardation. The boys and girls are about equally distributed as to amount of over-ageness.

2. The differences in chronological and mental age as determined by the Stanford-Binet scale, and in mental age as determined by the performance scale are not large enough to be reliable, but they are consistent. In all grades except the fifth, the boys are a little younger and a little higher in mental age as determined by the Stanford-Binet scale, in I.Q., and in the rating on the performance scale. The fifth grade was an exception, perhaps because of special selection among the small number of fifth grade girls examined.

3. The variation in mental ability is greater in boys in most cases. In the last analysis, it is conceded that the average intelligence of boys and girls in general is the same, but the distribution of intelligence may not be the same.

In factors other than intelligence, boys and girls differ. The differences may be in intellectual abilities, in specific abilities which make learning harder or easier as the case may be and differences in attitude toward school work or in personality that produce different results in school progress.

As a conclusion to this chapter on causes of retardation among school children, several sections will be
quoted from a study which was conducted in a California city school system in 1937, the purpose of the study being to find out why so many pupils, even of normal intelligence, were being retarded every year. 10

For the purpose of this study in California, 1,485 children in the first grade who failed to be promoted annually for a period of twelve years were used. The data were secured by reports sent to the principals and then to the research division. These reports on each child contained valuable information, including the results of his individual intelligence test and causes of failure in the opinion of the teacher.

The following factors were discovered to be causes of retardation or non-promotion:

1. Learning slowly. Only six per cent of the cases reported were mentally deficient, thirty-one were dull, whereas fifty-seven per cent were of normal mentality, and even six per cent were above normal intelligence.

2. Immaturity. Only eleven per cent of this group thus reported were either border-line or feeble-minded, and twenty-one per cent were dull, whereas fifty-six per cent were of normal ability, nine per cent were

superior and three per cent were very superior.

3. Irregular attendance. Of this group, seven per cent were nearly or actually mentally deficient, twenty per cent were dull, whereas fifty-nine per cent had normal intelligence, and fourteen per cent were either superior or very near superior.

4. Poor health but not absent from school. Of this group of failures, fourteen per cent were mentally deficient, fifty-three per cent were normal and thirteen per cent were superior.

5. Absence due to illness. Five per cent were mentally deficient, fifteen per cent were dull, but fifty-nine per cent were normal, and fifteen per cent were superior.

6. Low mentality. Of this group eighty-seven per cent were actually below normal or average intelligence, but twelve per cent were average mentally and five-tenths of one per cent were superior. Terman claims that children rated as dull do have difficulty in making progress at the same rate as children with average intelligence, hence the large percentage of failures due to low mentality in comparison to the small number of those who failed and were not dull. Almost twenty-four per cent were border-line cases, and twenty-two per cent were definitely mentally deficient.

7. Weak in reading. Only 169 out of 1485 were thus
listed as failures to pass their grade; sixty-four per cent were average; and twelve per cent had superior minds.

8. Lack of application and attention. In this group there were 160 mentally tested cases of which fifty-three per cent were very superior.

9. Lack of effort. Forty per cent were below average and eighteen per cent were superior.

10. Change of school. This caused the following in each group to be retarded: fifty-six per cent average, sixteen per cent superior, twenty-two per cent dull, five per cent feeble-minded.

11. Foreign language handicap. Of the group speaking little or no English, the following were retarded: sixty-six per cent below average, thirty-three per cent average, and one per cent above average.

12. Handicapping home conditions. Twenty-one per cent were not normal, and sixty-nine per cent were normal.

13. Weak foundation. Children received with weak foundation by transfer or by promotion into high first grade caused fifty-three failures of which twenty-eight per cent were subnormal, and sixty per cent were average.

14. Nervousness. This occurred largely in children with average intelligence: fifty-seven per cent normal, twenty-seven per cent with inferior intelligence, and sixteen per cent with superior intelligence.
19. Defective speech. Thirty-four per cent were of deficient mentality and fifty-seven per cent were of average intelligence.

Tabulated facts showed that the most common causes of retardation and failure were, in the order given, as follows: (1) immaturity, (2) slow learning, (3) irregular attendance, (4) low mentality, and (5) weakness in reading.

Since the largest numbers of retardations and non-promotions were among children of average and higher intelligence combined, particular attention should be given to the problem of why such children fail to make progress. This should never happen, as it causes one to doubt the training and the teaching efficiency of teachers who do not prevent such non-promotions.

In summarizing the causes of retardation, as given by twenty-five educators, it was found that mental handicaps ranked first with the highest frequency, physical handicaps came second, while social handicaps and unsuitable curriculum ranked third. The other causes of retardation were given in the following order: learning slowly, poor reading ability, increased school attendance (see page 26), change of school, lack of application and attention, school organization and policy, immaturity, home and community environment, foreign language, irregular attendance, and inefficient teaching.
CHAPTER IV

PROBLEMS OF RETARDATION

The problem of the retarded child has never been attacked by systematic research until within the last thirty years. As yet, little is known about causes, and still less about treatment. More often, the essential causes lie entirely beyond the confines of the classroom, so that the problem of the retarded child is as much a social as an educational issue. Causes of retardation are thus exceedingly various, and, in nearly every instance, not one factor, but a combination of factors, lies at the root of the trouble. All this was discussed in the previous chapter.

Since ninety to ninety-five per cent of the retarded children are not in institutions, but in their homes and will be sent to the public schools, the most conspicuous point of attack in their social adjustment is within the school. They present many educational problems, including mental hygiene problems, school disciplinary problems, maladjustment problems, and

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social problems with their financial, moral, vocational and instructional aspects.

One of the most significant signs of maladjustment in a child is his failure to get along with other children. Social disharmony may have two aspects. The child's behavior toward others may be faulty in that he may dislike other children, he may be indifferent to them, or he may do unkind things to them. On the other hand, their behavior toward him may be the dominant feature in that they may express a dislike for him, they may avoid him, or they may treat him unkindly.

The poorest method of dealing with the socially maladjusted child is to lecture him upon the necessity of making friends, pointing out to him his failure, and admonishing him to do better in the future. Such procedures merely make him so self-conscious in his dealings with others that he fails even more strikingly than he did before, and the problem is thus aggravated.

Many children feel very keenly their lack of friends but do not know what to do about it. One child thinks he can buy friends by gifts and kindness; another will bully the younger children in order to make them play with him; another will tell tales of his adventures in order to

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2J. J. B. Morgan, The Psychology of the Unadjusted School Child, 238-263.
impress his associates. Still others, finding all normal methods ineffective, resort to revenge upon those whose favors they have vainly courted, and at times will play tricks upon them.

Most of this behavior is misunderstood by the teachers for they fail to see the motives behind it. They report that a certain child hates other children, whereas, if the truth were known, he has an intense hunger for friends without adequate knowledge of human nature or the skill to deal with other children in such a manner as to win friends.

There are a great many factors that enter into the problem of social adjustment. Some of the most powerful factors in the production of disharmony are:

(1) Some children are non-social because they are too completely satisfied with themselves. They must learn to become sensitive to other persons, to understand them, and to learn the pleasure that may be derived from knowing that they are essential to the happiness of others.

(2) Some children are devoted too exclusively to some one person, such as mother, father, grandmother, or some other child. They must have their social contacts increased.

(3) Some children are emotionally enslaved by some person from whom they would like to escape but do not
know how to make the break. They need to be taught self-reliance.

(4) Some children are very conscious of their need for friends but do not know how to win them. They should be taught, by experience, the principle that others like them when they contribute to the happiness of others and not when they show off, strut, or try to prove their value to others.

(5) Some children are out of harmony because of some accidental and temporary circumstance. These situations should be disposed of as soon as possible.

(6) Some children are overconscious of some physical defect or some lack of attractiveness. In this particular problem it is always a mistake to dwell upon the unimportance of physical charm or to quote such sayings as "beauty is only skin deep" in an attempt to console children. Children will soon forget such deficiencies and be totally unconscious of them in their playmates if adults will only ignore them. Personal comparisons of any sort should be avoided.

(7) Some children have difficulty because they have had training which is different from that of the other children. This is true when a child moves into a group from a foreign country or from urban to rural life. The rest of the children may interpret his
unusual behavior as aloofness or snobbishness. In this case training in tolerance is needed to teach children to understand individual differences. Children are intolerant only as a result of training in intolerance by adults. 3

Since statistics show (see page four) that approximately two per cent of the elementary school population in the United States is suffering from a mentally retarded condition which makes it impossible for these retarded children to benefit by the educational procedures suited to children of normal intelligence, more emphasis on mental hygiene is needed in our educational system.

Retarded children constitute problems of mental hygiene because (1) they require special training to enable them to make the most of their personalities and possibilities, and (2) they are likely to develop personality and social maladjustments as a result of the conflicts and difficulties they encounter in their attempts to adjust themselves to the home and school requirements and to the demands of teachers and parents, other members of the family, companions and classmates. Repeated failures in the school and home and the disapprovals and even sneers and jeers of other children,

3 Ibid., p. 262.
as well as of adults, may cause serious emotional upsets in these unfortunate children. As a result, they become discouraged, timid recluses with inferiority complexes, fearful, unloving, anti-social, resentful, defiant, callous, juvenile delinquents, so-called "problem children." In 1930, according to estimates of the White House Conference on Child Health and Protection, there were 2,500,000 American children who displayed well defined behavior problems. The number may very well be larger today. Studies showing increasing rates of delinquency and of minor and serious nervous disorders, frustration, unhappiness, and inadequacy in youth also disclose the need of more widespread effort on the part of the school to identify and treat behavior difficulties before they become acute. Ignoring problem children and allowing them to become truants or outcasts often result in delinquency or in serious adult maladjustment.

Social adjustment is of much more importance for the dull normal child than it is for the normal child. The dull normal child is that retarded child who can do certain things, but not along traditional lines.

4 P. A. Witty and C. E. Skinner, Mental Hygiene in Modern Education, p. 5.

Most of our trouble is likely to come from the dull normal who goes out into the world and must compete with those who have the traditional education and are better able to cope with situations. A sympathetic attitude and a better understanding on the part of the teacher will help in considering this problem.

Much of the difficulty in the problem of maladjustment in retardation and failure of children is due to their entering school at the age prescribed by law for school entrance, with complete disregard of individual differences. This makes for maladjustment as well as for instructional problems, and also may lead to disciplinary and moral problems.

This problem was forcibly brought to the attention of C. A. Hudson who, a few years ago, performed an experiment with slow learning beginning children in Marion, Ohio. He found that the percentage of failures in the first grade was running annually from fifteen to twenty per cent. Teachers frankly stated that the percentage would be much higher if all pupils were retained who did not reach the accepted standard for promotion, which is the ability to do the work of the next higher grade. One of the reasons offered for not retaining more

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pupils was the fact that they feared criticism of their teaching would come from their superiors, as well as from the parents. As a result, children were promoted, with the teacher receiving them unaware of all their deficiencies. They were given the work of the standard second grade program along with the children who had successfully completed the first grade. It was only natural that the retarded children immediately found themselves hopelessly lost. In most instances they failed at the close of the year and repeated the work of the grade the following year, doing little, if any, better. Because of age at the end of the second year they were promoted to the third grade, and this vicious cycle was again repeated, with results even worse. These children remained in school, passing through the intermediate grades in somewhat the same fashion, and eventually were turned out of school, having little, if any, education.

