2nd Edition

Curriculum Adjustments for the Mentally Retarded

A GUIDE FOR ELEMENTARY AND SECONDARY SCHOOLS

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Foreword

THE FIRST EDITION of this bulletin appeared under the title "A Guide to Curriculum Adjustment for Mentally Retarded Children." It was prepared as the outcome of a conference called by the Office of Education. Visiting members of the conference were all outstanding in the area of education for the mentally retarded, and to them great credit is due for the preparation of most of the basic material constituting the subject matter of the bulletin.

Ever since the appearance of the original bulletin in 1936, it has been much in demand. The time has come, however, to re-evaluate its contents in the light of developments of more recent years and to issue a revision with such changes and additions as appear to be needed. In doing this, the Office of Education has had the benefit of the thinking and experience of several other persons who are now engaged in the education of mentally retarded children and to whom grateful acknowledgment is made.

A critical appraisal of the original material by specialists in current education has brought to light little that requires drastic revision. Special education for the mentally retarded 15 years ago was striving to put into effect a number of the concepts of education that are being recognized today for all children. *Experiences in living* were the central theme about which the curriculum for them was even then being organized. Since that time, we have tried continuously to improve our *practices* for them, but the *goals* were there years ago.

It is about those goals that the original material of this bulletin was organized, and the general plan of organization remains the same. Because considerable progress has been made in adjusting the secondary school curriculum to the needs of seriously retarded pupils, an entirely new chapter on high-school programs has been added. This is not the only section of the bulletin, however, that applies to boys and girls of high-school age. Throughout its pages, material appears that can be applied to retarded adolescents, whether enrolled in the secondary school or in the elementary school.

Current photographs have been substituted for those used in the original bulletin. Reading references have been brought up to date. They include some dealing with the mentally retarded in particular and some relating

to education for children in general. It is hoped that, with these and other changes and additions, this revision of the bulletin will prove of even greater assistance than the original publication seemed to be to teachers and prospective teachers of mentally retarded children.

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Director, Division of Elementary and Secondary Schools.

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Purpose and Plan of the Bulletin

MENTALLY RETARDED CHILDREN, as here defined, are those who because of poor intellectual endowment are unable to cope with the standard requirements of regular grades. They are in particular need of special educational services planned for intellectually subnormal children. These include approximately 2 percent of the school population. Some children are so seriously defective in both social and intellectual development that they may need to have the benefit of residential school care. Others are much closer to the border line of intellectual normality. Both of these types, as well as the intervening groups, are found in special schools and classes and sometimes in regular classes. All of them are included among the seriously deficient but educable children in our schools and institutions.

Whether in a regular or in a special elementary class, in a city school or in a rural school, in a regular secondary school or in a prevocational or vocational school, in a day school or in a residential school, the basic needs of these children are the same. Adjustment should be made in accordance with the limited capacities which they present. In whatever segment of the school system they may be found, they all call for sympathetic understanding and intelligent guidance.

Plan of Bulletin

One must try to visualize the retarded boy and girl as they are ready to leave school to cope with the problems of everyday existence. This is a logical point of departure in determining which school activities should receive major emphasis. Because it is agreed that all activities, to be most effective for instructional purposes, should arise out of the experiences of the children themselves, the unit of experience is given a prominent place in the plan of the bulletin.

For the sake of convenience, units of experience are classified in the

successive chapters according to major content. Such an arrangement does not obviate the need for coordinating experiences that are concerned with several types of content or subject matter. A "unit of experience" presupposes an integration that recognizes the child as a unitary being with a life experience to which every activity of the day contributes. It is the business of the school to make real to him the relationship among these several activities and to make them function in a vital way in his everyday life.

No attempt is made to assign particular activities to particular grades. In the education of 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 the dullest, will have work to do in keeping with his ability and interest. For adolescent students the occupational point of view gains in importance along with ideals of homemaking and civic responsibility, though these should by no means be neglected in earlier years. Many units of work can be planned on such a basis. Even the teacher who has only 1 or 2 seriously retarded pupils in a class of 35 or 40 children can, through 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 has in a class in which the old type of recitation technique is used.

Function of the Bulletin

The function of a traveler's guide is to lead the way, to point out the dangers of the road, to call attention to the beauties of the landscape. But he takes not one step for his companion. The traveler must use his own feet, his own ears, his own eyes, if he is to fulfill the purpose of his expedition. It is this function of guidance which it is hoped the present publication will perform. It does not offer a curriculum ready-made, nor even part of a curriculum. Rather its purpose is to present the fundamental principles involved, to point out desirable bases for the selection of curriculum content, to suggest a variety of activities in keeping with these bases of selection, and to illustrate how such activities can be coordinated into units of experience.

No person or group of persons, however skilled, can superimpose a curriculum upon classroom teachers working in a thousand different situations. They can only point out the ways in which a curriculum can be developed locally. They must leave to the State and to the community the task of applying the principles evolved to the situation at hand. Units of experience need local coloring. Community conditions must be recognized, geographic factors considered, and social interests observed. All of this can be done only by persons who are familiar with State and community situations. Hence, such a bulletin as this cannot be exhaustive, but can only sketch the outlines of a picture the details of which must be filled in locally.

2

Who Are the Mentally Retarded?

IN PROPOSING any curriculum adjustment, we must have clearly in mind the pupils for whom adjustment is being made. We must know something as to their number, their mental equipment, their possibilities of development, and their relation to the total population of school children.

What Are They Like?

"Mentally retarded" children are here defined as those who constitute approximately the least able 2 percent of the juvenile population.[1] "All men are created free and equal" before the law, but it has long been an established fact of biology and psychology that from a physical and a mental point of view there is great inequality among them. The problems of education arise in part from the facts of intellectual differences.

Individual differences among school children have been studied by scientific methods for many years. Begun in 1904, with the development of mental tests by Binet, the investigations made have established numerous facts. One of the most important of these concerns the frequency with which various degrees of intelligence, as measured by mental tests, occur among school children. Most children are about normal (average) in respect to intelligence, for in a statistical sense the word "normal" means "what the majority can do." A few fall so low on the continuous scale of ability that they seem quite incapable of learning. Just above these are

[1] Some writers and some school authorities include all mentally retarded children under the term "slow-learning," regardless of the degree of retardation. Others differentiate between "slow-learning" as referring to boys and girls who are of dull-normal intelligence and "subnormal" or "mentally deficient" as referring to those who are seriously defective in intellectual development, but not necessarily feeble-minded. It is with the latter group that this bulletin deals. In day schools they would range in terms of intelligence quotient from approximately 50 to 75.

the much more numerous ones who are somewhat less retarded, and who in turn merge by imperceptible degrees into the normal group.

At the extreme opposite to the mentally deficient are the children so bright that they learn much more and much more rapidly than the average and are ultimately capable of mastering much more complex ideas. These form a minority of approximately the same size as that included among the retarded, but it is not the purpose to deal with these children here. They are mentioned merely to complete the picture of the pattern resulting from the variability of human nature. Human beings are far more variable in mental traits than they are in physical traits. Among thousands of pupils, all of the same age, the tallest will probably not be more than twice as tall as the shortest in stature, but the amount or complexity of the work performed by the most intelligent one may be many times as great as that performed by the least intelligent.

The curriculum of the public schools is based primarily upon the abilities of the great number of intellectually average children. Incapacity for academic achievement becomes more and more pronounced as degrees of intelligence become less. The least intelligent children cannot attain any effective control over words and numbers. Even those who test as high as 75 I.Q.[2] can reach only a limited degree of literacy. According to early studies of intelligence of school children, about 2 percent of an unselected school population have an intelligence quotient of 73 or less, and about 5 percent have an intelligence quotient of 78 or less.

Intelligence tests, however, are not infallible, nor is the rating of a child on an intelligence scale the only thing that should be known about him. Emotional conflict, physical condition, or the environmental situation may interfere with the full expression of his intelligence. When circumstances change, he may be better able to respond and thus to rate higher on an intelligence scale. Moreover, a child may be intellectually retarded, even to a rather serious extent, and still have enough social competence to get along in the world fairly well. No child should be called "mentally retarded" or assigned to a special class for mentally retarded children without full consideration of all these facts.

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[2] All references made in this bulletin to the intelligence quotient (I.Q.) are in terms of results on the Stanford-Binet scale.

What Can They Do?

All pupils can deal with things, persons, and abstract symbols, but in vastly different degrees of complexity. Theoretically, a retarded child of any chronological age can acquire the information related to school subjects which normal 7-year-olds acquire when his "mental age" is 7, as determined by standardized mental tests. Theoretically, too, it is possible by means of mental measurement to tell to what extent a child is capable of mastering abstract symbols such as numbers, letters, and words. Actually, however, this principle applies to groups rather than to individuals, and here, as elsewhere, exceptions occur that must be treated in keeping with the needs of the individual case. Factors of physical health, personality, and environment may be responsible for a seeming deficiency in intellect that disappears when the causal factor is removed.

Because a deficient child can by the time he is 16 years old learn a little of a given school subject, it by no means follows that such learning should become the goal of his education. It would be a far wiser investment of time to center his education on the activities which will be of greatest use to him. Mentally retarded children and young people are not equally deficient in all directions. Most of them can learn to work with concrete materials and objects better than they can learn to work with symbols or abstract ideas. A great many different kinds of useful work can in fact be mastered by them. Education should, therefore, take account of these facts: (1) That mentally retarded pupils can work more successfully with objects and materials than they can with the tools of literacy (words, numbers); and (2) that in the realm of symbols they can, *as a group*, learn about as much as their "mental age" may indicate, in terms of what average children of that age accomplish.

As for emotional experiences, the mentally retarded share the ordinary human emotions. They "have feelings," and their feelings are much more like those of ordinary persons, apparently, than their intellectual abilities are. They hunger and thirst just as others do; are made glad or sad, as their desires are gratified or not; are capable of affection, discouragement, and all the other emotional experiences common to man. These observations apply to all above the extreme of idiocy, where mental life is at a low infantile level.

What Can We Expect of Them?

On the basis of a study, made by Kuhlmann, in which the mental development of more than 600 institutionalized children was followed over a period of 10 years, as well as on the basis of the work of other pioneer investigators, it was concluded that the condition of most seriously retarded children is one of simple and continuous mental inferiority. For instance, it was thought that a pupil of a mental level represented by an I.Q. of 50 would probably when mature have approximately the mental ability of an average 8-year-old child. No sudden and unpredictable "improvement," or "spurt of growth," could be expected.

Many research studies have been carried on during the past 30 years to check these early conclusions, and the results have been varied. No one would assert today that the I.Q. is absolutely constant in individual cases. The most reasonable action on the part of the school would be to study each child as a whole — not only his intelligence rating, but also his personality, his behavior, his health, his home situation, and his social maturity. Any possibility of error in regard to mental test results should be fully checked by making reexaminations whenever doubt may arise and by taking into consideration the influences of all other factors. If this is done, errors of judgment and evaluation of the child's ability can be minimized. And the door should always be open to permit a revision of judgment as the child's total personality unfolds under competent guidance.

Under the system of school progress by grade, retarded children are frequently subjected to tasks which they cannot possibly understand or perform; and frequently they are permitted to go from grade to grade without achieving anything of satisfaction to themselves or to their teachers. To escape the sense of inadequacy and blameworthiness they may become truants or engage in mischief. Studies of undesirable behavior among pupils show that there is a tendency for disciplinary problems to be concentrated among retarded children who are not given the special educational help that they need. The known facts about child development and the instruments of child study give to educators the opportunity to free backward children from the problems that arise from expecting them to perform tasks that are beyond their ability. Failure and wasted effort can be avoided. This fact has been demonstrated in the lives of many retarded children who with understanding guidance have found a measure of success in the world's work.

Summary

We may summarize our knowledge of mentally retarded children by saying that we know approximately how large a group they comprise; we have tentative measures for identifying them; we know we must take into consideration the total child and not only that part of him that responds to an intelligence test at a particular time. We also know that such children can work more successfully with concrete objects and materials than with symbols and abstract ideas; we know that we cannot expect them to compete either in school or in the world's work with persons of much keener intellect than theirs; and we know that with proper guidance and curriculum adjustment many of them can become contributing citizens of the community.

3

The Aims of Education

EDUCATION for the mentally retarded is not different in its aim from education for any group of children. This aim is to teach the individual how to live better; to teach him to use all of his capacities; to teach him to become a useful and a contented member of the social group. Whether he is in a day school or in a residential school, the general purpose is the same. The social group of which he is a member may be the community at large or it may involve the more circumscribed life of the institution, yet the aim is always to make him a better and more efficient member of the group in which he lives. This is the basic philosophy underlying every curriculum adjustment.

If one analyzes the concept of social efficiency, two traits stand out as of utmost 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. Criminals and ruthless war lords express themselves and strike terror to the hearts of the community and the nation. With all the emphasis that has been placed in recent years upon the need of permitting the child to "express himself," it should not be forgotten that, unless at the same time he learns to "control himself" for the good of others, his life will be marked by failure.

General Objectives

In accordance with this basic philosophy, there are certain general objectives for the education of retarded children which should help to determine what curriculum adjustment should be made for them. These concern primarily their education for achievement in the world of knowledge, in occupational life, in social relations, and in leisure time.

The World of Knowledge

The need of educating each child in keeping with his capacities, limitations, and interests is almost axiomatic. While this philosophy applies to all children, it becomes more imperative in dealing with mentally retarded pupils because their limitations are greater and their interests are less varied and less extensive than those of normal children. It is tragic to see the mentally retarded child drilled repeatedly on matters in which he has no interest, on matters which are beyond his capacity to understand, and on matters with which he has little if any prospect of ready association in ordinary life.