The dull-normal and retarded child is a difficult problem for the schools. He is not sufficiently retarded to warrant being placed in a special class for mentally retarded children, yet he is not sufficiently bright to maintain the curriculum standards established for the average and superior children. With an I. Q. between 80 and 90, the dull-normal child is somewhat slower in learning the academic subjects than most of the children in the
school. Problems of truancy, problems of delinquency, problems of behavior and disinterest in school work are more frequent with this group than with average or superior children. Surveys made on the populations of correctional institutions or "reform schools" have invariably shown that the majority of children in such institutions are dull-normal and backward, with I. Q.'s ranging from 75 to 90.  

Over fifteen per cent of school children are dull-normal and retarded. Educationally these children are usually one to three years below children of their age, and they rarely complete the secondary school successfully. Many of them reach eighth grade achievement by the time they are sixteen years old, and some of them enter high school only to remain laggards or failures in the academic subjects. Failures in the academic high school of today are largely among the group of dull-normal children whose capacity for academic achievement is far below that of the average high school student. Yet, because of unemployment and the fact that few sixteen year old children find positions, increasing numbers of dull-normals enter the academic high school. Situations such as these teach many.

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8 Ibid., p. 175.
problems to be considered in the field of education for the retarded child, such as financial problems, disciplinary problems, social problems, moral problems, vocational problems, instructional problems, as well as mental hygiene and maladjustment problems.

Children with mental handicaps, as well as those with physical handicaps, such as the deaf, blind, and crippled, have many serious problems of emotional and disciplinary adjustment to meet which are not faced by their more normal companions. To get a concrete example of this, one should read the story of the stormy childhood of Miss Helen Keller, noting particularly the fine way in which Miss Sullivan handled this handicapped, retarded child.

The financial problem is largely a question of the cost of crime, of delinquency, or of pauperism as compared with the increased expenditure of the school funds for the special education of the retarded child, which usually costs twice as much as that of the normal child. Reluctant authorities may be induced to make such expenditures if they are convinced by the teacher of the wisdom of doing so, since beneficial outcomes will accrue to the normal and superior children by the removal of the retarded children from their midst.

If special educational programs are not provided for the retarded child and if he is left in a regular class
to compete on unequal terms with brighter children in academic tasks totally unsuited to the child's needs, then he becomes a misfit and fails to be promoted. Repeating grades is considered expensive and constitutes an economic problem. It is claimed that when a child fails to be promoted and has to repeat the work of a grade, the community has to pay for his term's schooling twice. Money expended on repetition each year rightfully ought to be used in buying school facilities. However, this complaint is not justifiable for the following reason. The money that is spent in teaching a large number of children in our schools over again is not wasted because the children are not required to reach a certain point before they quit school on account of discouragement at the upper limit of the compulsory age.

If all the children had to reach a certain point before leaving school, this money would be saved if they could reach this point earlier; but such is not the case. Children are not required to make a certain degree of progress in schools, but only to sit there for a number of years. From the standpoint of the taxpayer who has no interest in education other than that of the tax rate, it is quite immaterial whether the money is spent training first grade or eighth grade children.

Repeating grades is not the only cause of congested conditions. The overcrowding is mostly in the primary grades, which necessitates the employment of a greater

10Ibid., p. 90.
number of primary teachers. "Over-crowding means that we
are not spending enough money on our schools."  

Even in the upper grades we cannot consider the
money spent on doing again the work already done as
entirely wasted, for we cannot be sure that such re-
petition is wholly ineffective from an educational
viewpoint. But we may be sure that more is lost than
 gained by the process of repeating. A child is more
effectively spurred on by success than by failure.
The effect of retardation is only slight in making
school expenditures greater, but potent in making
their effectiveness painfully less. To reduce re-
tardation would greatly enhance educational efficien-
cy rather than effect a financial saving.  

The child who is retarded may become a vocational
failure, a shiftless unemployed member of adult society,
a burden and perhaps even a menace to society. It is
chiefly from the ranks of the dull and backward, rather
than from those who are mentally defective in the
stricter sense, that the majority of our criminals and
paupers are drawn.  

Retarded children often seem hopeless in the opinion
of their teachers. These same children, if put into
suitable surroundings where their weak intelligence will
not be taxed, will often develop into good citizens.  

To live in an atmosphere of failure is a tragedy!

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11 _Ibid._, p. 90.
12 _Ibid._, p. 93.
13 F. D. Kennedy, _Education of the Backward Child_,
p. 17.
14 Arnold Gesell, _The Retarded Child and How to Help
Him_, p. 29.
Success is essential to every human being's happiness. Since no one doubts the validity of these statements, it is the duty of every educational institution and instructor to place the dull, retarded child in an environment in which he can achieve at least some measure of success.

As one can well see, these problems are very difficult to solve. It may take the combined efforts of teachers, principal, parents, social workers, clinical psychologists, and juvenile courts to solve the too-long ignored cases of the retarded child.

In the following chapter various steps towards a solution of these problems will be discussed.
CHAPTER V

TOWARDS A SOLUTION OF RETARDATION

This chapter deals with the history of retarded children; the manner in which retarded children have been identified; the big types of retarded children, including the socially handicapped, the physically handicapped, and the mentally handicapped, together with various methods of possible solutions of the problems of these three types of retarded children.

History

The history of the education of the handicapped extends back over the centuries. Three general periods reveal characteristics of the work of the handicapped. These periods are approximately as follows:

1. Primitive and ancient times, dating from 1550 B. C. to about 476 A. D.

2. The Middle Ages, approximately 500-600 A.D. to around 1500 A. D.

3. The modern period after 1500 A. D. In this period most of the real progress has been made in the care and education of the handicapped, beginning with basic scientific

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investigations which showed the way to crossing the baffling barriers to educative procedures.

Beginning with 1900 there was an increasing realization that the education of children who are defective in body, mind, or morals is a matter of great importance to the future of the state. Definite and extensive steps began to be taken in many civilized countries. The gradual stepping into the lead by the United States has characterized the last century. The greatest developments have been in perfection of organization rather than in improvement of methods. Modern science and the invention of means of faster communication have made possible many things for the good of the handicapped.

Ways of Identifying Retarded Children

The first problem that confronted educators in dealing with the handicapped was a method for the selection of these children. Martens says that the following questions should be considered seriously before any child is placed as subnormal or as seriously retarded:

1. Is he over-age for the grade in which he is working? If so, how much?
2. Is he failing in his school work this term?

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3. Are there any health difficulties or physical defects?

4. Does he have any serious personality difficulties that interfere with his success in school? For example, is he petulant, or of the spoiled baby type? Is he excessively reticent and shrinking? Does he have unreasonable fears and anxieties? Is he easily upset emotionally?

5. Has he attended school regularly since he was six or seven years old?

6. Does the family environment help to encourage a good attitude toward school?

Martens further states that every teacher should: find out not only what the child can do but what he likes to do; know something about his home life, his companions, his play, his feelings, his thoughts; encourage the spirit of appreciation and of helpfulness toward the retarded child, and never manifest a spirit of condescension or of ridicule of the child's limitations.

Following is a question outline suggesting a method of analysis of the data secured in individual case study for the use of teachers of retarded children:

I. Analysis of Social and Emotional Factors

1. Are there any social, eugenic, or economic

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3 Ibid., p. 18.

conditions in the home or neighborhood that are affecting the child's behavior?

2. What are the religious affiliations? Moral influences?

3. Who are the members of the family group? What is the condition of their health? Their intellectual and economic level?

4. Are there any problems presented in play associates, and interests?

5. Has he any antagonistic, indifferent, or cooperative attitude toward school?

6. Are there any delinquent tendencies present?

7. What favorable conditions can be utilized?

II. Analysis of Physical Factors

1. What is the health status of the child? Is he free to learn or are there any health conditions which hinder?

3. If there is present an irremediable condition, how can its influence be minimized? What is the child's attitude toward any such irremediable condition?

3. If conditions are remediable, can parents' and child's cooperation be secured in correcting them? Are they of such a nature that they require medical or surgical care? Or do they require rebuilding of habits?

4. If the child is physically in good condition, what plan may be followed to maintain satisfactory physical condition and growth?
III. Analysis of Mental and Educational Factors

1. What are the child's learning potentialities as indicated by tests?

2. Has he made expected progress for his learning ability in the subjects he has already attempted?

3. Are there any subjects in which the child has conspicuously fallen below the level of his mental ability? Is he unable to write? Is he lacking a reading vocabulary when he is six years, eight months mentally? Is his number sense undeveloped?

4. Has he any special aptitudes or interests, such as drawing or mechanical ability?

5. How much longer will the school have to guide his development?

IV. The Child in Relation to the Other Members of the Class

1. What is the chronological age range of the group? What is the range in learning and educational accomplishment? The range in physical maturity?

2. Will the child find pupils of his own sex, age, nationality and race?

3. In what activities can the child best participate? If very much older or younger than the rest of the group, what extra activities and interests must be provided?

In Springfield, Massachusetts, before assigning a
pupil to special classes for the retarded, the following steps are taken:

1. The pupil is reported to the visiting teacher by the teacher or principal.

2. The visiting teacher calls at the home and secures the parents' permission to give the child a psychological examination.

3. The clinical psychologist administers psychological tests, diagnoses the case and makes recommendations.

4. The research department administers tests of school achievement. Children assigned to special classes are given educational tests from time to time to determine progress being made and to furnish a basis for recommendations as to changes in placement.

Solutions for Three Groups of Retarded Children

The Teacher's Responsibility

Educators all agree that every child has an educational birthright. They further maintain that the responsibility of the school is to make of pupil activities an experience in living which is within the child's power of realization and appreciation and which will at the same time help to prepare him for a contributing adult citizenship.

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If this is the task of education, then the teacher must face the problem of adjustment. He must meet the challenge of individual differences and individual needs presented by the pupils in his class. His is the responsibility of adjusting his attitude and his methods, of adjusting the curriculum and materials to the capacities and the interests of the boys and girls who come daily under his instruction. In our general educational scheme an attempt has been made to group into one classroom or grade some thirty or forty children who have reached approximately the same degree of academic achievement. Yet every teacher knows that among those thirty or forty children there are some who would forge ahead of accepted standards if given the opportunity to do so, and that there are others who lag far behind even in spite of every opportunity to work along with their fellows. There are some who are suffering from physical handicaps and others who show signs of mental and social handicaps. To each of these the school owes an equal responsibility for that training which will serve best the individual's own needs and which will make of him a citizen who will be able and willing to serve his community according to his talents.

In many city school systems attempts have been made to provide for the individual needs of these children through various systems of classification, of special
schools and classes, and of clinical service. In some systems there are well-organized departments of special education with excellent supervisory facilities and trained teachers. These are pointing the way toward the means of giving adequate attention to those pupils who deviate seriously from normal in physical, mental, or social equipment. They are further pointing the way toward a solution of the problem of retardation.

The teacher has a definite responsibility. He cannot avoid the issue or run away from his problem. In attempting a solution of the problems involved in dealing with various types of retarded children the teacher has a fivefold responsibility:

First, he must know what the problem is. He must know who are the retarded children in his room. He must know what types of deviations from normal demand special consideration. He must know what constitutes a serious deviation. He must know that there are three big classes of handicapped children: the physically handicapped which includes the crippled, the deaf and hard of hearing, the blind and partially seeing, the speech defective and the delicate or children of lowered vitality; the mentally handicapped and the socially handicapped which include children with serious behavior problems. He must know that the particular needs of the various groups are quite
different, but that each child in any one of these groups offers a serious challenge to the teacher to seek out that which will mean the most for him as a whole individual in his educational development.

Second, the teacher must recognize the problem in his own classroom. The mere knowledge that there are handicapped children in the world will not help him unless he can find out for how many he himself is responsible. He must know the symptoms of extreme deviation and he must learn to recognize those symptoms in the children in his room. Perhaps he will discover that one child cannot see the writing on the blackboard, that another child cannot hear well so that he has to be given a front seat. Quite often there are as many as four or five such children in the same class, each presenting different needs. Some of them force themselves upon the teacher's attention; others need to be discovered.

Third, he must be able to recognize extreme deviations through careful observation and study of the individual child, for that is the only way such deviations can be recognized. Every child is different from every other child and presents the need for sympathetic, conscientious, intelligent scrutiny. Sometimes this scrutiny will reveal differences that the teacher had never dreamed of before. Whether in the regular
classroom or in a special class the need for child study is the same; for even though a preliminary diagnosis has been made resulting in the child's assignment to a special class, yet it remains for the teacher to study his abilities and disabilities, his physical and his mental equipment, his personality and his environment. The whole child becomes truly educated only when the teacher bends every energy to know and to guide the whole child.

Fourth, the teacher must apply first aid to the handicapped children whom he has discovered in his room and whose natures and needs he has made the object of study. However inexperienced or untrained he may be in special education, there are some things which every teacher can do in meeting existing demands of physical, mental, or social deviations if he will but give the requisite time and thought to the problem. The teacher may be working toward the organization of special classes in the community, but while he is waiting for this objective to be realized he must give attention to the special problems of the children in his classroom. Since he has daily contact with the child, he is the logical person to give the greatest amount of help at least in an elementary way. He must be prepared to adapt his methods and materials to the peculiar needs and possibilities of each handicapped child. He must know what to do if he finds one child who is hard of hearing, one child with defective vision, and one
seriously retarded for other reasons. He must be able to meet the parents, to explain the difficulties that exist, and to secure for the child the attention at home which will supplement the provision which the school is able to make.

Fifth, the teacher must know where to seek further aid of a specialized type. He must know what resources the community affords in medical or psychological assistance of clinical nature. He must know the agencies that exist in the county, in the state, and in the nation that may be called upon for help. He must know how to contact all these agencies.

A brief summary will now be given of the educational methods and plans that have been used with children who have been retarded because of social handicaps, of physical handicaps and of mental handicaps. A table showing the specific needs of these three groups of retarded children will be given at the conclusion of the discussion in this chapter.

The Socially Handicapped

The Special School for the Socially Handicapped.——Children retarded because of social handicaps are often called truants and delinquents. They have been unable to accept and live up to the social standards set by society. They refuse to conform to the customs and modes
of their group. This includes youths who are incorrigible, who steal, and who get into sex troubles.

Special attention was not given to the socially handicapped until about the opening of the twentieth century. The first local institution to be established was the House of Refuge, founded in New York City, in 1825. Within the next three years a house of reformation was established in Boston, and a house of reformation was established in Philadelphia. During the next fifty years a number of other cities organized truant schools under city control.

Cleveland had a school for incorrigibles as early as 1876; Chicago had a class for delinquents in 1892; Providence and New York organized similar classes in 1893 and 1895, respectively. In 1898, Indianapolis, Philadelphia and Newark, N. J., organized classes for truants and delinquents. A recent survey showed that forty-one cities in the United States that reported day schools and classes of this type enrolled 5,462 pupils. In 1937, the Office of Education reported that forty-five cities enrolled 12,653 truants and disciplinary cases.

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7 Heck, op. cit., p. 5.
It is true that public education did not take much interest in such special schools and classes for the retarded child with social handicaps until compulsory attendance laws came into being. These laws forced all children of given ages into school.

The parental schools came into existence at the opening of the nineteenth century. They are institutions for lodging, boarding and educating those socially handicapped youths who, because of unfortunate, out-of-school conditions, cannot be successfully treated by local public education officials. They are usually located upon a farm some distance from the city. These are twenty-four-hours-a-day schools. The cottage system, with from fifteen to twenty occupants in each cottage, is preferred to the congregate system of housing. The first school of this kind was opened in 1902 in Chicago. Other cities followed rapidly. Admission into these schools is by court commitments and transfer, but the latter is preferred. The minimum essentials of the regular course of study are usually required of all pupils. Industrial work is given much attention. Basketry, carpentry, laundry, masonry, plumbing, printing, weaving, and woodwork are taught. Much of the housework is done by the pupils; cooking, baking, poultry and stock raising, and farming are taught. Discipline varies in the different parental schools. Some of the children in the schools learn through
a well-regulated daily program. The merit system and the self-government plan are used. The boys' court works well in the Spokane Parental School. The Chicago Parental School does not use corporal punishment, but deprivation of play, granting special privileges, longer stay at school, and silent moments are the usual means of discipline. The cost of these schools vary greatly. Hiatt in 1915 reported 5 that the average cost was $243.35 per pupil per year. The Bellefontaine Farm School reported for 1915-20 a pupil cost of $305.95 per year. The Chicago Parent School estimated its cost at $730.00 per pupil per year. These schools are of such recent origin that it is hard to measure results, for only a few individual cases have been followed up for a short period of time. Heck suggests that each school should have its own field worker who would keep in constant contact with all pupils of the school and would be responsible for all follow-up work. All of these schools aim at a readjustment so complete as to make their pupils worthy members of society.

"The special class and school for the retarded child with social handicaps at present have a stigma attached to them." 10 Any child placed in such a school

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3 Heck, op. cit., p. 50.
4 Ibid.
10 Ibid., p. 5.
is branded as a violator in the eyes of the general public. This will take time to remove, and it may be removed by placing in the school a pupil who needs help, before he commits the overt act. The problem of organizing such schools and classes involves:

1. The determining of the purpose of the class.
Often the special class is organized in order to relieve regular teachers of their "bad" boys who have demoralized instruction and who have been the center about which all class problems seemed to focus. Such a class should be organized in order to make it possible for the special teacher to discover the causes of the child's behavior and to make it possible to work with him to try to remove these causes.

The building of a foundation upon which special classes for mentally retarded children have been built has involved recognition of the need for greater freedom in self-expressing activities on the part of the child and of the group of children. If the child of limited mentality is to become an adult who lives in his community with some measure of self-reliance and self-respect, then he must be given every opportunity for continuous practice of those qualities during his formative years. The group activity, in which each child may carry some

responsibility of performance and have some part in judging the merits of the outcome, offers a medium for such practice that the traditional recitation method of teaching reading, writing and arithmetic could not approach.

2. The naming of the class. These classes should not be called disciplinary classes or the "bad" boys' class. It might be called the placement class, the finding class, or it might not even be necessary to give it a name. It might be known as Mr. Smith's class.

Ingram makes some excellent suggestions along this line:

Suppose again that we could rid ourselves of classification and of terminology, such as Z groups, special class, etc. which label and call attention to differences. In fact we are already breaking away from grades as such in our regular school organizations. In a new school building just opened in Rochester, for example, the centers of interest and teachers' names appear on the room door and on the pupils' report cards. The principal and teachers no longer refer to the first grade, the second grade and so on. Attention is called rather to the activities in which teachers and pupils are engaged. This practice has long been carried out in progressive private schools. 12

3. The manner of admitting students to the class. Admission to these special classes should be by placement and not by commitment. Placement is not to be considered a matter of punishment; it should mean an opportunity for

more complete diagnosis and more scientific treatment. Any pupil will be placed in this class only after the teacher and principal have reached the limit of what they can do for him in regular class work.

4. The limiting of the size of the class. This depends upon several factors: if the children are in about the same grade; if they require little or no home visits; if the teacher is an understanding person. Usually a very small pupil load is necessary if these children are to be helped. An average teacher load of fifteen to twenty should be the maximum.

5. The planning of the program of the class. This depends upon the group. Every class should be so organized that its pupils will have an opportunity to try out various courses. This can be managed if all classes are located in large schools where a variety of courses would be available as a part of the school's regular program of studies.

There are still some teachers of retarded children in special classes who think they are making adequate adjustment of the curriculum when they reduce academic work to its minimum essentials and allot a considerable portion of the day's program to manual work of one kind or another. They still carry on a program in which each subject fits into its own tight compartment. They do not realize and do
children realize none of the joy that comes from tying together into one major activity all the elements which help to develop the skills, habits and attitudes that they are trying to teach.

6. The choosing of teachers for the class. It is a false idea to have strong "hard-boiled" teachers of these special classes. Teachers must be interested in working with these socially maladjusted children. They must be alert, not sentimental, and yet they must have enough vision to see the possibilities of each pupil. These teachers must have a rich background of social, professional and technical study, and of course, they need to know the subject matter they are to teach, as well as something of case work, something of social psychology and the possibilities for educational adjustment. They are not only teachers, but social workers, psychologists, and social diagnosticians as well.

7. The determining of discipline of the class.
Discipline should be no different from that which would be found in the best of our elementary or secondary schools. A child's mind must be kept in school by interest. There are stronger forces within the child himself than without him, to impel him to right behavior. The problem of child control is chiefly one of helping him to discover values he has not seen before. Rewards are better than punishments, as the latter may stop a child who is going in the
wrong direction, but they have no value in leading in the right direction.

8. The planning for guidance in the class. Every teacher in the school will have a share in the work of guidance. Each teacher should act as counselor for a given group. Each should have individual plans for keeping constantly in contact with his guidance group.

9. The planning of follow-up work of the class. This is the weakest point in the entire program of developing local schools and classes for retarded children with social handicaps. The school knows too little of what happens to pupils after they leave school. It is difficult to keep track, over a period of years, of all youths who have been in the schools.

The Montefiore School, a selected day school for retarded boys with social handicaps, was organized by the Chicago Board of Education in 1929. It is in a modern, fireproof building with ample shop and laboratory equipment, located in the center of the district it serves. At the present time it has 625 pupils and twenty-eight teachers. The day is six and one half hours long and the school is kept open twelve months in the year. The school has a nurse, a dentist, a psychologist, a psychiatrist, a personnel officer, a special speech teacher, a remedial reading teacher, a truant officer, a doctor,
and a carefully selected classroom teacher. The program is enriched and modified so that it meets the educational needs of problem boys. The pupils spend three-eights of their time on academic subjects, four-eights of their time in various kinds of activities, and one-eighth of their time in recreation. Mental, educational aptitude, and personality tests are given each student when he enters. Physical examinations are made; conferences are frequent and all possible data concerning the past life of each child are assembled. The school has electrical and metal shops equipped with all gadgets. This school has a print shop, a good science laboratory, an art studio, a weaving laboratory, and an interesting library, besides an adequate auditorium. All boys who attend Montefiore are given a hot noonday lunch at the expense of the board of education, as some of the boys were unable to provide their own lunches. The result has been a better school spirit.

The State School and the Socially Handicapped.--
There comes a time when the socially handicapped must be taken out of the social group for the protection of the latter. They can enter the state school.