If a child is considered mentally retarded, he has already demonstrated a certain lack of capacity to learn. It is futile for the classroom teacher to attempt to force such a child to master academic goals that are beyond his mental reach. Public education should help each child to advance as far as his capacity permits him to go with a reasonable amount of teaching effort; but, lacking the capacity to do standard school work, he should be offered something different which will better suit his needs rather than merely less of the generally prescribed curriculum. Limitation of his school program to the mastery of mere minimum essentials of academic knowledge will never prepare him to live a useful social life.

Participation in the World's Work

Every child should be educated for some participation in the world's work provided his handicaps are not so great that he is completely barred from productive employment. Whatever his capacities are, they should be discovered and should be utilized. To be sure, most seriously retarded children will work under supervision in the occupational world. Most of them show weakness of attainment which, even with the best instructional effort, leaves them unable to meet the demands of a highly competitive economy. Some will be able to achieve only partial self-support. With others, the wages they earn may be adequate — and sometimes even higher than those of some of their more intellectual fellows! In any case, the school has a responsibility to help them make the most of themselves. For whatever occupational activity they prove themselves fitted, for that the curriculum should pave the way.

Participation in Social and Recreational Life

Each child should be educated to appreciate social, civic, and cultural

values and should be led to participate in those within his reach. Helpfulness and cooperation in civic responsibilities, wholesome fellowship with others in group activity, and the ability to enjoy leisure time are all essential to the well-being of the individual as well as of the community. Even accomplishments in music or dancing or games of physical skill are not uncommon among mentally retarded children. Those who have ability in such fields obtain much enjoyment out of life in society with others, and at times contribute much to the enjoyment of others. It is just as important to educate the mentally retarded child to be happy and efficient in his social relationships as it is to try to make him able to earn a livelihood. His life, like that of all others, is composed of *living* as well as *earning*.

Specific Goals

Apply these statements of general objectives to the 16-year-old mentally retarded girl or boy about ready to leave school. Assume that the school has equipped him with the simplest tools of learning, in order that he may not be at a loss in the life which he is to lead. He may be able to solve arithmetical computations with reasonable accuracy comparable to that of a 9- or 10-year-old. He reads rather haltingly the simple stories in fourth- or fifth-grade readers. His hand is equipped to do simple manual tasks.

Excellent as this education may be, visualization of the problems he must meet in the community proves it is not enough. He must have an education, the experiences of which have fostered day by day:

1. The knowledge and disposition to keep physically well in order to enjoy life to its maximum.
2. An ease and a joy in social relationships that help him to make friends and to participate in social and civic experiences.
3. An ability to plan and to choose his leisure activities wisely.
4. An ability to live as a contributing member of a family and a neighborhood group, and later to maintain his own home as head of a family.
5. The ability to earn as much of the necessities of life as possible.
6. The knowledge and ability to spend his salary wisely.

These are the specific objectives which must be kept in mind if the retarded child is to go out from the school equipped to carry on successfully in terms of his own ability. Life for him will be largely a day-by-day experience of work and play, in home and shop and community. It is to take his place and to make his contribution in this situation that the school should prepare him. Every activity, every field of experience introduced into the curriculum must be justified on the basis of its contribution to the objectives named.

Summary

1. The basic philosophy underlying the education of retarded children is no different from that recognized for all children. The fundamental aim of all education is to teach children to live wisely and well in the environment in which they may find themselves.

2. The realization of this fundamental aim of education as applied to retarded children requires that in curriculum adjustment emphasis be placed upon: (*a*) Education in keeping with the capacities, limitations, and interests of each child; (*b*) education for some participation in the world's work; (*c*) education for healthful living and wholesome social experiences.

3. The application of these principles demands that specific objectives be formulated for the mentally retarded that are of a much simpler and more practical nature than those which can be used with normal pupils. Physical efficiency, happy social relationships, wise use of leisure time, earning capacity, ability to spend wisely, and acceptance of home and community responsibilities are of major importance. These should all be interpreted in the light of the limited sphere of activities which most seriously retarded children will experience in adult life.

4

Differentiation of Curriculum According to Age and Ability Levels

UNDER THE LAWS of compulsory school attendance as commonly administered, it is possible for the child who progresses regularly at the rate of a full grade each year to complete at least the work of the ninth grade (or junior high school) by the time he reaches the age when he can legally leave school. Although the junior high school course of study has been planned to meet the needs of the early adolescent period, a large percentage of school children reach the end of the period of compulsory school attendance and leave school before they have completed the standard course of study for the ninth year.

Emphasis should accordingly be placed upon planning the best education that can be given over a period of 9 or 10 years rather than upon the completion of grade requirements. The information, habits, and attitudes necessary for wholesome participation in community life must be acquired, if at all, during the period of compulsory school attendance, since relatively few seriously retarded children remain in school beyond that time. Chronological age, as well as mental age and intelligence quotient, should be a guiding factor in determining curriculum content.

Any curriculum for retarded children might well be organized in the light of the needs of two groups, namely, the pre-adolescent group (from approximately 6 to 12 years in chronological age) and the adolescent group (from approximately 13 to 16 or 18 in chronological age). Each of these groups may then be divided into two classes according to approximate mental age, as follows:

1. Pre-adolescent group—
   (a) Children having a mental age under 6 years.
   (b) Children having a mental age from 6 to 9 years.
2. Adolescent group—
   (a) Children having a mental age below 9 years.
   (b) Children having a mental age of 9 or more years.

This classification is based upon consideration of the chronological age of the child and those interests and abilities which are determined by physical maturity. It also takes into consideration the mental age and intelligence quotient in that the instruction within the chronological age groups should be adjusted to meet the varying capacities of children. It is, of course, rare that any given class will include only children of a particular chronological or mental age level. In many cities and residential schools the teacher is much more likely to have in his class children of varying ages and abilities, some of them with a mental age below 6 and some with a mental age considerably higher than this. In such cases it is his responsibility to help each child to fit into the general program of the day according to his age and ability.[1]

The Preadolescent Group

Mental Age Below 6 Years

It is a generally accepted fact that a child is not intellectually ready for instruction in reading until he has attained a mental age of at least 6 years. For children who have a mental age below 6 years, regardless of their chronological age, that part of the curriculum dealing with reading, writing, and arithmetic should be wholly omitted, and emphasis should be placed upon pre-reading experiences. Motor and sensory training, personal hygiene and habit training, improvement of speech, emotional control, rhythm, drawing, and performance of simple activities at school and in the home are all valuable.

Young mentally deficient children are extremely restless, often agitated, noisy, untidy, and sometimes destructive. A program can be arranged that will bring bodily fatigue through constructive activity that leads to habit formation. Frequently there are physical defects which must as far as possible be corrected. Deficiency in sight, in hearing, in touch, and in the muscular sense all too often accompany mental deficiency. The teacher can provide social and mental activities that will increase the power of perception, as well as promote a better social adjustment. Regular exercise, proper muscular coordination, cleanliness in personal habits, and hygienic habits of eating should all be emphasized in the instruction given.

To teach these children to live in a social environment is far more

[1] While this bulletin is not concerned with problems of organization, it is emphasized that the practice of placing young subnormal children with those of adolescent age is exceedingly unwise.

important than to attempt to teach them to read. During this process of social adjustment the child will be getting ready to read. As he grows intellectually, he will approach the task with not only an adequate mental development, but also an enriched background of meaningful experiences, an enlarged speaking vocabulary, a lengthened and more stable span of attention, and some degree of muscular coordination.

The following types of experiences[2] can be used to advantage with children belonging in this group:

1. *Habit training.*—Emphasis upon personal cleanliness and neatness; proper toilet habits; care of property (such as crayons, paste, coat, rubbers, etc.); safety; food habits; health habits.

2. *Social experiences.*—Talking about home, school, and community relationships, such as those involving: Father, mother, baby, sister, brother; schoolmates, school safety officers; policeman, fireman, visiting nurse, street cleaner.

3. *Sense training.*—Recognition of name when called; matching shapes, colors, sizes, and positions of objects; picture-completion puzzles; watching natural phenomena (sky, clouds, trees, sunlight, shadow); recognition of objects by sound, by smell, by touch; recognition of food elements by taste; recognition of primary colors.

4. *Speech training.*—Emphasis upon clear enunciation; correction of baby talk, broken English, lisping, stammering, and other speech defects.

5. *Muscular coordination.*—Rhythm exercises, marching, dancing; outdoor games; use of large muscles to accompaniment of musical instrument or singing; exercises, such as walking a balanced rail, stepping through the rungs of a slightly elevated horizontal ladder, walking over a stile of three or four steps.

6. *Nature study.*—Getting acquainted with common pets, flowers, trees; seasonal weather changes.

7. *Manual training.*—Hammering nails into a block of wood; carrying household articles as needed; stringing spools, beads, and buttons; coarse needlework on materials that carry a design; cutting paper and cloth according to pattern with a pair of scissors; carrying blocks, pieces of wood or stone, sand or gravel, from one place to another, or gathering them into a pile in the center of the room or yard.

All of these activities and experiences of similar type can be used as the foundation for training in oral language. They can be made more

[2] *See also* the chapters of this bulletin dealing with specific types of experiences.

effective if they are integrated into a purposeful program of work, planned about a center of interest, and forming a teaching unit.

As the child grows older chronologically, some improvement in performing muscular and manual activities may be expected. Practice will improve physical coordination and develop ability to perform useful tasks. Boys can learn to handle shovel, hoe, and wheelbarrow; to help in digging gardens or in clearing land of stones. Girls can assist in household duties. The objective of the whole program is to make the individual however low his intelligence may be, happier and more comfortable as well as useful by helping him to contribute something to the life of which he is a part.

Mental Age Above 6 Years

The children of this group are usually from about 8 to 12 years old chronologically. They are ready for experiences in reading, writing, and numbers. They should be given an opportunity to make progress in these fields in keeping with their ability without the sacrifice of much more important social values. The principles developed in the successive chapters of this bulletin apply directly to their education. Hence nothing further needs to be said about them here.

Courtesy: Los Angeles, California, Public Schools

Young retarded children need the same type of play experience that all children should have.

The Adolescent Group

For all adolescents of retarded mentality who are capable at all of profiting by such instruction, emphasis should be placed upon:

1. Appreciation of social and civic values and participation in social and civic activities, either in the community or in the institution.
2. Manual activities in the shop, the kitchen, the laundry, and in various types of occupational experiences.
3. Health and physical training; sports and games.
4. Preparation for homemaking (for both boys and girls) through experiences in the usual housekeeping responsibilities, household budgeting, child care, home beautification, and the general repair work so often needed in the home.

Whatever in reading, arithmetic, music, art, literature, science, and other content subjects contributes to these goals is justifiable, provided it is planned on the level of the pupil's ability to comprehend and does not usurp the time that should be given to the major objectives of a practical nature. Children in the adolescent group having a mental age below 9 years will obviously work on primary levels of academic experiences, while those having a mental age above 9 years will be able to achieve on a higher level. Both groups should give the greater part of their time and energy to those activities that are definitely related to the situations they will face when they leave school or when they take their places as adults in institutional life. Hence work of the so-called academic type should be reduced to a minimum.

Summary

The education of retarded children should be so planned that by the time they leave school at the age of 16 or 18 they will have had the types of practical experiences needed to help them to live better lives as citizens, workers, and parents, or (if in a residential school) as adult members of an institutional community. At every age the child *as a person* should be given first consideration: His health, his habits, his personality, his associations with other people. In pre-adolescent years sensory training, experiences in fundamental skills, and other phases of curricular activity should be planned for each child in the light of his

mental level and ability to progress. When he reaches the adolescent period, regardless of his previous educational achievement, emphasis should be placed upon civic, social, manual, and occupational activities having a direct bearing upon the life situations to follow."

5

Experience as a Basis for Curriculum Construction

THE SELECTION of content for special courses of study is something more than an armchair problem. The daily observation of subnormal children within and without the classroom; the careful study of their inclinations and abilities to deal with present problems, the interests which for them color life and make it complete — these are the bases upon which curriculum adjustment must be made. In a word, the experience of the child is the teacher's cue. He must reach out and bring that experience into classroom situations in such a way that the child will be able to go from the classroom prepared to meet the same type of experience outside with a better understanding of its meaning, a greater ability to handle himself in relation to it, and with more satisfying results. There is no better way to achieve the specific objectives of instruction listed in chapter 3 than by permitting the child to experience day by day the growing ability to work and to play with companions; actually to prepare food and clothing for use; to spend money for necessities; and to master the skills that are needed for carrying out in reality the activities of his daily life.

The Unit of Experience

Experience in daily living cannot proceed at random, nor can all experiences in living with their varying degrees of complexity be utilized at once. The teacher who has previously merely asked himself, "When must I teach this child to borrow in subtraction?" may now ponder upon the child's ability "to make bread for the next day's meal" or the ability to execute over the telephone the next day's order to the grocer. As in other programs, there is a time in the child's day-to-day life when certain aspects have more color and meaning than at other times. Hence the "unit of experience" is introduced in order to facilitate the organization of experiences at levels at which they are most helpful in the child's living.

The unit of experience may be defined as *an actual experience in living related to the child's immediate interests and environment, which in turn related to his total experience makes for richer and more vital living.*

Units of experience will necessarily differ with every group of children, but there are three basic attributes which give to the well-developed unit of experience its value. In the first place, the experience or activity should be real and not make-believe. There are enough real experiences in every environment to eliminate the need of resorting to those drawn from foreign environments or of setting an artificial stage. For example, the experience of mailing letters and packages can in many situations assume the natural activity of going to the post office and actually mailing the material. A child's experience with flour may be the actual preparation of foods involving the use of flour rather than the construction of a cardboard flour mill which is only an imitation of the real thing.