Judge Hall, describing conditions during the middle of the nineteenth century says that children seven years of age and above were dealt with by the criminal law of
England just as were adult criminals. During this time there were between two and three thousand children in England who were annually sent to prison. England's first reformatory school act was passed in 1854. The reformatory was for youths from twelve to sixteen years of age who had committed a penal offence or for youths under fifteen who had been convicted before or who were too incorrigible for the industrial schools.

In the United States the first state institution to care for the socially handicapped was organized in Massachusetts in 1846. It was the Lyman School for Boys, located at Westborough, Massachusetts.

The big problem that the state faces is a problem of deciding how far the preventive program shall operate, when the state shall assume responsibility of the youth, and which agency - educational or welfare - shall control these children when the state takes them over. These are the problems that the state must solve in working out a complete program for helping the socially handicapped youths of the state to make a satisfactory social adjustment.

During the past century there have been many changes in the name given institutions for juvenile delinquents. First there was the House of Refuge; later it was called the House of Reformation; then in rapid succession came these names: Reform School, Juvenile Reformatory.
Industrial School and State Industrial Home. Today the name State Training School is being used. "A change of name never changes the character of an institution."

Any change in name of state schools, to be worth while, must be accompanied by changes in aim, personnel, methods, and spirit.

State schools for retarded children with social handicap have used three general policies regarding discipline. The oldest policy is the penal which regards youth as bad and punishes him accordingly. Another policy is to establish a system of rewards. The psychology of this policy might cause a boy to respond to life situations in an opposite manner. The third policy is to discard all formal rules and handle each child as an individual with the attitude of the ideal home as the aim. The individual is the center of interest.

The housing situation is sometimes solved by the cottage plan or by the use of dormitories. The teachers and the personnel are required to have as good training as that required of the public school teachers by the state department of education. The programs provided for the pupils include standardized examinations, recreation in cottages and dormitories, library facilities in the cottages, and sufficiently varied academic instruction.

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13 Heck, op. cit., p. 68.
vocational training, and moral and religious care.

As is usual in any of these special schools, the cost presents a real problem. The per capita cost of 128 state schools was $425.00 for 1926-27. The schools were located in forty-three of the forty-eight states and in the District of Columbia. The per capita expenditure for all purposes was $518.00 for 152 state schools within the United States in 1926-27. The salary of teachers in these schools ranges from $850.00 to $3,350.00.

The state schools for delinquent girls differ very little from similar schools for boys. The general ideals governing them, the control and administration, the educational facilities and disciplinary measure are similar. The schools for girls make some unique provisions in giving training in maternity service, in the care of babies, in social hygiene, and in recreation. Thus, the girls learn much about home management, home cooking, and other vital matters.

The Public School and the Socially Handicapped.-- In the public school every child belongs. It is the school's obligation to accept each child as he is and to do all it can to further his development in every desirable way. It is the school for all the children of all the people. Its work includes the socially handicapped child as well as the normal child.
Some of the more modern public schools throughout the country through the activity program of progressive education are attempting to give their socially maladjusted children life experiences in guidance and service that will make for emotional adjustment and environmental control. A unit of experience presupposes an integration that recognizes the child as a unitary being with a totality of life experience to which every activity of the day contributes. It is the business of the school to make real to the child the relationship among the various activities of the school and to make them function in a vital way in his everyday life. As pupils become older and achieve somewhere near the peak in tool subjects, more emphasis is placed upon projects that have immediate practical value, such as work in different phases of homemaking for girls and a varied program of shop work for boys. The socially handicapped children are encouraged to mix with other children in such activities as assembly programs, physical education clubs and other similar activities.

The Physically Handicapped

Some attention will now be given to methods used in the education of the child who has been retarded because of physical handicaps. In this classification there are five major groups: (1) the crippled; (2) the deaf and the hard of hearing; (3) the blind and the partially seeing;
(4) the speech defective; (5) delicate children or those of lowered vitality, suffering from anaemic, pretuberculous, or cardiac difficulties.

The crippled.--The crippled child, in the orthopedic sense, is a child that has a defect which causes a deformity or an interference with normal functioning of the bones, muscles, or joints. His condition may be congenital, or it may be due to disease or accident. It may be aggravated by disease, by neglect, or by ignorance. The table on page four of this study shows that there are 100,000 children in the United States who are handicapped because of crippled conditions. Approximately 15,000 of these children so classified are now receiving special educational care, according to further estimates made in the report, while there are several thousands for whom no educational opportunities are provided. 14

There have been four stages in the treatment of crippled children: extermination, ridicule, physical care, and education. Primitive peoples in their fight for survival were unable to carry with them the crippled and the aged, so they allowed them to die. Even as late as the eighteenth century the cripples were objects of ridicule,

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14White House Conference, Special Education: The Handicapped and the Gifted, 1932, p. 32.
and the greater the deformity, the greater the mirth and the laughter.

It was in the nineteenth century that the physical care and education of cripples began to be considered. The first public school class for crippled children was organized in London in 1899. The movement spread rapidly. By 1928 similar classes had been organized in at least eighty-eight cities of the United States with populations of 10,000 or more. By 1936 the Office of Education reported 233 cities of over 10,000 population that were educating a total of 24,385 crippled children. However, in spite of this great increase in these classes, there is still a great need. No classes were reported in twenty-two states.\footnote{Neck, \textit{op. cit.}, p. 115.}

There are a number of methods being used today for the education of children who are retarded because they are cripples. Home instruction is a necessary part of any complete program, but it should not be the only means used. Hospital instruction is used for children who have to remain in hospitals for long periods of time. Teachers are provided by the public schools, and the hospital furnishes the schoolroom and the necessary equipment. Local schools are also organized for crippled children in many public school systems. In 1930, the Spaulding School in Chicago was the largest with an enrollment of 1,000. Many cities
have special classes for their crippled children. Then there are state schools for the crippled and deformed children which provide both physical care and education. The cost of maintaining a school or a class for cripples is on the average nearly four times the cost of maintaining a regular elementary school program.

Heck says that eighty per cent of the crippled children in the United States become cripples under six or seven years of age, and fifty per cent of these cripples could be cured if discovered at once and treated promptly. In view of this fact, the education program for crippled children must emphasize both preventive and remedial measures. Participation in any program which has as its purpose to mitigate crippled conditions among children will contribute to the prevention of such deformities. Cooperation in public health movements, safety education, and the teaching of hygiene and sanitation in a way which will develop in every child general health habits should be far-reaching in their effect. All these are things that the teacher can do to aid in the prevention of crippled conditions among children.

Safety education is an important factor in dealing with crippled children. The most important single factor in this movement is education in accident prevention.

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16 Ibid., p. 153.
Safety education is taught in a large number of schools either incidentally or as a regular school subject in elementary schools and in junior and senior high schools.

Should the state or district not require the teaching of safety education and not furnish outlines, instruction in safety education can still be included in the program. Such instruction need not be given as a separate subject, but may be successfully given in connection with the work in civics, hygiene, and sanitation, or playground activities. There is much available material that may be used as a guide for the teacher in presenting such problems as fire prevention, safety on the highways, in the home, and on the school campus. The teacher may carry on the work through classroom instruction and pupil organization, taking into account life situations as they present themselves in the community.

All crippled children may be effectively enumerated through official agencies operating under the laws of the state. Vital statistics provide that every congenital deformity should be reported. Special surveys conducted by the school system or unofficial agencies provide additional aids in discovering the crippled child. If there is a crippled child in school the teacher will see that everything possible is done to improve his condition. He should be brought to the attention of the school physician. A child who needs medical attention
should be reported to the state department of health, state
department of education, or to the division of special edu-
cation in the state department of education.

There are certain special provisions that are de-
sirable in the educational program for crippled children.
Transportation, special attendance arrangements, classroom
equipment, supervised luncheons, rest, and recreation are
usually included in the provision made for crippled chil-
dren attending special schools and classes. In rural
schools and in school systems where no special schools or
classes have been established, the responsibility for a
large part of the physical care of the individual child
rests with the school nurse, the principal, or the class-
room teacher.

Transportation of crippled children to and from
classes is provided in many city school systems. Usually
busses call for the children in the morning and return them
at the end of the school day.

Seriously crippled children may find it difficult to
attend school, especially during very bad weather. Unless
otherwise recommended by a physician, under ordinary con-
ditions the child should be encouraged to attend school
regularly. Such encouragement will help to develop a
feeling of independence and self-reliance desirable in
building up attitudes and habits which aid in adjustment
to the social situations which for the crippled child are
sometimes very difficult. If it is necessary for the child to remain at home because of his physical condition, the teacher may adjust the school work and provide individual help if it is desirable.

Special equipment for physical rehabilitation in schools and classes for crippled children is generally provided in large school systems. Where classes have not been established, or physical rehabilitation service is not provided within the public school system, arrangement for such treatment often may be made with a local hospital, as has been suggested in previous paragraphs. A certain amount of special classroom equipment may be necessary for crippled children. Movable desks with adjustable seats afford more comfort. Desks adjustable to height, with attachments for the support of books, are necessary in some cases. Footstools may have to be used in some instances.

In large districts where distances are great and transportation routes so long as to necessitate leaving home early and returning late, the crippled will find the days long and tiresome. These children should be provided with comfortable cots in order to enable them to rest some during the day. The noon recess is a very appropriate time for this rest period. However, the length of the rest period should be determined by the needs of the child.

Food and diet are particularly important in the physical care of crippled children. The hot school lunch is not a
substitute for the lunch brought from home but adds nourishment and aids in digestion of the cold lunch. The school lunch not only affords an opportunity to correlate nutrition and health with other subjects but also promotes sociability and closer cooperation between the teacher and his pupils.

Recreation is a means of giving the crippled child a certain amount of independence. Recreation, through participation in social activities, should be encouraged as means of developing health, freedom, and confidence. Interest in active membership in clubs and organizations or group activities often help the cripple to forget his difficulty. Activities in which crippled children may participate are Girl and Boy Scout organizations, children's orchestras, choruses, literature and drama study groups, and other clubs.

The regular academic course of study which is required for normal children is generally followed. Crippled children of normal mentality who are physically able to attend school are usually able to advance along with pupils of the regular grade. Certain types of industrial work aid in physical rehabilitation. For example, paralyzed limbs are aided in regaining their use through weaving, sewing, toy making, and similar activities. Such work should have a place in the day's program, particularly in the elementary school. This
training should, however, be adapted to the physical need of the individual pupil.

The aim of the special education program for crippled children is to enable the individual to take his place in the social and economic world, and to train him to apply his ability and knowledge to the highest degree of efficiency of which he is capable. One of the most serious handicaps of the cripple comes from the limitation of normal social and cooperative relations resulting from his physical condition. This inability to become a part of the social group is often due to a feeling of isolation which comes from the consciousness of a handicap. Hence, in so far as possible the child should be placed in an environment of group fellowship and of active participation in group experiences. He should not be permitted by means of segregation or by shielding, which delay adjustment into the normal life of the community, to develop a "cripple psychology" and a feeling of being different from other children. He should be given an opportunity and should be encouraged to develop initiative and independence. In order to teach him to cooperate as well as to compete, it is essential to develop within him the self-confidence which will later enable him to mingle and cooperate with his normal associates in a normal community.
The blind.—From an educational point of view blind children are all those children who are totally blind and those who have some light perception but not enough to enable them to secure their education by means of vision. They must be educated through the tactile sense, or sense of touch. Those children are considered blind from an educational point of view whose vision is 20/200 or less as measured by the Snellen chart after proper correction is made or treatment is given. Such children should be educated in a school or class for the blind in which the tactile method is used. Children with vision greater than 20/200, yet with serious visual defects which make it necessary for them to have special educational provisions, are designated as partially seeing. Because of their seriously defective vision they cannot profitably be educated in the regular grades, and arrangements need to be made whereby they will be enabled to do the regular grade work and yet conserve their sight.