In the second place, the experience should provide for cooperative living. It should contribute to the child's understanding or experience of the feeling of working with others. Even if the experience itself is so arranged that the child does some of his work alone, the results should be a part of the whole related scheme.

In the third place, the results, whether tangible or not, should be emotionally, physically, and mentally satisfying to the child. Within every experience there should be levels of growth, so that each child is accomplishing what is actually most necessary to his own satisfaction of needs. In other words, the experience may have something to contribute to the social needs of an 8-year-old child and yet may involve operations of such simplicity that it also satisfies the motor facility and mental development of children 2 or more years younger.

Examples of a Unit of Experience

Experiences in helping the child to live fully his present life differ in different localities. Experiences common to life in a large metropolis of the size of New York would be foreign and artificial to a rural community. No one set of experiences or the units thereof can serve all groups adequately. All children, however, live in a world where daily food, clothing, shelter, and play life have a meaning for them. Therefore, two units of experience based upon home and community life are used here for illustrative purposes.

UNIT ON HOME LIFE. PART I

Topic: Foods as a Part of Daily Life.

Chronological age	Mental age	Social characteristics	Experiences	Trips	Social science concepts and activities	Reading activities	Arithmetical situations
1	2	3	4	5	6	7	8
6 to 12	Below 6	1. Preschool and kindergarten characteristics. 2. Individualistic play. 3. Individualistic desires. 4. Random and seemingly superpowerful activity. 5. Manipulative play—with objects. 6. Unfinished products in work.	1. Daily trip to market or store with older group to do buying. 2. Carrying basket home and arranging purchase on shelves. 3. Washing vegetables and fruits. 4. Dramatic play—parties, home and store situations.	To stores in company with older groups: (a) Bakery. (b) Dairy. (c) Market. (d) Grocery. (e) Farm.	1. Articles of food as part of own meals. 2. Immediate source of food: Farmer or store. 3. Health value of food. 4. Table habits. 5. Identification of foods by name. 6. Mother's part in preparation of foods. 7. Child's part in helping mother.	(Preceding in nature.) 1. Representation of food objects seen at store — modeling, drawing (size, shape, and color). 2. Stories and games. 3. Development of vocabulary through oral conversation. 4. Identification by name and classification of food, as fruit. 5. Dramatic play: Parties and home situations. 6. Oral directions.	1. Buying articles of ... at store. 2. Counting objects. 3. Liquid measure: ... pint, quart (... 4. Building of arithmetical language: ... fary, heavy, ... score, many, hard, soft; ... long, short. 5. Play with pennies, ... half-pound weights, ... bean bags. 6. Sense of balance: ... of balance bag, ...
6 to 12	6 to 9	1. Primary or intermediate characteristics. 2. Desire for companionship in play. 3. Purposeful activity in that the product satisfies own desires. 4. Beginning of formation of small groups.	1. Setting tables. 2. Pouring milk, cutting bread and butter for tables. 3. Making bread and muffins. 4. Making butter. 5. Cooking simple desserts. 6. Clearing tables and washing dishes.	1. To— (a) Stores. (b) Warehouses where food comes in. (c) Vegetable and fish markets. (d) Dairy plant. (e) Bakery. (f) Freight cars, refrigeration cars. (g) Farm. 2. Fishing trip.	1. Experiment on play level: (a) Growing of food on farm. (b) Selling of food at stores. 2. Kinds of food. 3. Uses of food. 4. Home composition in use of food.	1. Independent reading about ... according to ... farm and store. 2. Oral conversation. 3. Poetry, stories, games. 4. Chart reading of child's original stories. 5. Free painting to illustrate stories.	1. Identification of ... to 25 cents. 2. Making change to ... cents. 3. Weights: Pound ... on shelf pound. 4. Liquid measure: ... and pint. 5. Counting ... Dozen and ... dozen. 6. Continuation of ... ing. 7. Continuation of ... matical language.
12 to 16	Below 9	1. Adolescent characteristics. 2. Ability to combine in small groups for group work. 3. Use of tools of learning to facilitate activity. 4. Completion of work for use. 5. Response to repetition and drill.	1. Buying food. 2. Preparation of vegetables. 3. Assistance in cooking. 4. Washing and care of dishes.	To: (a) Meat Market. (b) Fruit ship. (c) Sugar factory. (d) Bottling plant.	1. Organized plan for permanent project on: Store, garden, farm. 2. Buying and selling as actual activity. 3. Conditions necessary to produce food. 4. Change and names of food. 5. Cooking of foods. 6. Helping at home in preparation of food.	1. Enrichment of experiences through excursions. 2. Continued oral discussion and chart reading. 3. Picture books of food (labels). 4. Printed directions for project activity. 5. Labels for articles in store and farm. 6. Illustration of stories. 7. Visual education: Films of meat, bread, milk. 8. Introduction to simple stories of food in books. 9. Signs, as ...	1. Activity of buying ... selling. 2. Concrete problems illustrate fundamental process of: (a) Addition to ... (b) Subtraction ... 20. (c) Multiplication ... to 20. (d) Division as ... 3. Measures of length ... 4. Making change to ... 5. Simple grocery lists ... 6. Lunchroom prices. 7. Food prices in stores.
15 to 16	9 or above	1. Adolescent characteristics.	1. Selection, ...	1. Inspection of local ...	1. Sources of food.	1. Independent ...	1. Accurate situations ...

UNIT ON HOME LIFE. PART 1

Topic: Foods as a Part of Daily Life

Reading activities	Arithmetical situations	Related spelling	Nature study and science	Health	Manual experiences	Physical activities and recreation—not necessarily related
7	8	9	10	11	12	13
reading in nature.) epresentation of food objects seen at store — modeling, drawing (size, shape, and color). ories and games. evelopment of vocabulary through oral conversation. entification by name and classification of food, as fruit. ramatic play: Parties and home situations. ral directions.	1. Buying articles of food at store. 2. Counting objects. 3. Liquid measure: Glass, pint, quart (milk). 4. Building of arithmetical language: Near, far; heavy, light; some, many, few; hard, soft; round, long, short. 5. Play with pound and half-pound weighted bean bags. 6. Sense of balance: Use of balance bar, scales.	None.	1. Informal acquaintance with growing things in environment: (*a*) Helping to water plants. (*b*) Helping to weed garden, etc. 2. Informal experience with elements as talked about in daily living: Stars, clouds, rain, snow, bugs, pets. 3. Identification of food.	1. Establishment of habits of cleanliness by practice. 2. Handling of food utensils. 3. Slow eating with correct mastication. 4. Washing foods: Fruits. 5. Establishment of regular eating habits — no eating between meals. 6. Brushing teeth after meals. 7. Establishment of correct habits of elimination.	1. Free play with large saw, hammer, nails. 2. Making crude toys needed in own play.	1. Individual play to promote acquaintance with environment; exploration. 2. Toys: Wagon, ladders, apparatus. 3. Sand play. 4. Large blocks. 5. Free rhythmic response to music. 6. Rest periods.
xperience reading about excursions to farm and store. ral conversation. oetry, stories, games. hart reading of child's original stories. ree painting to illustrate stories.	1. Identification of coins to 25 cents. 2. Making change to 10 cents. 3. Weights: Pound and one-half pound. 4. Liquid measure: Quart and pint. 5. Counting measure: Dozen and one-half dozen. 6. Continuation of counting. 7. Continuation of arithmetical language.	None.	1. Discussion of how elements make food grow. 2. Classroom garden. 3. Picnics: Outdoor cooking; building fires.	1. Continuation of habit establishment. 2. Cleanliness of dishes. 3. Attractiveness of served food. 4. Scrubbing of food before cooking. 5. Care of burns and cuts obtained in kitchen. 6. Correct posture at table.	1. Making: (*a*) Large boxes for vegetable bin. (*b*) Holders. (*c*) Mats for table. (*d*) Garden markers. 2. Activity in cooking and washing dishes. 3. Painting, stimulated by trips. 4. Cleaning, waxing, polishing furniture.	1. Singing and simple circle games. 2. Free rhythms. 3. Dramatic play: House, trains. 4. Block play developed in groups. 5. Active games of simple type. 6. Story playing. 7. Sensory games. 8. Relaxation.
richment of experience through excursions. ontinued oral discussion and chart reading. cture books of food (labels). inted directions for project activity. abels for articles in store and farm. lustration of stories. isual education slides of meat, bread, milk. troduction to simple stories of foods in books. gns on can.	1. Activity of buying and selling. 2. Concrete problems to illustrate fundamental process of: (*a*) Addition to 20. (*b*) Subtraction to 20. (*c*) Multiplication to 20. (*d*) Division to 10. 3. Measures of length. 4. Making change for $1. 5. Simple grocery lists. 6. Lunchroom prices. 7. Food prices in store.	penny, dime, nickel, quarter, dollar, sell, buy, store, farm, market, cow, horse, pig, chicken, eggs, flour, butter, meat, milk, cream, car, milkman, food, vegetable, potato, carrots, pound, quart, pint, peas, beans, onions, orange, banana, cake, bread, cookie, garden, plant, farmer, cut, pull, went, out, apple, near, water, under, ground, April, blow, sun, rain, money, (1 to 10), cabbage, grocery, wagon, truck	1. Classification of foods. 2. Types of cooking and values. 3. Use of oven thermometer. 4. Lighting and use of electric, gas, kerosene, and wood stoves. 5. Evaporation of water in vegetable cooking. 6. Classroom garden: Planning wh it can supply for meals, for canning, for freezing.	1. Habits raised to level of *why* they are done. 2. Simple explanation of how food is chosen: body-building foods, bone-building foods, roughage, heat foods.	1. Making: (*a*) Shelves for kitchen. (*b*) Baskets to use in shopping. (*c*) Benches for seats. 2. Painting tables and chairs. 3. Sewing: napkins, table covers, towels, etc.	1. Active group games. 2. Pattern rhythm in folk dance types. 3. Apparatus play. 4. Dramatics. 5. Parties. 6. Individual sports. 7. Going to a fair or food show. 8. Relaxation.

13 to 16	9 or above	1. Adolescent characteristics. 2. Group control with recognized leaders. 3. Acceptance of routine. 4. Increased responsibility for conduct and tasks. 5. Initiative in setting own tasks. 6. More effective utilization of practice. 7. Development of motor control. 8. Wider social interests.	1. Telephone ordering. 2. Planning menus. 3. Budgeting. 4. Paying bills. 5. Daily serving of food. 6. Preservation of food—refrigeration. 7. Canning. 8. Cooking for parties. 9. Supervision of garbage disposal.	1. Inspection of hotel or cafeteria kitchen. 2. Trip to cold-storage plant. 3. Inspection of community garbage disposal. 4. Buying trips in community designed to compare values offered.	1. Sources of food: (a) Market. (b) Farmer. (c) Wheat farmer. (d) Flour mill. (e) Sugar farmer. (f) Meat farmer. (g) Fruit farmer. 2. Seasonings and beverages. 3. Manufacture of food: (a) Meaning of manufacturing. (b) Canning of foods. 4. Health in relation to food. 5. Preparation of foods at home.	1. Informational reading of reference for social science. 2. Newspaper advertisements. 3. Recreational reading. 4. Notebook. 5. Stories of excursions.	1. Automatization of ber facts thr drill. 2. Marketing. 3. Budgeting for foods. 4. Family grocery bill 5. Sizes and numbers canned goods.

rmational reading f reference for social ience. spaper advertise- ents. reational reading. book. es of excursions.	1. Automatization of number facts through drill. 2. Marketing. 3. Budgeting for foods. 4. Family grocery bills. 5. Sizes and numbers of canned goods.	milk April blow cream sun rain car money (1 to 10) milkman food cabbage vegetable grocery potato wagon carrots truck pound List in level 3, above; additional words used in notebook work; also: manufacture fish factory beets can pickles condensed peaches cheese spinach ice cream soup cereal jam breakfast jelly food corn wheat pears rye pineapple salmon sugar sardines	1. Preservation of foods: cold, heat. 2. Effect of soda on sour milk; effect of yeast on bread, etc. 3. Opening bottles under running hot water. 4. Action of cleaning agents. 5. Purification of water. 6. Pasteurization of milk. 7. Fire extinguishing methods.	1. Preservation of foods from harmful bacteria. 2. Buying unadulterated foods. 3. Healthful methods of cooking vegetables. 4. Pasteurization of milk. 5. Milk delivery and contagious diseases. 6. Disease and sterilization of food. 7. Preparation of balanced meals. 8. Preparation of food for babies and small children.	1. Carving of fruit bowls. 2. Repair of toasters. 3. Replacing fuses. 4. Replacing water faucets. 5. Tin work; cookie cutter. 6. Making tables. 7. Caning chairs. 8. Advanced sewing.	1. Social games of more sedentary type. 2. Parties. 3. Social dancing. 4. Clubs. 5. Hobbies. 6. Trips. 7. Dramatics. 8. Relaxation.

(Face p. 21)

Unit on Foods

In one classroom a large unit on home life was divided into activities related to foods, clothing, and shelter. The experiences of the classroom were real in that the children prepared their daily lunch at school. The following activities were included:

1. Preparing menus.
2. Preparing personal shopping lists.
3. Preparing telephone shoppings lists.
4. Preparing and cooking vegetables.
5. Preparing meat.
6. Making desserts.
7. Making baked foods and jellies.
8. Setting tables.
9. Eating correctly.
10. Clearing tables.
11. Stacking dishes.
12. Disposing of garbage.
13. Washing dishes.
14. Replacing dishes in cupboard.
15. Preserving left-over foods.
16. Cleaning kitchen.
17. Washing and ironing lunch cloths.
18. Collecting lunch funds.
19. Computing lunchroom bills.
20. Paying bills.

These tasks were graded upon the twofold basis of (1) spontaneous selection by children for social satisfaction and (2) manual dexterity and mental comprehension necessary to complete the task properly. At lower levels the simplest experiences in themselves were sufficient for complete satisfaction to the child. Older children needed wider contacts in the community. Some of the activities demanded motor and mental skills for satisfactory completion. Such skills were taught and used as they were needed, with sufficient drill to make the instruction function effectively.

The accompanying chart represents only one type of experience which was a part of the larger unit on "home life." The organization of work provides for four levels of ability as determined by chronological and mental ages of the pupils concerned. The four groups are those specified in chapter 4, namely (1) pre-adolescents with mental age below 6 years; (2) pre-adolescents with mental age from 6 to 9 years; (3) adolescents with mental age below 9 years; (4) adolescents with mental age of 9 or more years. On the chart the social characteristics of each group are noted and suitable experiences are indicated. Examples of activities in the various fields that can be used with each group are listed. It is to be hoped that no teacher will have all of these age and ability levels represented in the same class, but the chart gives an idea of how a unit of experience on foods can be adapted to any one or more of the groups included.

Unit on Child Care

The description of part of a unit on child care, as adapted from the report of several teachers who worked together for the instruction of a group of adolescent girls, ranging in chronological age from 14 to 16 years and in mental age from about 8 to 10 years, is given in somewhat different form. The objective of the unit was to prepare the girls for better service when caring for children either in their own homes or as a means of earning a livelihood.

The unit was divided into three parts, as follows: (1) Entertainment of the child from 1 to 6; (2) food for the preschool child; (3) care and hygiene of the preschool child. The content of the first of these is briefly outlined below:

ENTERTAINMENT OF THE CHILD FROM 1 TO 6

A. Story telling:

1. Selection of material:
   (a) Class discussion of types of material suitable for young children: Nursery rhymes, animal stories, fairy stories.
   (b) Illustrations of various types of stories, as told by teacher.
   (c) Search for material by girls in library and at home.
   (d) Listing of stories for future reference.
2. Learning to tell stories:
   (a) Development in class of outline for story: Introduction, events, conclusion.
   (b) Discussion of outlines as made by individual girls.
   (c) Writing in detail the stories to be told.
   (d) Practice in telling stories in class.
3. Telling stories to:
   (a) Preprimary children in the same school.
   (b) Brothers and sisters at home.
   (c) Children at baby party.

B. Games:

1. Discussion of various types of play activity and games; their relation to health and recreation.
2. Observation of and report on children at play in kindergarten, in nursery school, on playground, at home.
3. Construction of cut-out puzzles, toys, and scrapbooks for use of children.
4. Practice in playing with the children at school and at home, with reports and discussion of progress.

C. Planning and conducting a baby party for 20 children under 6 years of age, with entertainment through games, toys, and stories, and with refreshments made and served by the girls.

The place of reading, language, and spelling in a unit of this kind is obvious. Stories were read, written, and told. Reports were made on observations and work done. Lists of stories, games, and other types of entertainment were kept. Health and physical education entered the picture in the choice of recreational activities, and even more so in the other two parts of the unit not described here, dealing with food and child hygiene. Art, music, and hand work were used in the preparation of material. The plans for the baby party and the budgeting of expenses met in other parts of the unit necessitated the use of numbers. Social concepts were, of course, emphasized throughout. The entire unit was an excellent example of how many of the vitally functioning elements of

Courtesy: Detroit, Michigan, Public Schools

Boys like to cook and bake as well as girls.

real education can be coordinated on the basis of an experience of immense practical value and interest to adolescent girls.

Time Allotments and Daily Schedules

The daily division of time among the several activities included in a unit of work may seem to some a difficult problem. If an experience is directed to socially useful activities, tight compartments cannot be assigned to subjects as such. Nor can any division of time be suggested that will fit all situations at all periods of the year. This does not mean that the amount of time given to a particular activity may be left to take care of itself, determined only by the inspiration or fancy of the hour. Careful judgment must be exercised, based on purposeful planning in the light of the children's needs and the content of the unit of experience under way.

In general, it seems safe to say that a carefully planned schedule for children of primary and intermediate ages will show approximately half of the day (or of the week) used for the teaching of various skills (academic and manual) needed in the unit of experience, and the other half for the pursuit of socializing group activities which are involved in the unit and which give opportunities for the application of learned skills. Needed variation made for adolescents will be in the direction of increasing work of socializing and occupational type and decreasing the time spent on academic drill. In order to keep the division of time flexible, many class programs are made on a weekly rather than a daily basis. This insures a certain amount of freedom from day to day and yet furnishes a definite standard of procedure.

Summary

1. The only adequate basis for realizing the objectives set forth for the education of mentally retarded children is a curriculum planned in terms of the day-by-day experiences of the child in life situations.

2. The "unit of experience" provides the means for integrating classroom work with real life. It also provides the means for giving vital meaning to the use of fundamental skills within the ability of the child.

3. Units of experience should be adapted to the characteristics of the

community in which the children live, as well as to the age and ability levels of the children for whom they are planned.

4. Units of experience dealing with home and community life afford rich opportunity for the development of habits, attitudes, and skills essential to successful living for mentally retarded children.

5. The division of time among the various activities of the day or week should be kept flexible and yet meet the conditions of careful planning in the light of the children's needs.

6

Physical and Mental Health

MORE AND MORE are physical health and mental health coming to be considered not as distinct entities but as two different phases of the same general problem. Narrowly conceived, physical health relates to bodily or organic condition, while mental health refers to emotional response, mental attitudes, and social reactions. In the treatment of children's behavior problems these two cannot be separated, for each is reflected in the other. In the diagnosis of adult ills, also, they are found to be closely inter-related. Each represents one aspect of the total health situation in which the individual finds himself.

Physical Health

The maintenance of good bodily health is a major goal for every child. To help him to achieve this aim is the responsibility of the school through its program of health education. In such a program both specific instruction and the encouragement of good habits are essential. Mere talking about health does not suffice. All children must have daily practical experiences in the care of the body that will serve to establish proper health habits and attitudes. If this is true of the average child, it is of much greater importance for the seriously retarded, who does not grasp abstract principles readily nor see the relation between the act and its consequences, either for good or bad.

Content of Health Education

There is no reason why the general content of health education should be different for retarded children than for the intellectually normal. Good health is the aim for all. The difference lies rather in the insistent emphasis upon simplification of health principles and their application in keeping with the limited intellectual ability of retarded children. For the young child primary emphasis should be placed upon establishing simple habits of cleanliness and personal hygiene, bodily coordination, and protection against accident and disease. As the child grows older, he should be assisted in making applications of health principles in home and community

situations, as well as in the maintenance and the further development of his own physical efficiency.

In "Education of the Slow-Learning Child," Christine Ingram summarizes the health habits and attitudes that should be taught as follows:-

> The slow-learning child should learn to practice personal habits of cleanliness, of good posture, and of healthful dress—habits that experience has shown are also directly related to the development of self-respect. The child should be taught to care for his eyes, ears, and throat; to appreciate the value of well-ventilated and well-lighted rooms, of exercise in the open, and of regularity in exercise and rest; to choose and prepare healthful foods; and to observe safety rules.
>
> Habits and attitudes of hygienic living that will aid in the maintenance and promotion of the health of others are also necessary. The child should be guided to consider the effect of his health habits on the health and comfort of those around him as well as their effect on himself. He should learn about communicable diseases and how to use community health facilities and to administer some of the steps in first aid.[1]

Coordinated Activities

Such health experiences as are referred to by Ingram can become an integral part of many units of experience that superficially may seem unrelated to the subject. A unit on shelter, for example, provides opportunities for emphasis upon proper lighting, adequate ventilation, the use of bathtubs and washbasins (much needed in some communities) and myriad other items of importance to health. Similarly, a unit of experience on clothing gives rise to abundant possibilities for teaching healthful dress and cleanliness. The health implications of a unit on foods are recognized perhaps most readily of all, for a unit on foods opens up all the avenues of approach to teaching nutritive values, the need of balanced meals, care and cleanliness in preparing and preserving food, eating habits, and the essentials of dietary knowledge. Health and science can be coordinated in the study of water, drainage, and communicable disease.[2] Health and the arts can be coordinated through rhythmical activities that emphasize good posture, proper exercise, and muscular coordination.[3] Social studies bring into the picture community facilities for healthful living, healthful working habits, and safety regulations.[4] There is not a

[1] Ingram, Christine. Education of the Slow-Learning Child. Yonkers-on-Hudson, N. Y., World Book Co., 1935. p. 64.

[2] *See also* Chapter 9, "Experiences in Science."

[3] *See also* Chapter 10, "Experiences in the Arts."

[4] *See also* Chapter 7, "Social and Civic Experiences."

field of the curriculum that does not offer an opportunity for stressing some aspects of health education.

Physical Education and Sports

Well-planned physical education has just as important a role with the mentally retarded as with other children. Corrective exercises are needed for many to eliminate or at least to minimize postural and other defects. All will profit from free play and from guided physical activities on the playground. Wholesome sports should have a part in their lives, and some will excel in them with proper training and incentive.

John, a shy, unaggressive boy of 15 with an intelligence quotient of 72, enrolled in a special school, began playing basketball with the other boys of his approximate chronological age and intelligence. For 2 years these boys played basketball correctly, but without the degree of skill which is usually found in normal boys of the same age and experience. However, they played a creditable game and were able to compete with high-school boys of the community. After 3 years, several boys, including John, developed skill far beyond the average of the group. He was asked to join a team of local young men and played with them for a season. He has become one of the highly valued players on the team and has frequently been asked to referee games.

When the team of the special school began playing with other teams of the community, the boys often excused themselves by saying: "We are not expected to play as well as that team." But they soon ceased to use that as an alibi for losing a game, saying instead: "We had better work out some new plays before we meet that team again." Thus, through a form of play activity these boys learned to adjust their thinking and actions to a more acceptable social standard. Their ability to play winning games with local teams is of secondary importance. The greatest gains have been their change in mental attitude and a more nearly normal view of social situations.

The Teacher's Responsibility

There are certain elements of a health-education program which, if met at all, must be met by the teacher's personal attention, first, to classroom conditions, and, second, to individual children. Temperature, ventilation, lighting, and desk adjustment are among the problems that demand daily consideration. Unless the child works under healthful conditions he cannot

be expected to maintain either physical or mental health. Moreover, careful observation and periodic check of each child's physical status are essential to his well-being, especially if he comes from a home in which healthful living conditions are lacking. Frequently the daily use of a tooth brush, the periodic bath, even the laundering of clothes are responsibilities which the school must meet. Sensory handicaps, malnutrition, nasal obstructions, and other physical impairments would for some children never be discovered unless the school undertook to do so. To give the personal attention demanded by each child in the light of his physical condition and environment is as much a part of the health-education program as the teaching of proper nutrition. Constant vigilance on the part of the teacher is necessary if he would remove unnecessary hindrances to the child's use of all the ability which he possesses.

Source Material

Any good text in health and physical education will yield an abundance of suggestive material which the teacher can use and adapt to the needs of his group. Consideration of the topic in these pages is brief, not because experiences in health and physical development are lacking in importance, but because the teacher is urged to look upon the problem as one that is common to all children and to utilize to the maximum the excellent guides that have been developed for all.

Mental Health

Physical well-being contributes substantially to mental health. Important as the former is, the latter is even more essential for the welfare of any person. It connotes an inner personal adjustment, an emotional stability, an ability to get along with other people. It presupposes happiness in living and a sense of some—even though limited—accomplishment.

General Application to Retarded Children

The mentally retarded pupil has a serious handicap. Any child with a handicap is at a disadvantage when he competes with other children not so handicapped. It is but logical that unhappiness, emotional conflict, and emotional strain are likely to result in his life. If the retarded pupil is to be reasonably happy, he must have guidance and supervision that will help him to face his handicap squarely and to find the avenues in life through which he can give acceptable service. This guidance should begin

early in life, since social maladjustment is likely to have its beginning in childhood. If habits of disappointment and inferiority are allowed to persist for several months or even years, they become so deeply fixed in the personality of the child that it is difficult to change them.

One of the dangers often encountered in the life of the high-grade mental defective is that too much is expected of him. He may appear to be normal. He may act normally in many situations. The majority of people who meet him may think of him as normal. As a result, he is frequently directed to tasks that he is unable to perform. He fails, with disastrous results to himself and to others. One who understands his weaknesses would never have assigned such tasks to him.

While making allowance for the child's handicap, the teacher should also make the greatest possible use of the powers which he does possess. He usually has several personal characteristics that approach the normal. He may have a good body, good eyes, good ears, reasonable control of his muscles. These better qualities should be discovered and used to their maximum.

The happiness and success of any person depend also upon many adjustable elements. For example, a person of low mental capacity would ordinarily find greater difficulty in a complex city environment, where social and industrial competition is keen, than in a quiet, rural community. Likewise, the competition in a large class of 40 or 50 pupils is almost sure to be disastrous to him, while membership in a small group in which special consideration can be given to his needs will increase a hundredfold his chances for success. But "success" must always be defined in terms of the ability with which one has to work. What is outstanding success for 14-year-old Jimmie with an intelligence quotient of 60 would be considered a failure for 10-year-old John with an intelligence quotient of 125. To be able to understand the meaning of "success" and "failure" for each pupil is one of the important qualifications of a teacher who would apply the principles of mental hygiene to his teaching.