The first organized attempt to educate blind children was a school established by Valentine Hauy in Paris, in 1785. The first school in America was founded in 1832, and the first state school for the blind was founded in 1837. Braille, a touch system of reading, was devised in 1829 by Louis Braille, a French blind boy of twenty years of age.

Several methods are used in the education of the blind.
They are educated in private schools, in state schools, in public school classes or in the home. The state school has been established in most of the states. Arguments in favor of such a school are that it provides a better classification, a better training program, better equipment, better library facilities, better opportunity to form life-long friendships, and a more efficient placement and follow-up service. The arguments advanced for the local class emphasize the desirability of remaining at home, as values are derived from living and studying among children with normal sight, lower cost, and prevention of institutionalization. The following are problems in educating blind children: the discovery of the blind, the locating of a center, the proper equipment of classrooms, the development of proper relations between the special and regular teacher, the securing of an adequate number of library books and reading materials (Braille books are very expensive), the development of home-visited service, the provision of high school training, and the selection of a capable teaching staff. Transportation may also be a problem. The teachers should have the same training as regular classroom teachers, and in addition should have special courses dealing with physiology and psychology of the blind. Teachers also need such personal traits as resourcefulness,
initiative, poise, patience, sympathy, firmness and excellent health. Communities fail to realize how important it is that youths with defective vision should be cared for and educated. The problem of preventing such defects has been recognized in very few communities. With the great number of children in the United States who are blind or who have eye defects that are corrective, the problem is by no means an insignificant one.

Authorities are agreed that partially seeing children should not be educated in a school for the blind. Partially seeing children are sighted, not blind. The systems of education for the two groups of children are very different. For the blind child the chief avenue of perception is tactile, for the sighted child it is visual. The tactile sense of the blind is aided by his other senses, but his education will be acquired largely through his sense of touch. For the partially seeing child who depends upon his vision, the problem is one of adapting the methods of teaching to conserve the sight. No child should be taught by the Braille method who is likely to be able to read by sight in adult life. To attempt to teach Braille reading to the child who is partially sighted usually results in serious eye strain, because he naturally depends upon his vision rather than upon touch.
The public school must make provision for the education of the child with visual defects. Ordinary school conditions, however, may have a disastrous effect. The grade teacher whose class is made up predominantly of normally sighted children does not ordinarily have time or equipment to give the child with defective vision the care he would receive in a sight-saving class. Hence his difficulties frequently become aggravated. For the partially seeing child the threefold purpose of special education is to provide the means of an education with the least possible eye strain, to teach him to conserve the vision he has, and to provide educational and vocational guidance. There is much that the teacher can do for these children in the way of conservation of vision by means of special equipment, lighting, seating, proper books, and adaptation of method.

Clear-type books are the most important items of equipment for the partially seeing child. These books are printed in 24-point type on buff-colored, unglazed paper. Readers and other textbooks in general use in public schools have been printed in this type. Because of the expense of printing them, they are usually without pictures; nevertheless, they are very attractive. A few states have established in the state department of education a circulating library, from which large
type books are distributed to schools throughout the state where there are sight defective children. The books may be borrowed in the same manner in which other books are secured from a public library. This plan has proved to be a very satisfactory one. When books are not available except in ordinary print, the teacher may arrange to have other children read informational material as well as stories to the pupils who must conserve their vision.

Children with visual defects should use a paper which is of a rough finish and of a deep cream color. It is necessary that these children write large; therefore most of the work should be done with pencils with heavy lead. The lead of the pencil should be black and soft and at the same time produce a clear, even line. The average pen does not answer the need of the partially sighted pupil because the lines are too fine. Special pens and black ink should be available. Chalk should be fairly soft and large in diameter.

Desks which bring material high enough and at a proper angle to eliminate the stooping position should be provided. The desk top should be adjustable in order that the work may always be placed before the child at a proper angle. Seats should meet all the necessary requirements for good posture.

A standard typewriter is a part of the necessary
equipment for children who demand sight-saving attention. Even schools in which no special classes have been established often are provided with typewriters. The typewriter should be one with double-case bulletin type so as to enable the child to write without using his eyes and to read his own notes without straining his eyes. The object is not to teach typewriting, but to aid in relieving eye strain.

Adequate lighting provision should be given careful consideration for the partially seeing child. Adequate lighting means sufficient light on all working surfaces without glare. In determining the proper lighting, surrounding conditions must be considered. Dark walls and ceiling absorb light and greatly reduce illumination. Ample window area for natural lighting is essential. If it equals one fourth of the floor area and is properly placed, other conditions being satisfactory, it is considered adequate. Highlights and shadows should be guarded against. Glare is a serious defect and a frequent cause of eye strain and general fatigue. Glare may be avoided by the proper diffusion of light and by elimination of glossy surfaces, as on walls, ceiling, blackboards, furniture, books, and paper. Seats and desks should be arranged so that the light comes from above and over the left shoulder. Pupils should never be made to face the source of light during school activities. Light buff,
light gray, dark cream walls with white or light cream ceilings are colors satisfactory in obtaining good lighting conditions.

There are no courses of study specially prepared for children with visual defects. Unless they are mentally subnormal, there is no reason why they should not undertake the same general type and grade of work done by normally seeing children. The chief distinction between the work of the regular grades and that carried on in sight-saving classes is a matter of equipment, with some change in method and adaptation of subject matter. Adaptation takes the form of a substitution or modification rather than an omission. Most types of sewing, for example, result in eye strain. Girls with serious eye defects should therefore not be expected to sew; a form of needlework which can be taught by touch, such as knitting and some types of crocheting, may be substituted. The preparation and serving of meals offer even greater opportunities for training in home economics, provided there are facilities available for cooking. So, also, detailed drawing is a source of fatigue to the eyes, but modeling, paper cutting, or mass painting can take its place for the child who needs to conserve his sight.

The alert teacher is always watching for any physical disability which the pupils in her classroom may manifest, including defective vision and diseases of the eye. Some
of the symptoms associated with eye difficulty are frequent mistakes with figures or words; inability to study without discomfort; complaint of headaches and watering eyes; peculiar head positions; ability to see objects at a distance more clearly than those at close range; inability to see objects at a distance; inability to pass a satisfactory test with the eye chart. At a very small cost the teacher may secure charts for making preliminary tests from the National Society for the Prevention of Blindness. Testing the vision of all children is a necessary part of the routine health inspection. The teacher should refer any case of unusual seriousness to an oculist. The teacher should notify parents immediately of any visual defects discovered in the child. The teacher who is eager to meet the individual needs of her pupils will to the best of her ability adapt her methods to suit those needs.

The deaf.—The problem of educating the deaf is not surpassed in difficulty by that of any other type of retarded child. These children have been deaf from birth or before speech developed and have no language. Principles governing their education demand that the children be given first consideration in the development of the program, that equality of opportunity be not forgotten; that these children be educated to associate with
hearing individuals; that prevention be the core of the entire educational program.

The first school for the deaf was organized in Paris, France, in 1755. A similar school was organized in America in 1816, but it was not until 1869 that the first public school was founded in Boston. This movement continued until, in 1929, there were 107 cities reporting such schools or classes. The public schools have used the oral method almost universally. The first class for hard of hearing children was organized in Berlin in 1902. The first class in America was organized in 1916. In 1931 there were eighty-three cities in the United States that had organized such classes.

Any program of general health should include provisions looking toward the conservation of hearing and the prevention of deafness. One of the most important factors in the consideration of health precautions is the attempt to eliminate the possibility of any disease of the organs of hearing which may result in hearing loss. Children should be taught the dangers of colds and the proper methods of caring for themselves when infected with colds. They should likewise have impressed upon them the importance of proper diet and rest as a fortification against disease. We no longer assume that
every child must necessarily have the so-called "Children's diseases." Rather, it is essential to safeguard children from exposure to communicable diseases which may be a contributing factor to deafness, such as scarlet fever, measles, meningitis, diphtheria, whooping cough, and even common colds. Moreover, too much cannot be said about protecting the ears during illness, for it is very easy through sheer carelessness to permit serious consequences to the ears to follow the disease itself.

The most important time to apply preventive measures is during the early period of the child's life; therefore, symptoms of deafness, if detected by the teacher or anyone else working with the child, should be called to the attention of the parents in order that prompt treatment may be given by a physician or an otologist.

The White House Conference on Child Health and Protection submits the following definition of the deaf:

The deaf are those who were born either totally deaf or sufficiently deaf to prevent the establishment of speech and natural language; those who became deaf in childhood before language and speech were established; or those who became deaf in childhood so soon after the natural establishment of speech and language that the ability to speak and understand speech and language has been practically lost to them.

The hard of hearing are those who established speech

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and ability to understand speech language, and subsequently developed impairment of hearing. These children are sound conscious and have a normal, or almost normal, attitude toward the world of sound in which they live. These children are best located through some type of hearing test. The watch tick, the whisper test, and the audiometer are some of these tests. With the exception of the audiometer, hearing tests have not been highly standardized. An audiometer is a mechanical device for measuring hearing loss.

The hearing of seriously deaf children in most instances cannot be restored or improved by medical treatment. For these children the benefit which they are to receive must be by means of education. On the other hand the child who is hard of hearing may often be benefited by medical treatment and is therefore not only an educational problem but a medical one as well.

Expert attention of a specialist should be secured in making the final diagnosis. The medical examiner will probably be able to report the cause and the degree of the deafness and to determine whether or not the handicap is progressive. All of this will have a definite bearing on the educational training and medical care to be provided.

It is essential to provide special schools and

Ibid., p. 232.
classes with trained teachers to meet the need of the deaf and of the hard of hearing, if equal educational opportunities are to be provided for all children, and if those with imperfect hearing are to enjoy privileges according to their ability, aptitudes, and potentialities.

The deaf child presents an educational problem involving the teaching of speech, language, and lip reading. Lip reading (or speech reading, as it is sometimes called) is the ability to understand spoken words by watching the movements of the lips and other facial muscles. This is one of the most important elements involved in the education of deaf persons, since they are powerless to hear the spoken word with their ears.

Educating the deaf is a very difficult problem; therefore we must begin early. Special day school classes have been organized in many cities providing the type of education deaf children need. In addition, a public residential school for the deaf exists in each of forty-four states, while the other four states pay tuition for such children in the schools of neighboring states. These schools should not be looked upon as institutions. The old idea of an institution, as such, is passing. The public and private residential schools, like any other schools, have as their aim the education of deaf children. It is in one of these schools or in a public day class for the deaf in which the deaf child must receive
his educational training if he gets it at all.