Habits and Attitudes in Mental Health

The child is continually building attitudes toward teacher, lesson, school, parents, home, country, and even toward himself. Whether these attitudes are desirable or undesirable depends upon the effectiveness of the educational program that begins early and continues throughout the formative

period. Attitudes once formed tend to remain and largely to determine whether the child will be able to adjust himself to the world. They form the nucleus of his mental health or the lack of it.

Some of the desirable habits and attitudes that can be encouraged in the classroom are listed in the outline below with suggestions as to the types of experiences that will aid in their development. These experiences are only illustrative and in every case they are to be used within the situation to which they belong. They cannot be considered individual lessons or assignments handed down by the teacher to the pupils, but are elements within the total unit of experience that suits best the nature of the class. Development of standards *with* the pupils rather than dictation of standards *to* the pupils and the use of specific situations rather than abstract generalizations—these are some of the keynotes of successful curriculum development. No desirable habit is acquired except through frequent repetition of the appropriate action. No attitude is developed except through almost daily exposure to concrete situations calling for its expression. These facts should be constantly kept in mind in the interpretation and use of the personal goals presented in the outline.

OUTLINE OF PERSONAL GOALS AND SUGGESTED EXPERIENCES

Neatness and cleanliness.—

1. Development with children of essential elements of personal hygiene. On the basis of the list of items or questions developed, let each child use a self-rating card and talk it over with the teacher from time to time.

2. Use of the same items in helping each child to keep a "Book About Myself"—at the party, on the trip, or in some other specific situation.

3. Emphasis upon child's physical assets, and encouragement to make the most of them in his personal appearance.

Tolerance.—

Adequate recognition of individual differences which must be respected. Any class may enroll a child who deviates very much either in appearance or behavior, such as an epileptic, whose seizures are of the petit mal type, or a mild post-encephalitis case. By talking confidentially to the group in the absence of the child in question, the teacher can enlist the sympathies of the group and make the deviate socially acceptable. The attitude of tolerance for or appreciation of persons more successful in school should also be fostered. It comes about more easily if the retarded child can be made to feel equal or superior in some respect. He should at the same time learn that there are those who are superior to him in other ways and thus be led to face his own handicap squarely.

Cooperation.—

1. Participation in group activities:
   (*a*) Planning together for any future event.
   (*b*) Working together toward a common goal, such as bringing papers for a paper sale, decorating the Christmas tree for the school.
   (*c*) Contributing to a room exhibit, illustrating some phase of school work.
2. Collection of data and editing a school paper.
3. Organization of a school museum.

Fair play and honesty.—

1. Engaging in sports; playground activities; inter-school meets.
2. Using streetcar tokens for transportation to and from school when furnished by school system.
3. Running errands involving expenditure of money.
4. Facing situations truthfully.
5. Using cash register in cafeteria training classes.
6. Marketing and school banking experiences.
7. Using one's time without waste.
8. Assisting in sale of toys and other hand work.

Self-reliance and courage.—

1. Planning school plays.
2. Participating in auditorium activities.
3. Reading stories to a group of younger children.
4. Keeping a list of individual achievements:
   (*a*) Making a toy.
   (*b*) Keeping an orderly desk.
   (*c*) Learning to read, spell, write, or figure.
   (*d*) Recording any special talents:
      (1) Singing solos.
      (2) Playing any musical instrument.
5. Doing something for others. A special class in a very poor district discovered that towels were no longer furnished to the school; so they collected sugar sacks, washed and hemmed them, and made them ready for use as towels in the school. They hemmed 400 towels. This same class dressed 35 dolls for the holiday bureau, which were given to needy children. Another group made toys for the children in a mining camp. Other groups collected pictures and made them into scrapbooks for sick children in hospitals. Others filled baskets for Thanksgiving offerings.

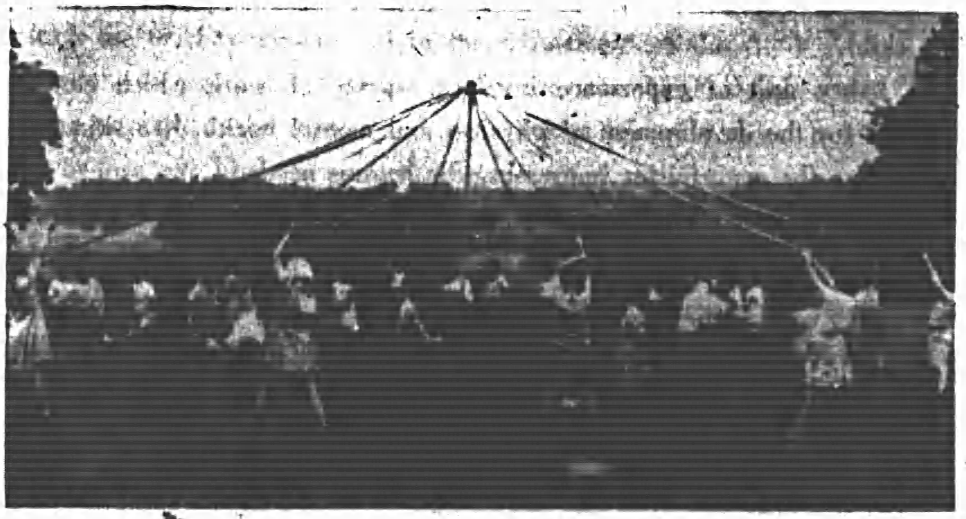
Loyalty.—Loyalty to the home and its members can be developed with participation in experiences described under "Social Experiences in Home Life" (p. 36). Loyalty to school will be the result of many of the experiences listed under "Social Experiences in School Life" (p. 38). Loyalty to church, clubs, and friends can be developed through almost daily experiences if there is a real awareness on the part of the teacher. In fact this is the crux of the whole matter.

Problems of Parents and Teachers

It is important to realize that parents and teachers are frequently in need of the services of mental hygiene as much as or even more than the child. The difficulty which confronts many a child has its origin in the maladjusted life of the parent or other adult who is in the position of guiding him. When the proper solution in the life of the adult has been found, the child's problem often disappears. For this reason mental hygiene for children who have problems must also be directed at the teachers and parents of those children. The dictatorial, restless, antagonistic, moody teacher or parent is showing signs of mental trouble himself. Such an adult cannot expect to be successful in helping to solve the emotional maladjustments of children. He should realize that he must try to put into his own life the same characteristics which he seeks in the life the child, namely, courage, a reasonable degree of independence, calmness, cheerfulness, friendliness. He should make his own life as free as possible from unnecessary hurry and worry and high pressure, finding happiness in the development of wholesome interests and activities that bring a feeling of success and worth-whileness.

Mental Health the Essence of the Entire Curriculum

The concept of mental health thus permeates the whole curriculum. It is not possible to set apart a half hour each day for instruction of this kind.



Courtesy: Elwyn Training School, Elwyn, Pennsylvania

Wholesome outdoor play and exercise are conducive to physical and mental health.

Mental health begins with the teacher's understanding of the child's need; it finds expression in every activity of the day in which the child is helped to live socially with other people and to contribute his bit to the total welfare. Every unit of experience gives opportunity for demonstration of habits of cooperation, thoughtfulness, honesty, and other socially desirable traits. The time to impress them is not after school when some child has been detained for infringement of the rules, but in the actual work and play and discussion that take place in the course of the day. Situations as they arise constitute the subject matter of instruction. The teacher who would use the principles of mental hygiene must be quick to see and to use the opportunities growing out of the homely happenings of the day. He must be able, too, to plan a program of work that will make maximum provision for the development of situations in which mental hygiene and character education will function. Every activity and experience of the curriculum can help to bring this about.

Summary

1. Physical and mental health is the foundation stone upon which happiness and efficiency are built. Hence health education, including both physical and mental hygiene, is basic to all curricular activities.

2. The content of health education is the same for retarded children as for intellectually normal children, with recognition of the need for simplifying instructional methods in keeping with the limitations of the child.

3. Every unit of experience involves aspects of work which can be utilized for the development of physical and mental health, life situations furnishing the material for impressing the lessons needed.

4. Each child should be studied, his strength and weakness evaluated, and tasks fitted to his nature and his needs as long as he remains under educational direction.

5. The teacher who is a living example of mental health and personality adjustment is most likely to be able to guide children in the same direction.

7

Social and Civic Experiences

TO LIVE HAPPILY a man must be able to get along with his fellows, respect the rights of others, recognize the value of cooperation, desire to earn an honest living, and respect the laws of the country in which he lives. The highest type of behavior along these lines can be obtained only through constant practice in the early years. If there is sufficient repetition of a specific situation, a behavior habit is formed. A habit once formed is not easily broken. The school should accept its responsibility along with the home and the church in helping to develop socially acceptable habits. Hence, social and civic experiences should play a vital part in the life of the school.

The Home, the School, and the Community

Prior to the child's entering school, he has been associated mostly with members of his own family. The relationships, duties, responsibilities, and attitudes commonly found in the home may well be the point of departure which the teacher uses to aid in the adjustment of the child to the new situations in which he finds himself in the school. The teacher should as far as possible make contacts with the homes represented in his class. He can in this way learn of each child's environment and obtain the cooperation of the home in bringing about needed improvement of attitudes and relationships.

Next to the home in the experience of the child comes the school, and after the school comes the community. The teacher can draw freely upon each of these fields in the development of units of experience that will place the child in social situations of vital importance to his growth as a social being. Suggestions taken from school life and from community life are given in the outline on pages 38 and 39. Each experience will function best if it is made a part of a larger situation or experience in which the children are actively participating. Almost any one of them can be made

the background for effective training in social habits and attitudes. For example, if a trip to a farm or factory is in prospect, an informal discussion can be developed in which the children themselves will set the standards for their personal appearance and conduct, And when they have returned, another informal discussion can be used as a basis for checking their achievements in these directions, as well as for considering the content of their observations.

Retarded children will grow up to be adults. They will be voters and citizens of the community. Somewhere in their school program there should be a place to consider community civics and the problems of government common to all localities. The older boys and girls can be helped to comprehend some of the vital issues of the day. What makes a community a good plaee in which to live? What regulations for health and sanitation are important? What kind of a person makes a good city or county official? Why do workmen strike? If there is a strike pending or under way in the community, what are the pros and cons? What other local problems exist that need to be worked out by *all* the citizens?

For boys and girls who are ready to leave school and to take their places in the working world, the employment opportunities of the community should be investigated. This is a social experience of intense practical value. A list of possibilities can be made out in class through group participation, visits can be made to some of the plants under consideration, and requirements, advantages, and hazards of respective jobs can be analyzed. The boys and girls who, when they leave school, have some familiarity with the types of jobs that they can probably fill with reasonable satisfaction have taken a big step toward getting one of those jobs. Certainly the school should do as much as possible in laying the foundation for this important phase of the young man's or young woman's life.

SUGGESTED SOCIAL EXPERIENCES TAKEN FROM HOME LIFE, SCHOOL LIFE, AND COMMUNITY LIFE

(To be adapted to needs of age and ability levels)

A. Social experiences in home life.

1. Experiences for all children:

(*a*) Visiting a home near the school, not too far above the level of homes known by the children, but neat and well-kept, to observe items important

in homemaking, such as clean floors, neatly made beds, arrangement of furniture, sanitary provisions, care of yard and garden.

(*b*) Talking about the visit; the activities, relationships, and responsibilities of the home as experienced by the children.

(*c*) Making a playhouse, not elaborate, but large enough for the children's use.

(*d*) Arranging a party, with the children as hosts and hostesses.

(*e*) Discussing the arrival of guests in the homes of the children, visits from relatives, or the arrival of a new baby in the family.

2. Additional experiences for older girls:

(*a*) Homemaking activities, such as cooking, sewing, house furnishing, arrangement and decoration, care of clothing, and budgeting expenses.

(*b*) Making notebooks illustrating activities listed under 2(*a*) above.

(*c*) Shopping excursions; learning how to select and purchase commodities used in the home.

(*d*) Ordering supplies over the telephone.

(*e*) Inviting parents to school to see exhibit of hand work or other classroom activities.

(*f*) Serving tea. (Older girls should arrange tea table, pour tea, make sandwiches, cookies, etc. They should feel responsibility for engaging their parents in conversation, introducing them to their teacher or to other parents.)

(*g*) Caring for children. (Real children should be used if possible. Day nurseries may cooperate and permit the class to "adopt" a baby. Reports should be made on care of baby sisters and brothers.)

(1) Bathing.
(2) Dressing.
(3) Feeding.
(4) Making clothing.
(5) Playing games with young children; entertaining them with songs, stories, poems.
(6) Arranging a children's party.
(7) Helping with the kindergarten group in the school.

3. Additional experiences for older boys:

(*a*) Constructing playhouse.

(*b*) Participating in some of the work of the home, such as picking up clothes, helping mother, shining shoes, running errands, shoveling walks, making simple repairs.

(*c*) Collecting figures on cost and maintenance of a home; budgeting expenses.

(*d*) Collecting pictures of different types of homes for a booklet.

(*e*) Participating in school's tea party for parents, especially in the conversation.

(*f*) Caring for pets.

(*g*) Working in a garden. (Each boy should have a plot of his own.)