The hard of hearing child has a distinct advantage over the deaf child in having some experience with speech and language. If this hearing is only slightly impaired he may pass undetected unless careful examination of all children in the class is made. His special needs are: first, diagnosis as to the cause of the condition; second, attention from a competent otologist looking toward a possible remedy of the condition or at least prevention of its growing worse; third, (if his hearing cannot be improved or the hearing loss is likely to increase) instruction in lip reading and sometimes in speech correction also. If proper provisions are made for him, such a child can work in a regular grade and be given lip reading by an itinerant teacher who has had training for this type of instruction.

Children whose impairment of hearing is more severe should be given, first, otological attention, second, very careful training in speech, lip reading, and language; third, stimulation of whatever residual hearing they have; and, fourth, vocational guidance which takes into consideration every asset of character they possess and every advantage offered by their partial hearing.

Varying degrees of hearing impairment require teaching techniques which differ according to the amount of
hearing loss and the age of the child.

If the hard of hearing child is to continue to use and understand speech, he should be in an environment which affords opportunities for speaking and using to the fullest capacity all the hearing which he has. Such an environment can be provided in a regular day school for all children rather than in a residential school for the deaf.

However, such a child needs to overcome his handicap, so he should be taught lip reading as an aid in understanding his companions. When special classes for the hard of hearing are established in day schools, or when teachers who give lip reading are provided, the problem is taken care of for the regular teacher.

In the regular classroom the hard of hearing child should be allowed to sit near the front of the room. In order to make it possible for him to follow and read speech while instruction is being given, the light should fall on the face of the teacher in such a way that the child has a full view of it. The teacher should enunciate clearly and distinctly.

Without giving undue attention to the child's handicap, the teacher may well insist upon clear enunciation on the part of all children in the room, thus benefiting not only the handicapped child but the other members of the class as well whose speech is improved through such practice.
The problems of educating children who are retarded on account of deafness are many. Some significant ones are how the children shall be admitted, how they shall be discovered, where the classes shall be located, what adjustments need to be made in the classrooms to fit them for the use of the deaf, how the pupils shall be transported to the schools, what the size of each class should be, what equipment is necessary, what the nature of the curriculum should be, what time is necessary for the completion of the elementary school, what the program will cost, and what training is necessary for the teacher. Perhaps the hardest task faced by the teacher is that of teaching speech and speech reading. Shop work and domestic science are emphasized.

The education program for hard of hearing children differs from that of normal children chiefly in that speech reading and speech education are added to the curriculum. The hard of hearing children may have an itinerant teacher come to their building, or they may go to the special teacher for speech reading or speech education. Failure to discover the hard of hearing children in time may result in their deafness. It may mean school failure and it may result in the development of permanent antisocial attitudes.

Early discovery of hard of hearing children, careful medical diagnosis by experts, and the teaching of
speech reading and speech education are the three important procedures to be put into operation in any program for the care and education of the hard of hearing.

**Speech defective.**—Despite its seriousness, people generally have been more amused than sympathetic on observing any speech defect in others. This attitude may account for the fact that public schools ignored the problem until 1908 when New York City started speech-correction classes. A recent survey showed ninety-six cities that had instituted such classes. Children who are retarded because of this handicap usually require the assistance of a trained person to overcome it. These speech defects include stammering and stuttering, lisping, lalling, nasality, thick speech, baby talk, hoarseness, foreign accent and other defects due to organic difficulties.

Most speech defects have a psychological basis. In order to help develop the right attitude toward correction, the pupils in the Chicago classes learn ten commandments of speech. They are:

1. I have no fear. I know that I can speak well.
2. I will think before I speak.
3. I will always speak quietly and calmly with all muscles relaxed.

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20. Ibid., p. 300.
4. I will always speak slowly and carefully.
5. I will stand or sit quietly and erect when speaking.
6. I will inhale quickly, deeply, without straining, and with the mouth open.
7. I will be very careful of the first two words in every sentence.
8. I will always lengthen and strengthen the principal vowels.
9. I will be especially careful to lengthen the short vowels.
10. I will be honest with myself and not try to avoid words that are difficult.

Customary methods of organizing to correct speech defects are the use of the itinerant teacher and special centers. Early discovery and treatment are important. Some cities make all their instruction individual, others use only group instruction, while many cities combine the two methods.

The teacher's biggest task is to give the children confidence in their ability to acquire correct speech. Once this is achieved and the children begin to strive for correction, the task is half done. Since it is generally agreed that causes of defective speech are much more psychological than pathological, parents and elementary teachers can do much to reduce defects in speech. For this reason parents and teachers need to be
better educated with respect to specific causes, preventive measures, symptoms, and early remedial treatment, if the severer cases are to be prevented.

Speech, like any other form of growth, represents a series of stages of development. A speech retardation may be due to slowness in a child's perceptual development, or to improper functioning of his sensory-receptive areas for speech whether visual or auditory, or to a retardation of the transmission of speech impulses to the motor areas of the brain. It may be due to a lack of an understanding of the various types of association necessary to the comprehension of meanings and the reception, retention, and reproduction of speech. These causes and processes are physiological. There are certain anatomical causes which include oral deformities, such as harelip, cleft palate, and orthodontic defects. Nasal obstruction also causes speech disorders.

There are many problems to be met in the educational servicing of speech defects. In some cities special teachers visit each school and examine the cases which are referred to them by the classroom teacher. A point of weakness is involved here, for a teacher who has not had speech training sometimes fails to recognize early symptoms. The correctionist visits the school every other week, diagnosing new cases, setting up corrective programs,
giving demonstration lessons, consulting with her assistants on difficult cases, and conferring with parents and others as the need may indicate. The assistant teacher follows the program set up by the specialist and gives additional practice to students in speech clinics. Probably the two greatest psychological problems to be met in dealing with the speech defective cases are to determine how the defect has affected the sufferer's self-appraisal, and how to adjust the warped relationship between the speech defective and the world. It is absolutely necessary to avoid anything approaching a defeatist attitude on the part of the teacher. There is but a very small per cent of speech defective cases which do not improve under expert guidance, and those are usually associated with some irremediable physical defect, such as an inoperable cleft palate, or with a mental defect.

The work of the speech correctionist and the medical man should go hand in hand. Many of the speech defective problems result from abnormal physical conditions.

Every case is unique and needs expert counseling in vocational guidance in order that time and expense may be saved for both the individual and society. One of the greatest assets which expert counseling can bring to any student is to lessen the chance of failure.
To locate and create positions which give opportunity for these handicapped people to use the accomplishments in which they excel would be a service of inestimable value.

Help for the speech defective has thus far been sponsored through the school or individually controlled setups such as hospital clinics. The time is at hand when such corrective work should be included as part of the general obligations of the sociological agencies through which our work among the handicapped is done. Any child who is handicapped in this way presents a problem to society. Some states recognize this responsibility in so far as it pertains to the deaf or the blind child, and they have made it compulsory for such children to be placed in the hands of those who can prepare them to help themselves. When state agencies include the speech handicapped in their reclamation programs, then can definite progress be expected.

The delicate child—"There are 8,607,000 delicate children in the United States."21 By delicate children is meant children of lowered vitality who because of weakening conditions are not able to keep pace, physically, with normal children in their daily school life. These are chiefly children with the childhood form of tuberculosis, with anemia, malnutrition, and those with serious
heart lesions.

The first open air school for these children was opened in a suburb of Berlin, Germany, in 1904. The movement grew until it soon became an integral part of the German elementary school system. In 1907 the first open air school opened in London, in 1908 a similar school opened in Providence, Rhode Island, and in 1910 a similar school opened in Canada. New York city educators have said that there ought to be one open-window room in each grade in every large school. If at any time there are only a few who are delicate, these rooms can be filled with normal children.

Good air, good simple food, rest, and proper exercise in the right amounts are requisites for good health and growth. An adequate school health program should seek to provide these requisites for every school child. This accomplishment will require the removal of physical defects, the development of proper health habits, and necessary regular exercise with sufficient rest to prevent over-fatigue. Children, because of the lack of one or more of these essentials, may develop certain conditions and diseases which classify them as children of lowered vitality.

Failure to provide a child with any one or more of the essentials of health and growth may result in

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22 Ibid., p. 335.
malnutrition. This lack of provision may be caused by ignorance, poverty, disease, or physical defects. Over-fatigue due to child labor, lack of fresh air and sunlight, and insufficient rest and sleep accompanied by faulty health habits and poor personal hygiene are contributing factors.

Malnutrition is not a disease which causes sufficient pain to demand immediate attention and treatment, and this fact accounts very much for its neglect. However, the alert teacher will note some of these symptoms: a lack of resistance to children's diseases, unduly frequent colds, lack of mental vigor with little power of concentration and attention, restlessness, irritability, forgetfulness, and a pale delicate appearance. Other symptoms are dark circles under the eyes, poor posture, rounded shoulders, projecting shoulder blades, undeveloped muscles, and loose and flabby flesh.

The classroom teacher should keep a record of each child's growth, of his height and weight, throughout the years, if the school does not provide for such service through a nurse or school doctor.

Many cases of heart trouble are unconsciously neglected, or potential cases are overlooked. Because of this, heart cases should be located as early as possible through the general physical examination made by the school physician. While the selection of cardiac
cases is primarily a medical problem, the teacher's judgment may be worth something in locating the cases. He should be on the alert for symptoms such as shortness of breath while sitting quietly, irregularity of pulse, undue fatigue, fainting and dizziness, cold extremities, and blue lips.

After probable cases have been reported to a physician, the results of the diagnosis should be secured by the teacher, who can do much to safeguard the health of the child while he is in school by following the directions outlined by the physician.

Cities maintaining special classes for delicate children, with an educational program adjusted to the physical condition of the child who is usually attending school while he is still receiving medical care, will assign each child to the class best suited to his needs, as recommended by the physicians. While special classrooms or special schools for the delicate are not essential, many large cities make such provision. These rooms or schools are equipped for hot lunches, much air and sunshine, and rest periods. Children with weak hearts should always be housed in rooms on the first floor unless an elevator is available. Provision should be made for frequent medical examinations.

Instruction for delicate children who are able to attend school is the same as for average healthy ones.
Their work should be suited to their mental capacity and should never be a source of anxiety or depression. In addition to the regular academic or industrial courses taught, a definite program of health instruction should be carried on to insure that the children establish good health habits.

The physical care of the delicate child, including prevention and cure of tuberculosis and malnutrition, should not be discontinued at the close of the school year. Many summer health camps whose purpose is to improve the health of delicate children are provided under the auspices of local tuberculosis associations, service clubs, or public school authorities. These camps usually provide medical and nursing supervision, with instruction in healthful living and help in establishment of health habits. The camp routine regulates the activity of children, directs their rest, sleep, play, and gives special attention to the quality and quantity of food.

The child with potential heart disease or the tubercular child can be trained to adjust his life in accordance with his difficulty. The time spent at the camp should be long enough to enable the child to adjust his methods of living to his handicap and to build up health habits which will contribute to his improvement after his return home.
The mentally handicapped

The first school for educating children of low mental ability was established in Paris, France, in 1837. In America, the public school class did not start until 1896. By 1930, 354 cities of the 726 with a population of 10,000 or greater, had established a class or classes for children of low I.Q.

There are many problems that must be faced in the development of a program of caring for and educating the children who are retarded mentally. The selection of such children should be based upon all available data and interpreted by trained persons. The class size varies from fifteen to thirty, depending upon the money available and the extent of classification. The principal of the school is the key person in determining the success of the special class, for he is responsible for its proper housing, for the attitude taken by teachers, parents, and pupils toward it, and for adequately equipping it. In spite of a widespread belief that all academic work should be banned, these children can benefit from such instruction when it is properly adapted to their abilities, when methods emphasize the use of concrete materials and when a plan of instruction places great emphasis upon repetition.

\[\textit{Ibid.}, \textit{p. 370}.\]
Perhaps no problem in the organization of these special classes is more important than that of developing the right kind of attitude toward the class upon the part of teachers, parents, regular grade pupils and special class pupils. The past has too frequently seen those responsible for these classes foiled at this point; as a result, the work has failed. It is suggested that every teacher shall have a master's degree and two years of teaching in regular classes, besides one year given to specialized training related to an understanding of the problems of dealing with children of low I. Q.

Educators have not reached any adequate conclusions as to which is the better, special schools or special classes. From the point of view of classification and adequate provision of the manual arts, the school seems to have some advantage. Transportation and distance to be traveled, on the other hand, favor the class. Before a definite solution in the matter of methods can be worked out, more evidence is needed as to the relative values of these two methods. The entire program of special education for mentally retarded children needs to be evaluated. Better placement and follow-up procedures would help immeasurably in solving this problem.

*The Manteheim System.*—This system, founded in 1899, provides for three parallel courses:
1. Ordinary grades for pupils making normal progress.

2. Further classes for innately dull pupils. These classes have accommodation for about ten per cent of the school population. Their courses consist of the ordinary literary curriculum, but in abbreviated form.

3. Auxiliary schools for the mentally defective.

The Multiple-Track System.--An example of thorough differentiation of classes according to differences of native capacity is found in the multiple-track system as established at Oakland, California, in 1913, and other cities of the United States. It provides for five parallel courses:

1. Normal classes with forty to fifty pupils in each class.

2. Special classes:
   a. Accelerated class for children of superior intelligence.
   b. Opportunity class for children of normal intelligence but with educational retardation to help them to return to their normal grade.
   c. Limited class for the innately dull children.
   d. Atypical class for children having a mental retardation of three years or more, sixteen pupils per class.
Children whose school progress is erratic, puzzling, and retarded, whose behavior is perplexing, whose mental and emotional adjustment is poor, or whose physical condition requires special attention are to be found in every school. Whatever the type of difficulty, the past few years have seen a significant change in our attitudes toward, and handling of, these children. An increasing number of school systems give early attention to the difficulties with which such children struggle, and thus are striving to prevent the development of more serious problems and to effect a better adjustment for each handicapped child. While there is still much to be learned about the nature and effective treatment of such children, considerable progress has been made.

The activity program.—Progressive education has emphasized the activity program with its units of work, which is of more profit than the older method of organizing subject matter. The nearer a learning situation approximates a real life situation the more effective it will be. By studying life's demands on this group of retarded children, teachers can help them organize units of work that will be meaningful and helpful. In this way a unit of work will help to create a practical need for the use of the tool subjects, such as spoken and written English, reading in its various forms, legibility
in handwriting, and other such kindred tools that will be helpful to the children in life's situations.

Ingram gives some excellent criteria for effective units of work. To be effective a unit of work should:
(1) grow out of real-life situations, (2) be suited to the child's social, physical and mental level of development,
(3) further both individual and group growth, (4) provide for the development of desirable habits and attitudes of conduct as well as for the acquisition of appropriate knowledge and skills, (5) be so developed that interests, skills, habits, and attitudes fostered by it carry over into life situations outside of school, (6) provide for the practical use of the tool subjects, and (7) give opportunity for many kinds of experiences.

The experience curriculum was used with retarded pupils in the Hanna School, Philadelphia, Pennsylvania. There were four divisions in this curriculum: academic skills, physical education, social studies, and manual activities and related studies. Since, in this experiment, most of the school day was used in the manual activities, this topic will be discussed at some length.

Under this plan four types of shop were used to prepare the retarded child for complete living experiences: (1) the traditional general shop which included wood work, metal work, and simple electrical work; (2) the

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cooking room in which the selection, purchasing, preparation, and serving of food were emphasized; (3) the service shop in which the pupils studied the job of houseman or housemaid, personal grooming, the mending or repairing of clothing, the care of children, the structure and care of a house, including house furnishing and buying; (4) the diversified shop in which there were eighteen booths, separated by heavy wire screening and equipped for different activities.

In one booth there were two sashes of a window which was used for practice in glazing and sash cord installation. In another booth there was an automobile motor, certain parts of which the boys learned to take down, repair, and reassemble. In another, simple plumbing about the home was practiced, such as the installation of washers on spigots, the replacement of sections of pipes, and the repair of toilet hoppers. In still other booths, children were given practice in floor scraping and finishing, pipe fitting, hardware assembling, brick laying, rope tying, and automobile tire repairing.

From an analytical investigation of the literature dealing with the solutions of the problems of the mentally retarded child three definite plans that have been used in various parts of the United States have been discussed: the Mannheim System, the Multiple-Track System,
and the Activity Program with its units of work. Special
classes and special schools also have been used with
mentally retarded children.

In summarizing the major principles involved in
solving the many problems encountered in dealings with
retarded children, Martens has concisely listed them
as follows: 25

1. Begin where the child is - in his abilities and
in his interests. Get down to his level of academic
achievement but remember that he is usually far beyond
that in physical and social maturity. Plan his work
accordingly.

2. Use abundant praise and encouragement even for
small successes. Remember that 'Nothing succeeds like
success.'

3. Use much repetition and drill in teaching funda-
mental processes, but make such periods short and
dynamic. The retarded child learns primarily through
habit formation. He is most seriously lacking in ab-
stract reasoning capacity.

4. Use much concrete application - object lessons,
pictures, games, visual instruction, and manual ac-
tivities fitting into the child's own life and

25 Elise F. Martens, op. cit., p. 27.
stimulating his interest.

5. Do not limit yourself to the use of a single reading method. If one does not succeed, try another. Word, phrase, and sentence recognition, alphabet and phonics all have their place in teaching the retarded child. Visual aids, action, and story playing are of great value in helping the child to recognize language symbols.

6. Use an abundance of simple number work in problems understood and appreciated by the child. Stress accuracy rather than speed.

7. Give consistent training in the use of the large muscles. Emphasize good posture, physical coordination, and health habits. Make these an integral part of a carefully planned activity and play program.

8. Capitalize music, art, nature study, and dramatics as media of expression and at the same time as a means of enriching the child's experience and encouraging his creative ability. Rhythm, color, activity, and growth of living things have an appeal to the child which no book work can touch.

9. Teach citizenship, thrift, and conduct through classroom situations, through stories and hero worship, and through the repetition of activities that represent good citizenship in a miniature community. Provide abundant
opportunity for the child to exercise practical judgment in common life situations.

10. Let the manual work which is done stimulate creative activity. Let it be an outgrowth of the life needs and interests of the child. Tie it up with home-making, with farm activities, with the industry of the city, or with some other center of interest adopted for development in the class. Above all, avoid making it mere "busy work," designed to keep the child out of mischief and nothing more.

Much of the abstract material of the usual curriculum is beyond the possibility of comprehension of the children who are retarded mentally. Some of these children can master the abstract problems above the sixth grade level, but most of the usual abstract material has little practical value for these types of children.

More steps are needed in the process from easy to difficult material than are required by average and bright pupils. The teacher must point out logical relationships that average pupils see for themselves; for example, the average pupil applies his arithmetic to the making of change but the subnormal pupil must be taught how to make change with money itself.

Since many of the subnormal pupils come from homes which are below the average in cultural background, moral
standards, healthful conditions and economic wealth, the
teacher and other members of the school staff must de-
vote more time than is usually given to average pupils
to improving their environmental influences and their
physical well-being.

These factors indicate the importance of frequent
complete physical examinations, with adequate follow-
up and treatment, to the end that such common diffi-
culties as malnutrition, poor eye sight, poor teeth,
diseased tonsils and adenoids and other defects may
be corrected.

It is also necessary for the teacher and for the
social worker to make periodic home visits in order
that cooperation may be obtained in the home along what-
ever lines are needed to further the individual progress
of the pupil. These contacts are more essential in the
program for subnormal pupils than in that for average
pupils.

Another characteristic of subnormal children, a
short attention span, requires a definite adjustment in
adapting the educational program to the ability of the
pupils. Pupils who can give attention to a project for
only a relatively short interval should have their
program so organized that a succession of activities will
hold the interest up to a reasonably high point.
Obviously, the pupils whose interest span is short cannot be taught easily and successfully when intermingled with pupils whose interest span is four to six times longer. The grouping of the subnormal children together facilitates adapting the instruction to their ability to concentrate as well as to their capacity for learning.

Teachers of subnormal pupils must be aware of the psychological differences in learning of bright and dull pupils and must know how to adapt the educational program to fit the needs of the pupils.

The subnormal pupils' lack of good judgment is a characteristic that gives a cue to the teacher who is planning a special program. The development of good judgment comes through a combination of reasoning and experience. Pupils can be provided with situations that call for reasoning; they can be taught how to think through a situation and to foresee the results of a given procedure; they can be given the experience of satisfactory and unsatisfactory results. For example, a boy planned to build a fourteen feet boat in the school shop. He wanted to save the two-by-eight piece of lumber that he had sawed for a pattern for the inside of the keel so he had to figure out a way to remove it from the hull without cutting it in two pieces. He also had to plan

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how the boat would be taken out of the shop through the largest available door. These provided practical problems of reasoning. More than the usual amount of such experiences are desirable for subnormal children to build up under controlled condition the basis of a later satisfactory adjustment to many of life's problems.

The teacher must remember that because an individual is subnormal in abstract ability it is not always true that his ability in other lines will be equally low. He may have a higher degree of ability in doing mechanical work and in achieving in art and music.

After pupils have been properly selected for a special class they should be put through a series of tests to determine what potential abilities they may have. Thus, for each individual a program can be formulated to develop his capacities to the fullest.

Younger pupils need to develop competence in the usual tool subjects, such as reading, writing, spelling, speaking, arithmetic, local geography, and social concepts. Much of the program should be concerned with handwork. As the children become older and reach the peak of achievement in tool subjects, more emphasis is given to activities that have immediate practical value, such as shop work for boys and homemaking projects for girls.
The psychology of special education for the mentally handicapped is a success psychology rather than a failure psychology. All activities, to be most effective for instructional purposes, should arise out of the experiences of the children themselves, and should insure a certain amount of achievement.

Again, the unit of experience, which takes in account the whole child with a totality of life experience, is most valuable. It is the school's business to make real to these children the relationships among the different activities and to make them function in a vital way in their everyday lives.

In the education of the seriously retarded children, grades as such have no place. Age and physical and social maturity are the important determinants in the selection of content, which must then be adapted to the mental capacity of the child. Any unit of experience on primary or intermediate level can be so handled that the oldest and the youngest, the brightest and dullest, will have work to do in keeping with his ability and interest. For advanced adolescent students the occupational point of view gains in importance along with the ideals of homemaking and civic responsibility. Many units of work can be planned on such a basis. Even the teacher who has only one or two seriously retarded pupils in a
class of forty children, can, through the technique of
the unit of experience, make a place for every child
in the room in keeping with his capacity. With such
an arrangement the intellectually deficient pupil has
far greater chance for individual participation and
development than he can have in a class of forty in
which the old-type recitation technique was used.