B. Social experiences in school life.

1. Working in groups for a common cause:
   (*a*) Game periods; playground activities.
   (*b*) Group construction work in classroom.
   (*c*) Committee work.
   (*d*) Participation in paper sales.
   (*e*) Spontaneous dramatization of stories or situations depicting the life of various periods, countries, or areas.
   (*f*) Preparation for special holidays or festive occasions.
2. Participation in school civic league meetings or student council; in auditorium programs; in school-safety program.
3. Membership on ball teams.
4. Musical activities; dancing and rhythmic exercises.
5. Sharing responsibility for keeping school building in good condition.
6. Observing school activities in other rooms; making contacts with other class groups whenever the child can compare advantageously. (This will be for children having special ability in some direction, such as music or art.)
7. Assisting in the preparation and serving of lunches. (This provides an unlimited number of practical experiences arising daily.)

C. Social experiences in community life.

1. Listing and discussing persons in community who contribute to our needs:
   (*a*) City life—
      (1) Milkman.
      (2) Butcher.
      (3) Grocer.
      (4) Baker.
      (5) Druggist.
      (6) Oil stationman.
      (7) Postman.
      (8) Fireman.
      (9) Policeman.
      (10) Motorman.
      (11) Librarian.
      (12) Laundryman.
   (*b*) Rural life—
      (1) Farmer.
      (2) Postman.
      (3) Thrasher.
      (4) Corn huskers.
      (5) Hay balers.
      (6) Traveling grocer.
      (7) Traveling druggist.
      (8) Traveling butcher.
      (9) Traveling librarian.
      (10) Oil stationman.
2. Listing and studying local industries or places requiring workers.
3. Making trips:
   (*a*) To various places of business.
   (*b*) To farms, observing farm activities.
   (*c*) To industrial plants.
4. Conversing with people who serve in either urban or rural life.
5. Making contacts with people and agencies who can give information and guidance, such as doctors, nurses, ministers, and social agencies.

6. Locating desirable places for recreation, such as parks, playgrounds, neighborhood houses, and theaters.
7. Locating public buildings, such as churches, gas company, electric company, city hall, fire department.
8. Writing friendly letters.
9. Writing business letters asking for information or quotations of prices, making appointment for an interview, or engaging a speaker who will address the class on some phase of community life.
10. Participating in field-day programs on public playgrounds; making use of public parks, swimming beaches, skating rinks, and other facilities provided for recreational purposes.
11. Engaging in interscholastic meets, such as football, baseball, and basketball.
12. Investigating employment situation in community; making out application for job; studying Workmen's Compensation Insurance forms; considering benefits granted workers in particular occupations.

The State, the Nation, and the World

Beyond the immediate community there are the State, the Nation, and the world. Because a child is mentally retarded is no reason why he should

Courtesy: Cincinnati, Ohio, Public Schools

Taking responsibility for younger children is a real social experience.

be deprived of the socializing influences of learning a few things about the geography of his country and of the world. He should learn something, too, of the life of other people and of other times; of the history of his own people, centered on the service of a few truly great men and women of the past. The interests of the older pupils could center on the most obvious current social and economic issues.

Most if not all of the content suitable for use in these fields can be introduced as elements of units of experience in which children are vitally interested. A unit on shelter can with many groups include a consideration of the houses of the Indians and the Eskimos, and of the place of these peoples in our national life. Like normal children, the mentally retarded take delight in dressing up like Indians, in building an Indian wigwam, in learning some of the simpler Indian songs, and in reading or in hearing read the stories of the life of the red men. Particularly in communities which have a past intimately related to the Indians would such activities be appropriate.

In California, the discovery of gold and the admission of the State into the Union would open the door to many opportunities for emphasis upon civic progress and responsibilities. In New England, the landing of the Pilgrim Fathers and early colonial days would be topics of value and hold possibilities for development. But in neither of these sections would a study of the exports of Wales or of the history of French Guiana offer anything of social value to children whose mental horizon and whose sphere of activity are both seriously limited.

Turning to problems of national scope: What does it mean to be a citizen of the United States? What privileges does it bring? What responsibilities does it carry? There is no more important phase of education of the mentally retarded than to build up an appreciation of American citizenship and of the citizen's rights and responsibilities.

At the time of a State or a national election, some of the most obvious facts and issues can be discussed. A class or school election can become the background for learning the mechanics of voting for officials. Selected members of the class can represent different candidates. Older boys and girls, if not too seriously retarded, can achieve understanding of some national problems. Every citizen needs to be able to think clearly and make sound judgments about national issues.

Summary

1. Experiences common to the home, to the school, and to the community offer the most logical means for developing wholesome adjustment to the community and the ability to contribute to community life.

2. Some of the most obvious State and national problems can likewise furnish appropriae experiences for older boys and girls.

3. Specific situations arising in these experiences should be used day by day as the means of emphasizing and inculcating desirable attitudes and actions. Abstract generalizations must give way to concrete applications.

4. There must be sufficient repetition of experiences to form the attitudes desired. Mere suggestion will not do the work.

5. Every unit of experience should be analyzed by the teacher for the opportunities which it presents for vitalizing social experience. Any activity is justified only in terms of its specific contribution to the ultimate social efficiency of the individual.

8

Experiences in Fundamental Skills

LONG, involved sentences, abstract words, and abstract number ideas are usually beyond the comprehension of mentally retarded children. They should not be asked to waste time trying to master all the academic skills required of intellectually normal pupils. Only those skills which are instrumental in the development of a useful adult life, as well as a happy childhood, should be attempted. As with social and civic experiences, the child learns to read, to write, and to add more readily when the need for learning arises out of an experience through which he is living at the time. He becomes so interested in the situation or in the manipulation of objects connected with the experience that he is either unaware that he is learning or is definitely tackling a difficult piece of work as a means toward reaching a goal which this new experience has opened up to him.

Reading

Reading is an important factor in helping the child to take his place with normal people in the community. Yet adult reading needs in their simplest terms are few. In order of importance they are: (*a*) Reading for protection; (*b*) reading for information or instruction; and (*c*) reading for pleasure. Some mentally retarded children will be able to master only enough reading for their own protection. Others will be able to add reading for information and instruction. A few will read for pleasure.

Reading for Protection

The child should be able to recognize instantly such signs as DANGER, CAUTION, EXIT, KEEP OFF, EXPLOSIVES. He should be able to read pedestrian traffic signs such as KEEP TO THE RIGHT, WALK FACING TRAFFIC, WATCH YOUR STEP. He will need to be able to read streetcar, train, or bus signs, showing their destination; also such signs as NO SMOKING, DO NOT PUT HEAD OR ARMS OUT OF WINDOW, DO

NOT TALK TO THE MOTORMAN, SPITTING PROHIBITED, NO SPITTING. All but the children of lowest grade of intelligence will have need to learn auto traffic signs. These will include such road signs as SCHOOL—GO SLOW, STOP—LOOK—LISTEN, CROSSROADS, CAUTION—MEN WORKING AHEAD, ROAD SLIPPERY WHEN WET, DANGEROUS CURVE, STEEP GRADE, NO LEFT TURN, CAR STOP.

Reading for Information and Instruction

In order that the child may find his way about the community, he must be able to read street signs, streetcar signs, transfers, timetables, and official signs and warnings. He must also know how to find a name through the alphabetical lists given in the telephone and the city directories. Any other reading items should be introduced that are common to the social and industrial or agricultural environment of the child. He should be able to read labels and names of all household necessities such as names of articles of clothing, drugs, groceries, and common tools. He should be able to read the names of stores or departments in stores that carry such items. His reading vocabulary should include the names of common plants and animals. He should be able to read newspaper advertisements such as announcements of sales, "Help Wanted" and "Lost and Found" columns.

Some of these items will be common to the lives of both city and rural children, others only to one or the other group. Each group should have a vocabulary suited to its own particular needs. Each child should go as far as he is able. A very deficient child in the city may be able to learn only the names of streets in his immediate vicinity. Others with more ability will learn the geography of the city and will be able to learn the names of all principal intersecting streets, of all parks in the community, and of the important buildings. Still others, especially those whose families use the automobile as a means of travel, may be able to learn the geography of the entire State, as well as of neighboring States. There is no limit set except the child's ability and interest.

The rural child of very low ability may be able to learn only the names of crossroad signs of his immediate vicinity and the name and destination of the bus that passes through. Others may learn the names of the towns through which the bus passes and the destination of other busses met at junction points. To rural children the physical geography of the State should be of special interest.

The type of vocabulary for either city or country will be built naturally and with ease through many units of experience in which the need to know the geography of the locality arises. Such experiences include:

1. Walks about the vicinity of school and home.
2. Trips about the city to—
   (*a*) Market.
   (*b*) Dairy.
   (*c*) Bakery.
   (*d*) Art gallery.
   (*e*) Parks or playgrounds.
3. Tracing the progress of farm products to their markets.
4. Tracing some manufactured article from the factory to farm or home.

Reading for Pleasure

Children of low intellectual ability may read for pleasure if carefully guided and directed to material that is within their comprehension and interest. Among the first sources to which they turn are the "Funnies" and at least the headlines of the "Sports Pages." Some booklists have been made out by librarians and others interested in the reading of retarded children indicating the books most frequently preferred by them. Even commercial publishing companies have begun to include in their catalogs of books for boys and girls a classified list of "books for retarded readers," specifying age and vocabulary level. Any teacher can find or develop such a list for himself, being careful to offer the children only those books which they can handle with ease.

Experience Reading

Experience reading, involving items common to the activity being carried on in class, is the best approach to the development of reading skill. For example, if a class activity centers on "Household Pets," the child must acquire many new words for his reading vocabulary. Together teacher and pupils will develop phrases, sentences, and paragraphs that will be printed on charts and in turn become the next day's reading lesson. Through discussion and work periods the new words will be made a part of the child's vocabulary. They will have real meaning for him. When he encounters them again in another reading situation, they will give meaning to the new subject matter.

The experience and vocabulary used should always be in terms of the psychological maturity of the child. The experience must be real to him,

and to be real it must be well within his ability to understand it. Household pets interest most children. To the child with a mental age of 6 years, a dog is little or big, black or brown. His reading experience may center on the following ideas:

1. The dog as a playmate.
2. His habits (what he eats; where he sleeps).
3. How to take care of a dog.
4. Why take care of him.
5. Tricks he can learn.
6. How to punish him.
7. How to reward him.

The child with a mental age of 8 or 9 will be interested to go further and learn about the different breeds of dogs, the native country of each breed, the different characteristics and uses of each breed.

Again, in carrying out a "Post Office" unit, the interest of the child who has a mental age of 6 will not go beyond the postman, the letter, and the stamp. The child of a mental age of 8 or 9 years will want to learn about the duties of the local postmaster, the train mail, the air mail, and the ocean mail. The boy who is 14 or 15 years old and who has a mental age of 10 or 11 may be interested in mail rates, routes, and perhaps in subsidies to airplane and ship companies for the carrying of mail.

The child who is not ready to build up reading concepts should share in the group's unit of experience, develop his own background of experience, and increase his speaking vocabulary. His reading activities should be of kindergarten or preprimer level, involving largely the matching of words and objects or of words and pictures.

Language and Spelling

Since spelling is the medium of written language, these two phases of work are here considered together. Language is the mode of expression of the child growing out of his activities and interests. Oral expression is the chief aim of language instruction for mentally retarded children. As adults they should have clear, distinct speech, be able to express their thoughts in simple sentences, be able to speak over the telephone, and to ask for or to give simple directions.

In the classroom the child's facility with language will grow under the teacher's guidance as his field of life experience enlarges. His speaking vocabulary should increase and his meaningful reading vocabulary will increase accordingly. He should learn to speak clearly and to express complete thoughts. He should use his language ability in reading, arithmetic, social science, arts, and other fields. The fact that language is so general a subject makes it important that a checklist be used constantly to evaluate the work that has been done. Such a list can be formulated by the teacher on the basis of the activities carried on in class, supplemented by standard word lists.

Written language grows out of the use of oral language. The pupil should be able to *say* first that which he wishes to *write*. A need for written language will arise when he wishes to write a letter to his mother inviting her to a school party, or to a firm asking for information, catalogs, folders, or exhibits. He may wish to write a simple account of an activity being carried on in the classroom or to compose a greeting for Christmas or Easter. Every experience carried on under the teacher's guidance provides opportunity for developing written language in conformity with the probable demands that will be placed upon the retarded child as he grows up. Among the common activities that will demand written expression will be: Application for a job; ordering goods from a mail-order house; writing letters to relatives or friends; and other experiences that may be peculiar to his own social environment.

Spelling needs are simple, and demands in this direction should involve only those words which are likely to be included in the pupil's adult writing vocabulary. Numerous standardized spelling scales have been published which may be used as basic checklists. The limit of progress should be determined only by the child's own ability to master the mechanics of the spelling of words common to his needs. In some cases it is the one field in which a mentally retarded child seems to excel.

The activities carried on in the classroom should be the basis for introducing new words. Words so derived will be meaningful to the child. They will already be a part of his speaking vocabulary, and he will readily recognize the need for making them a part of his writing vocabulary. Their correct spelling should not stop with the so-called "spelling lesson," but should be a part of every writing activity in which the child engages.

Courtesy: Cincinnati, Ohio, Public Schools

Experience in making a paper house adds incentive in using the reading charts.

Courtesy: New York City Public Schools

How to spend one's income wisely is a serious problem for these girls.