The aim of education for the retarded child
should be to teach the individual how to live better,
to teach him to use all of his capacities, and to teach
him to become a useful member of the social group. If
one analyzes the concept of social efficiency, two traits
stand out as of paramount importance: self-expression
and self-control. To be able to express one’s self in
work and play, in individual and in group action in
terms of personal abilities and interests, is a primary
requisite for happiness and efficiency. But to be able
to control one’s self in keeping with socially accepted
standards of behavior is even more important. Self-
expression without self-control leads to chaos and ruin.

The following table shows, by way of summary, the
specific needs of the three large groups of retarded
children that have been discussed in this study.
### Table 1
**Specific Needs of Various Groups of Handicapped Children**

<table>
<thead>
<tr>
<th>The Groups</th>
<th>The Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physically Handicapped</td>
<td>Orthopedic Care</td>
</tr>
<tr>
<td>1. The Crippled</td>
<td>Physio Therapy</td>
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<td></td>
<td>Occupational Therapy</td>
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<tr>
<td></td>
<td>Transportation</td>
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<tr>
<td></td>
<td>Special Furniture and Other Equipment</td>
</tr>
<tr>
<td>2. The Blind and the Partially Seeing</td>
<td>Tactile Methods</td>
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<tr>
<td></td>
<td>Braille</td>
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<tr>
<td></td>
<td>Special Equipment</td>
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<tr>
<td></td>
<td>Ophthalmological Service</td>
</tr>
<tr>
<td></td>
<td>Standard Physical Surroundings</td>
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<tr>
<td></td>
<td>Sight-saving Equipment</td>
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<tr>
<td>3. The Deaf and the Hard of Hearing</td>
<td>Speech</td>
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<td></td>
<td>Lip Reading</td>
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<tr>
<td></td>
<td>Voice Training</td>
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<tr>
<td></td>
<td>Language Development</td>
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<tr>
<td>The Groups</td>
<td>The Needs</td>
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<td>------------------------------------------------</td>
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<tr>
<td></td>
<td>Otological Service</td>
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<td></td>
<td>Use of Residual Hearing</td>
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<td></td>
<td>Speech Conservation</td>
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<tr>
<td>4. The Speech Defective</td>
<td>Individual Corrective Exercises</td>
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<td></td>
<td>Surgery Where Needed</td>
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<tr>
<td>5. The Delicate</td>
<td>Individual Health Program</td>
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<td></td>
<td>Special Housing Facilities</td>
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<tr>
<td></td>
<td>Physical Rehabilitation</td>
</tr>
<tr>
<td>Socially Handicapped</td>
<td>Child Guidance Service</td>
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<tr>
<td></td>
<td>Control of Environment</td>
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<td></td>
<td>Emotional Adjustment</td>
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<tr>
<td>Mentally Handicapped</td>
<td>Psychological Study</td>
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<tr>
<td></td>
<td>Adjusted Curriculum</td>
</tr>
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<td></td>
<td>Industrial Training</td>
</tr>
</tbody>
</table>
In this table the seven types of handicapped children studied in this thesis are named, and under each one are listed the outstanding special needs peculiar to the group. They need no prolonged consideration here as each type has been discussed in the preceding chapters. In each case, it is understood, of course, these needs are added to the common needs listed in conclusion number five in Chapter VI. Thus we have an approximate portrayal of what constitutes special education. To carry out such a program becomes the logical objective of any state bureau or division of special education. Present achievements may fall far short of the mark; nevertheless the goal must always be kept in mind, namely, for every handicapped child within the borders of the state a provision of those facilities which his special condition demands.

Broadly speaking, the function of a state bureau of special education, is of course, to serve the needs of exceptional children within the state. For practical purposes, there are several definite responsibilities with which this agency of the state's educational program is charged. These will be stated briefly and without elaboration.

1. Stimulation is the first and immediate duty which faces the person who undertakes the task of organizing a state program for exceptional children - both stimulation of the public in local communities and stimulation
of educational leaders to realize existing needs.

2. The second function is standardization. There must be standards; otherwise there can be no law or order in the development of the program.

3. Clinical work is the third function of the state bureau of special education. This provides the means for a complete examination of the individual and diagnosis of his needs looking toward his best possible placement.

4. The fourth function is the organization of the clinical program, the organization of curricula, the organization of teacher training facilities, and the organization of special schools and classes in districts in which interest has found expression in action.

5. The fifth function is that of supervision of the work which has been organized, including instruction and classroom procedure.

6. Administration of special surveys, of special funds allocated to the education of exceptional children, and administration of the whole-state-wide program is the sixth function.

7. The seventh function is coordination of services which is the only means of bringing about a complete and a well-balanced program.

8. The eighth and last function is promotion of further action at every step of the way. There must be promotion of state legislation that will increase the facilities of
special education and of special funds to administer it; promotion of improvements in community practices, based upon the evidence of progress and of value received for the expenditure made; promotion of opportunities for teacher preparation. All of these are vital functions of the agency responsible for supervising the work throughout the state.
CHAPTER VI

CONCLUSIONS

After a wide and diversified reading on the subject of retardation, its causes, types, and cures, the following conclusions have been reached in this study.

1. In order to analyze more clearly children's personalities teachers must be aware of the processes by which they develop. They must try to understand the interacting effects of inherited potentialities and the impacts of the culture in which the child matures. With our present knowledge educators can do little, if anything, to control children's innate intelligence. They are interested in helping each child to realize to the fullest extent such potential capacities as he may have and in helping him to make his adjustments in society in accordance with them.

2. For an understanding of the personality development of the individual child, it is essential to be cognizant of all aspects of growth (physical, mental, social, and emotional) which are embodied in a comprehensive concept of the term. But beyond such recognition must be appreciation of the interdependence of these phases of development. Understanding of the child at any immediate period, then, becomes implementation for the future in averting problems of adjustment which were initiated.
in the past. Preventive mental hygiene thus assumes an immensely significant role in the education of the retarded child.

3. There is no one cause of retardation, as has been shown in Chapter III of this study. However, as was pointed out in the concluding pages of that chapter, there are several major causes of retardation of school children, such as mental handicaps, physical handicaps, social handicaps, and unsuitable curriculum. Chapter V, with its discussion of the various methods used as solutions, shows that many of the causes of retardation can be removed.

4. The problem of retardation is a major one in all school systems. And yet, it is clear that the problem of mental deficiency now assumes a new and more hopeful form. No longer are educators content to deprive the child of appropriate educational opportunities simply because he has a low I.Q. Academic materials are being devised and appraised in terms of their functional contribution in meaningful life situations. In a larger sense, educational practices are being altered because of a greater appreciation and an increased understanding of the many-sided nature of the child. The schools are beginning to be concerned with the development of the child as a whole, and they are devising techniques for studying, directing, and integrating the physical, mental, emotional,
and social patterns of growth so that each child may attain reasonable competency and adequacy in adult life. Relatively speaking, there are few children so defective as to prevent success in school or in life.

5. All types of retarded children have the following common needs: (1) discovery, diagnosis and understanding; (2) curative and remedial treatment; (3) social adjustment; (4) enriched environment; (5) educational guidance; (6) differentiated education; (7) vocational guidance; (8) vocational training; (9) vocational training; (10) placement, and (11) follow-up.

6. The educative experience of retarded children should be measured by these criteria: Does it promote health, both mental and physical? Does it promote a practical application of the tool subjects? Does it promote better group and community living? Does it promote a better home membership? Does it promote a better use of leisure time? Does it promote desirable working habits and attitudes?

7. Three fundamental principles are widely accepted by educators:

(1) That provisions for the retarded child are nothing more than the application of the fundamental educational principle relating to the treatment of individual differences to which all teachers wholeheartedly subscribe. To devise the ways and means in which this principle can
best be applied in the school program is the important problem growing out of it. Special schools, special classes, in the regular schools, adjusted programs for individual pupils in regular classes, a vitalized curriculum in which each retarded child will find those experiences which he needs — all these are legitimate means to the end sought.

(2) That the state is the most efficient unit for public school support and general school administration is the second principle. This is shown in Chapter V of this thesis.

(3) The third principle is that the federal government has an important responsibility toward the education of the retarded children of the nation who are handicapped in some way. This is shown in Chapter V of this study, particularly in discussing educational methods used in dealing with physically handicapped children.

3. Most educators will agree that the activity program is a desirable procedure in dealing with retarded children, but an exceedingly difficult one to use. However, as Chapter V of this study shows, the activity program is a definite necessity in any remedial program for children who are retarded because of social, physical, or mental handicaps. Despite the extra time and energy needed to carry out the activity program every classroom teacher should not only be thoroughly familiar with every
phase of it but should use it daily.

9. At the moment the outstanding demand is for thoroughly trained teachers to carry on existing methods and for highly organized and far-seeing research to renew rapidly expending educational capital. The education of the handicapped has fallen far behind the medical advances for the same groups.

10. Training in tolerance is needed in teaching children to understand individual differences that often cause serious maladjustment problems.

11. Play is the best means for giving children social education. It is in play activities that a child shows most clearly any symptoms of social maladjustment, and from the observation of children under play conditions the teacher may form hypotheses as to the nature of the difficulty. Having formulated her hypotheses, she can then direct the play in such a manner as to correct the difficulty.

Since all training in social adaptation must be by indirect teaching and never by precepts as to the value of acquiring friends, play is the best way of effecting social contacts without the child being aware that he is adjusting to other children. In play the child learns to take for granted his cooperation with
other children and in play he learns to understand them. Adjusting to other children is not presented to him as a virtue; it is all a part of the game. He detects the little things which are not socially acceptable, he sees when he has done something wrong, and he learns to like the other children without any realization of what is happening to him. In teamwork he learns the pleasure of being necessary to the others. This is the ideal way to learn to get along with people.

12. In the last analysis, happiness is the first right of every child, and whatever contributes to the genuine happiness of the retarded pupil contributes to his education. Whatever causes him to become discouraged, discontented, sullen or rebellious makes for trouble. Thus tasks that are beyond his ability, however worth-while in themselves, have no place in his educational program. The retarded child, to be happy, needs activity that is both interesting to him and possible for him, and that will give him the satisfaction of success. He needs social contacts that will satisfy his craving for companionship and give him the feeling of "belonging." He needs a love and a sympathy that will make him confident of real friendship. The present happiness of the child is the immediate object of the educator's quest as he plans his school work.

Because the educator must look ahead to the years
when the retarded child of today becomes the man of the future, present happiness must also lay the foundation for future welfare - welfare of both the individual and of society. A person who is physically fit, socially and morally minded, industrially capable of even the simplest job, able to give expression to whatever talents he may possess is the vision the teacher needs to have for the retarded child grown up.

When a teacher has helped a child to help himself, his accomplishment leaps into the realm of the sublime. Parents have, during all time, caught the essential truth of this idea; they have given of time, strength, and even life itself in order that their children might grow into young manhood and young womanhood with that ability. Teachers are happy, as they grow old in the service, in the thought of the boys and girls they have helped to develop in physical stamina, mental stature, and social power.
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