Numbers

Adult Arithmetic Needs

The minimum everyday demands of arithmetic in adult life are relatively few, but they are important. Many of them involve the use of money and of making change. The chief problems relate to table or household expenses and are concerned with such items as groceries, fruit, meat, milk; clothing, drygoods, house furnishings; fuel, electric light, gas; rent or taxes. Which of several items would it be better to buy? How can the household budget be managed? These are questions that face everyone of us almost daily. Other problems involve the figuring of wage rates per hour, week, or month, the use of time schedules and common weights and measures. Some of the boys could paper rooms in their own homes. They should have the necessary number facts and skills at their command. Some could plant corn and be able to figure the cost. Some may build chicken coops or hen houses. They should know how to buy lumber. Whatever number situations arise in the life of the child or in the life of his family could be considered good content in arithmetic, provided the child's mental level is high enough to enable him to cope with them.

In any situation it is probably safe to say that the essentials of number development in classroom activities should include much practice with the following skills:

1. Addition and subtraction of two-digit numbers.
2. Addition and subtraction of dollars and cents.
3. Content of multiplication tables.
4. Short division.
5. Simple fractions and mixed numbers, concretely applied (e.g., ½, ¼, 1½, 1¼, 1), common to measuring of pounds or yards.
6. Common weights and measures.
7. Clock and calendar facts.
8. Timetables and schedules (railroad, bus, airplane).

Meaningful Experiences

The mentally retarded child needs many meaningful experiences with numbers before he is ready to handle simple problems. Every classroom activity in which a number situation arises can be made a part of his experience. His ideas of number values should be systematically built up out of his immediate environment and should be based upon objects which he can handle or, less frequently, representations of objects through pic-

tures. The following number situations are among the many that may be considered common to every child's experience:

1. Representations in pictures; e.g., 4 baby ducks and 1 mother duck; 2 black dogs and 3 brown dogs; 3 birds in a tree and 2 in the sky.
2. Real money for real buying or for playing store.
3. Desks, scissors, crayons, etc., to count.
4. Boys, girls in the class—to count and to compare.
5. Boys, girls, absent today—yesterday.
6. Party preparations—counting napkins, plates, cakes, apples.
7. Price lists and other information to compare values, and thus to promote consumer education.
8. Hourly, weekly, or monthly wage scales.

Number Vocabulary

Through such experiences as these, the child can develop a concept of number values and relationships. He should learn in doing things that the "and" relation means addition; and that "difference," "how much more," "lost" or "gave" means subtraction. He is not ready for written problems until these items are part of his speaking vocabulary and are recognized as "cues" for the solution of oral problems.

Before he leaves school, he should acquire a working vocabulary of arithmetical terms that he will commonly meet in a work-a-day world. The following terms represent some of the concepts common to everyday usage:

1. Terms relating to time, space, or quantity:

another	enough	pair
half	both	part
double	increase	smaller
twice	less	some
each	many	none

2. Terms relating to measurement:

dollar	nickel	half
dozen	inch	pounds
quarter	measure	quart
dime	acre	weight
cent (penny)		

3. Commercial terms:

bill	cost	rent
buy	earn	sell
change	expense	spend
charge	price	worth

Drill on Fundamentals

The use of the unit of experience does not eliminate the need for drill. The use of the newly acquired tool over and over again in many and varied situations makes it a permanent part of the child's knowledge, and the mentally retarded pupil is of all children most in need of such repetition if he is to acquire a given skill. Short drill periods have a place in arithmetic as in other fundamental processes, and can in practically every case be based upon the content of the unit of experience. Add 3 cupfuls of fruit juice and 2 cupfuls of water to make a pitcher of fruit punch. Make a garden path 4 feet wide and 8 feet long. Divide a day's wages into halves. Through countless applications the attainment of skill in the fundamental processes can become for the child an interesting, purposeful activity rather than a meaningless process.

Penmanship

Legibility is the chief goal of instruction in penmanship, and this requires the achievement of muscular coordination, proper posture, and proper manipulation of the pencil. Once the child has acquired the ability to form even, well-spaced letters, he should understand that writing is only for conveying a message or for preserving a record of some interesting event or important fact. Therefore his writing must always be legible, neat as to form, and free from smudges.

Continued vigilance on the part of the teacher to see that the child assumes a proper writing position, that his paper is properly placed before him, and his pencil is properly held will produce far better and more lasting results than any amount of formal instruction. To be sure, habits here as elsewhere need to be formed through much repetition. Hence drill again has its place, but the mentally retarded child does not automatically transfer "copybook" penmanship to his ordinary everyday requirements in writing. After the bare essentials have been acquired, the best practice that can be given to him is in immediate connection with his writing activities. Written language and penmanship are supplementary to each other.

Summary

1. The nature of the mentally retarded child's handicap limits both the amount and the kind of subject matter by which he is able to profit. In

individual cases, however, no restriction should be placed upon the content of academic experiences in which the child participates except that which is imposed by each child's own lack of ability to comprehend.

2. In general, the criteria for the selection of academic subject matter should be its possible contribution toward happy childhood and the probable need for it in adult life.

3. The approach to the mastery of subject matter should be through experiences of the child at the level of his social interests, presented through concrete ideas and the manipulation of objects. Every fundamental skill can be taught through many and varied experiences forming the basis for the necessary drill.

4. The choice of the subject matter to be presented at a particular time should be in response to a real need or interest on the part of the child in meeting a particular situation or in solving a particular problem.

5. Word lists, spelling lists, multiplication, addition, and subtraction tables may serve as valuable tools in selecting the skills to be achieved, and as a check to determine the skills already acquired and the amount of drill needed.

9

Experiences in Science

SCIENCE is as important for mentally retarded children as for all other children. Modern man is dependent upon science to meet his basic needs. It includes the study of food, clothing, and shelter; plant and animal life; the earth and the universe; energy and machines. The experiences of all children and adults—including the mentally retarded—touch upon the science aspects of living. With some of these aspects the mentally retarded are vitally concerned. Their school life should not end without rich opportunities to explore.

However, a curriculum in science which may be excellent for the regular elementary or secondary grades is not necessarily either desirable or practical for mentally retarded children. They are not as observant or as well-informed concerning things about them as are normal and mentally superior children. They do not grasp abstract ideas readily. They must have intensely practical experiences and many varied repetitions of experiences of the same general type if their observations and interpretations are to function effectively. Some of the content usually included in junior and senior high school science is of utmost value for efficient living, but it must be taught realistically and simply enough for the mentally retarded child to understand and to use. Since, by definition, he will not be able to meet the standards of the regular classes in junior and senior high school, such content will need to be presented to him in terms of his own ability to understand. These facts make it imperative to select carefully curricular material from all fields of science directed toward increasing the child's equipment for daily living.

Requisites of Satisfactory Material

Both the physical and the biological sciences offer material of interest and value to the mentally retarded. To be acceptable such material must,

in the first place, contribute to interpretation of the environment, to adequate adaptation within the environment, and to the appreciations and attitudes that add to its enjoyment. In the second place, the subject matter selected must be simple enough for mentally retarded children to understand, tangible enough for them to appreciate, and objective enough for them to utilize. That which is an integral part of the environment as they see it and work with it from day to day and which can be explained objectively with concrete materials at hand constitutes the most desirable content.

The experiences selected should contribute to the development of habits of more careful observation and to the extension of wholesome interest in the physical environment and thoughtful care of living things. They should bring about an acquaintance with those scientific facts that concern health and safety. They should stimulate economic purchase and use of commercial products and mechanical devices, with an ability to make selection on the basis of value and durability. They should add to the power to interpret simple phenomena of the physical environment and of the behavior of living things. Finally, they should open up some possibilities for the use of leisure time.

Experiences in science are a logical part of every unit of experience. The teacher who says, "Now we'll have a science lesson," and who fails to see the vast opportunities for guiding the children into realms of experiences in science through the unit on the home, on foods, on clothing, or on any other theme, loses the opportunity of integrating the daily experiences of pupils. The topics listed in this chapter are suggested not as themes to be presented through isolated discussions or experiences, but as phases of scientific subject matter that can be either closely related to the total units of experience with which they individually belong, or used as the basis of an experience to which other fields are related.

For example, an entire unit of experience might be planned about the subject of plants. In one class, the children planted several kinds of seeds in flower boxes, which in due time became aglow with color and beauty. The flowers furnished the approach to a study of the place of seeds and of roots in plant life; of different kinds of seeds and roots, including those which are edible; of the needs of plant life; of the use of plants for clothing, for building, for medicine, and for coloring. Into this setting

were introduced activities in reading, language, numbers, manual arts, music, health education. Younger children of the group participated in the simpler activities and observed others. It was a socializing experience that helped each child to learn something of and to appreciate nature's work and its effect upon human life.

In another class a unit of work was developed under the general topic of milk. The children of lowest ability cut out pictures of cows, milk bottles, milk trucks; they talked about the milkman and the use of milk at school and at home. The intermediate group took a trip to the dairy, made butter and cottage cheese in the classroom, saw and discussed some "movies" on cows and milk, made reading charts, wrote stories and poems, and modeled, out of clay and wood, cows, calves, barns, trucks, and milk wagons. The advanced group joined the intermediate group in its activities, but added spelling and arithmetic lessons based on the same material, vocabulary charts, posters, and recipe books. The entire school became "milk-conscious."

The study of habits and needs of native birds might in some localities easily become a part of a unit of experience on "exploring the community." Reading the thermometer might be included in the same unit and be related to weather conditions of the community. Many scientific observations are closely concerned with the subject of foods. Nature study, biology, astronomy, chemistry, and physics all offer material from which selection can be made in accordance with the ages and mental levels of the children concerned, and with the units of experiences that are under way.

Even the youngest children can watch the birds, the clouds, the rain, the snow. They can observe the change of seasons. They can become acquainted with the flowers and the trees growing in the immediate vicinity; with the habits of common birds, animals, and fish; and with the behavior of the butterfly, the caterpillar, and the ant. They can catch snow in a container and watch it melt; see snow crystals under the magnifying glass; put water out to freeze; care for pets and for plants; boil water and watch the steam; watch a lighted candle go out when placed under a glass; and watch water disappear from the blackboard after washing. All these observations, experiments, and other activities will help the young child orient himself in the world of nature about him

and see some of simplest ways in which natural law applies to human existence. As he grows older, he will be led to a more scientific knowledge of living things in a natural world through more comprehensive experiences.

SUGGESTED EXPERIENCES

A. Subject matter drawn from the immediate environment of the child:
   1. Habits and needs of native birds.
   2. Preservation of wildlife.
   3. Plant life (indoor and outdoor); its need for development; absorption of moisture; growth; value.
   4. Daily phenomena of weather: Rain, snow, hail, fog; amount of rainfall.
   5. Function and operation of simple mechanical devices, such as the toy steam engine, water wheel, bellows, air pump, carpet sweeper, bicycle, meat grinder, egg beater, vacuum cleaner.
   6. Some of the major features of the universe, such as sun, moon, earth, stars, clouds, wind, seasons, day and night.
   7. Sources and composition of common materials used for food, clothing, shelter, tools, transportation.
   8. Scientific explanation of some of the modern means of communication and transportation, such as the telephone, telegraph, radio, television, balloon, automobile, airplane.

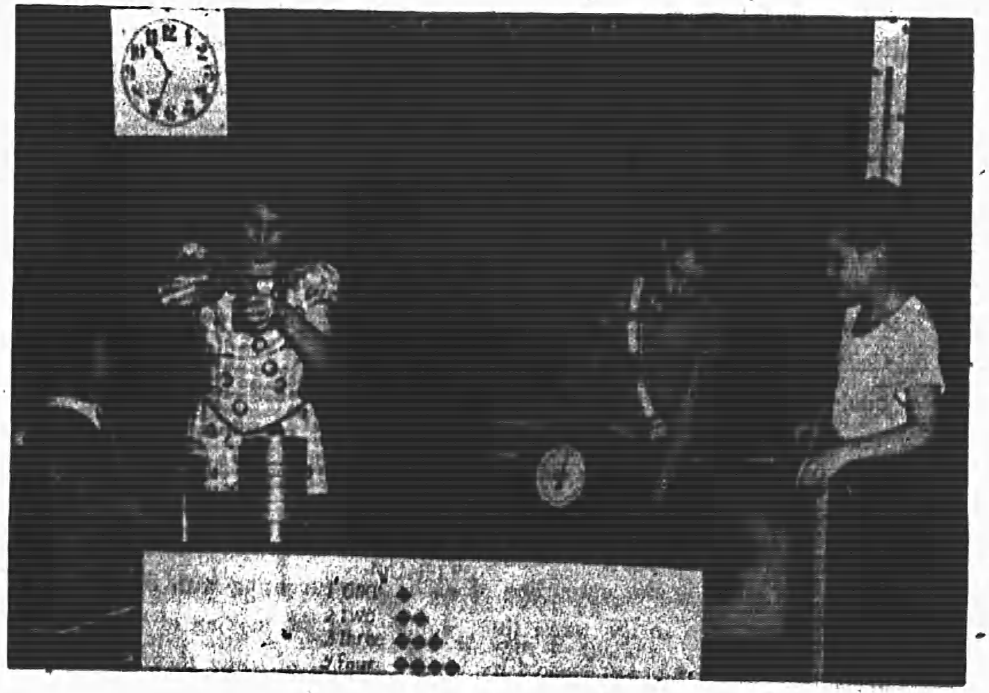
B. Skills offered by various sciences that are usable in daily living:
   1. Reading the thermometer.
   2. Pouring from a bottle so that it will not gurgle and spill.
   3. Using a medicine dropper.
   4. Gradually heating a glass container so as to loosen the lid.
   5. Building a fire.
   6. Bleaching or dyeing cloth.
   7. Using a siphon.
   8. Comparing the relative values of cooking utensils.
   9. Simple household processes, such as using a plunger, changing fuses, putting new washers on faucets, making simple extensions for electric lights.

C. Directed observation of simple, well-planned experiments illustrating well-known scientific principles:
   1. *Buoyancy of water.*—Floating different sizes of materials of various shapes in water and noticing the water line of each; experimenting with the shape and resulting variation in the water line; applying to the making of toy boats the principle that objects are buoyed up by the amount of water they displace.
   2. *Leakage of water.*—Measuring the amount of water wasted in a given length of time from a slow leak, appreciating the fact that trivial waste results in considerable loss.

3. *Purification of water.*—Putting on small glass lids or dishes (*a*) water from a puddle, (*b*) water from a faucet, and (*c*) boiled water, observing daily through magnifying glass the changes taking place; filtering water and boiling water; investigating the local filtration plant and water supply.

D. Knowledge that contributes to the understanding and appreciation of the behavior and needs of living things:
   1. Life cycles of animals and plants.
   2. Distribution of seeds in a seed pod.
   3. Growth of seedlings and bulbs under different conditions of light, moisture, and heat.
   4. Kinds of common trees: Their foliage, fruits, and uses.
   5. Behavior and needs of pets at school and at home.
   6. Behavior and physical condition of mice fed on different foods.

E. Practical knowledge that contributes to desirable habits of health and safety:
   1. Adjustment to different seasons and weather conditions.
   2. Effect of bacteria upon food.
   3. Ventilation; respiration.
   4. Prevention of disease.
   5. Posture, care of teeth, eyes, ears, hair, skin.
   6. Use of simple antiseptics.



Courtesy: Cincinnati, Ohio, Public Schools

Weighing and measuring are valuable experiences in science and can become the basis for both reading and number work.

7. Use and repair of electrical devices.
8. Causes, danger, and prevention of short circuits.
9. Use and storage of inflammable materials.
10. Function and mechanics of fire alarm and fire extinguisher.
11. Methods of extinguishing fires.
12. Care of household plumbing in winter.
13. Construction and function of household water system: Water meter, traps in drainage, connection with city systems.

F. Practical knowledge that leads to wise selection and satisfactory use of commercial products:
1. General repair of household appliances.
2. Care, use, quality, and endurance of tools.
3. Choice of cloth: Kinds; characteristics; limitations; values; tests for wool, cotton, and silk; tests for permanence of prints and dyes.
4. Use and limitations of cleaning agents, home-made and commercial.
5. Use of foods: Kinds; values; preservation; refrigeration.
6. Care of heating systems: Kinds; characteristics; advantages; disadvantages.
7. Mechanics of pumps.

G. Construction of simple equipment and use of common products that will widen the child's range of interest, contribute to better understanding, or lead to wise selection and use of commercial products:
1. Thermometer.
2. Respirator.
3. Medicine dropper.
4. Water magnifying glass.
5. Strong alkaline soap and neutral soap.
6. Dyes, bleaches, stain removers.
7. Common home remedies.
8. Window ventilators.
9. Outdoor window boxes.
10. Thermos container.

H. Experiences which contribute to desirable use of leisure time:
1. Visiting museums and exhibitions of scientific interest.
2. Making mechanical household appliances and toys.
3. Collecting, mounting, and labeling specimens of trees, flowers, rocks.
4. Raising animals, birds, fish.
5. Gardening, making weather vanes, sun dials, bird baths, and bird houses.

Summary

1. Experiences in science must be simply and objectively interpreted if they are to be of any value to mentally retarded children. Only those

experiences should be presented to them which can be interpreted in terms of the daily living of the pupils.

2. Such experiences should contribute to the development of habits of more careful observation, to the extension of wholesome interest in the physical environment and thoughtful care of living things, and to the ability to make practical application of simple scientific facts to everyday living in the interests of health, safety, economy, and enjoyment of leisure time.

3. Experiences in science may be taken from nature study, biology, chemistry, physics, astronomy, and other branches of science which offer material of value and interest.

4. The discussion of abstract principles should be avoided, but activities illustrating the operation of principles should be numerous.

5. The activities in science should not be considered as isolated "science lessons," but should constitute a logical part of the total unit of experience that is under way.

10

Experiences in the Arts

EXPERIENCES in the various fields of art, including both so-called fine and practical arts, have an important place in the school curriculum for retarded children. Music, dancing, dramatization, poetry; various types of play activity; drawing, painting, stenciling, modeling; household arts; pottery, metal work, leather tooling, and other handicrafts all stand side by side in offering abundant opportunity for both appreciation and creative expression. Interest and ability in these fields are among the strongest assets which retarded children possess. They constitute an emotional stabilizer, at the same time offering great possibilities for enriching the lives of the pupils. It is not to be expected that the children will ever become exceedingly adept in their performance, but they will secure emotional satisfaction and in some cases will make creditable progress, thus becoming socially more acceptable in a normal group.

In planning activities in the arts for the classroom, the teacher should keep constantly in mind (1) the social characteristics of various age and ability levels and (2) the need for differentiating the curriculum according to these age and ability levels. To secure the greatest value from the activities, the teacher should see to it that the work of the pupils is spontaneous, satisfying, and a part of the experience unit under way in the classroom.

Music

The value of music in varied forms can scarcely be overestimated. Through it may come the release of pent-up emotions, the development of an innate ability on the part of some, and the sheer joy of singing, playing, or listening on the part of all. Music is a means of expression of which no one is utterly deprived, and it should be used to make the retarded child happy through appreciation and participation.

Most mentally retarded children enjoy singing, even though some may be limited to humming a tune. The child's ability in this field usually excels his academic accomplishments. Sometimes it seems best to teach songs by the rote method, no attempt being made to teach the words correctly until the melody is familiar. At other times it is quite feasible to teach words and music together, and some groups do fairly well even in simple part singing. Accompaniment by the piano or by a band of the pupils' own membership adds to the zest of the activity.

Harmonica bands, toy orchestras, and other instrumental means have been used to develop in the children the joy of creating music and rhythm, as well as to accompany the class in singing. Wind instruments can be played by some children who are intellectually quite deficient. Music is one of the fields which seems not to show a high degree of correlation with academic intelligence. Some outstanding results have been achieved by teachers who themselves were musically inclined and knew how to secure musical expression from their pupils.

The phonograph and the radio are both valuable as means of assistance and inspiration in the development of musical appreciation and also as means of furnishing accompaniments. Good music is so frequently given over the radio that a teacher who is fortunate enough to have access to an instrument for the use of his class can employ it to good advantage. While phonographs are probably still more commonly found in schoolrooms, radios are appearing in increasing number.

Correlation with experiences of the day is desirable here, as in all other fields of art. A period set apart for music without relation to anything else may be fun while it is going on. But if it is tied up with an experience unit through the selection of songs and music that are related to the content of the unit, the message will carry over far more effectively into the life of the child.

Play Activity

Play in its highest form is truly an art. It combines rhythm, coordination, and skill, and holds the possibilities of joyous creative expression. No teacher of retarded children should permit himself to think of playtime merely as an opportunity of relief for himself and a means of getting the children out of the way. Even here they need guidance that, if effectively given, can lead them to new fields of conquest in social adjustment.

Rhythmical Games

All types of rhythm have an important place in the lives of retarded children, since they afford a means of releasing activities that have not been possible because of faulty coordination. Let the teacher begin with the child's own natural degree of rhythm and go on from that point by fitting the music to the child's activity. After the child has developed some skill in coordination, he can fit his action a little more nearly to the correct tempo of the music. In a beginning rhythm class, as in all activity, the teacher should be willing to accept much inferior work. If too much attention is given to faulty coordination, the pupil may easily lose interest in the performance. If the activity seems difficult or some degree of coordination cannot be learned through suggestion or imitation, the teacher would be far wiser to drop the activity for a while and return to it later than to try to teach the child step by step until he wearies of the effort. Often a rhythm game or dance which proved difficult and uninteresting when first presented will be quickly learned and enjoyed when it is tried again later. After the pupil has become familiar with the activity and has had some fun in executing it, his faulty coordination can be corrected without causing him to lose interest or to feel a sense of failure.

It is usually advisable to combine the teaching of rhythm with an interesting game. A child may be unable to skip in a rhythm class but able to skip quite acceptably in a simple singing game, such as "Farmer in the Dell" or "Did You Ever See a Lassie?" A waltz step may not be accomplished when presented as a simple rhythm, but in a folk dance having a waltz step it may be performed without hesitation. The dramatic interest in the folk dance is so great that the step comes more or less without effort.

When remedial work with apparatus or some other form of calisthenics appears to be necessary, it, too, should as far as possible be made a part of the rhythmical activity. Faulty posture and poor physical coordination can often be overcome in this way. Even older boys and girls of low intellectual level will enjoy and gain skill in activities which normal children of their age consider "baby stuff," provided they are not ridiculed. They do not mind repetition even at an advanced age if the activity is planned with an appealing setting.

Imitative Play

Imitation is common with all young children. Mentally retarded children are no exception. A boy of 7 with an intelligence quotient of 50 frequently worked for a half hour trying to fit a flat board into a small window in a door, as he had seen a glazier fit a pane of glass. He used a small stick to tap the board in place and also made it serve as the putty knife to put the pretended putty on the edge of the pane.

The most common expression of imitative play is probably in enacting the role of some person or animal or thing with which the child is familiar. The nurse or the doctor, the mother or father are frequent objects of portrayal. Familiar stories also offer opportunities for the child's identification of himself with some character. For example, if the leader announces "I am Red Riding Hood. Who Are You?" it will not be long before the child becomes the wolf, the mother, the grandmother, or the wood cutter. Thus story play can be developed that will bring the joy of creation and contribute to the loss of self-consciousness.

Dramatics

Dramatic expression is the logical outcome of imitative play and constitutes an enjoyable part of recreation of retarded children whether they are in the audience or acting a role on the stage. The plot must be relatively simple with much action. Situations developing from subtle actions or conversation are beyond their comprehension and should be avoided. Lines of the play should be written in their own vocabulary. Unfamiliar words have little meaning for the actor and are repeatedly mispronounced or emphasized incorrectly in the sentence.

To develop meaning, the teacher and the group should go over the play as a whole many times before the parts are assigned. The setting of the play, the roles of the characters, the scenery and costumes should be discussed as thoroughly as possible until the players have a general understanding of the play before actual rehearsals begin. Plays with many characters and major roles, each requiring few lines but much movement, seem to be most acceptable. The child may have little difficulty in automatically memorizing lines or in following cues, but too often a play resolves itself into a mechanical exchange of words. On the other hand, roles that call primarily for action or movements are quite naturally interpreted.

It is not an easy matter to find suitable plays which have meaning for retarded children and which at the same time are at their social level. Most of those available are either too "babyish" in content or too difficult in plan and vocabulary. Therefore, after the children pass the story-acting period, the teacher will often find it necessary either to write his own plays or to revise some existing play so as to make it acceptable to both the mental and social levels of development of the pupils. Best of all will be the cooperative enterprise of the pupils in writing their own play under the skillful guidance of the teacher, the content being drawn from the unit of experience in progress.

Another form of dramatic play which retarded children enjoy is the puppet show. Operators can develop such plays in the same manner in which a story play develops, with no fixed lines in the beginning. Gradually the children make up lines in their own words to fit the actions of the characters in the story. Not only do they have fun making their puppets act in a play, but they enjoy constructing and operating them. Just to make them walk, sing, or dance in a fairly natural way seems to fascinate older boys and girls. Writing a puppet play as an integral part of a unit of experience opens up the entire field of reading, spelling, and language activities connected with the experience and at the same time offers the definite incentive of making and operating the puppets. It carries with it the development of skills, habits, and attitudes in the whole realm of activities fundamental to the education of retarded children.

Dancing

After the child has mastered simple rhythms and has had experience in various types of singing games, he is ready for folk dancing. The dramatic element which makes the singing game enjoyable is then eliminated and the rhythm and complicated step alone hold the child's interest. Girls who for 4 or 5 years have had many singing games are able to do difficult folk dances with skill, ease, and pleasure. They are also often able to do clog and tap dancing with a high degree of ability. Boys, too, are eager to learn to jig, clog, and tap dance. It is amazing, at times, how efficiently they learn the more popular types of dancing, and to find what assets these are to them afterward. One boy who was shy and retiring learned to jig. On many occasions he was asked to jig before his class-

mates and for several school programs. Not long after he had developed this accomplishment his manner began to change. He volunteered suggestions in the schoolroom and seemed to have a greater interest in all that went on about him. When he realized that he had a social resource in dancing, he became aware that he had other abilities as well and exerted a greater effort in all of his undertakings, including academic subjects.

Form and Color

Art forms, particularly form and color, expressed through picture study, drawing, modeling, and various handicrafts, give to intellectually subnormal children the same opportunity for enjoyment and creative expression that they give to normal children.

From the youngest to the oldest they can be helped to appreciate attractive colorful pictures of artistic themes, chosen to fit into the experience

Courtesy: Detroit, Michigan, Public Schools

Experience in art may take many forms.

of the day and in keeping with their age levels. Every teacher should have an abundance of such pictures on hand for use as occasion demands. The use of crayons, paints, brushes, clay, and other types of art materials by the children themselves gives to them concrete evidence of a certain amount of control over the things with which they are working.

Many retarded children have difficulty in differentiating colors. To them it is necessary to give much experience in color discrimination. An 8-year-old boy could not distinguish red from orange until he had had months of directed experience. Likewise it is sometimes necessary to give much practice in recognizing various shades of a specific color. This does not mean that retarded children are not sensitive to color, form, and beauty, but that their observation is less acute than that of normal children.

After a child has to some extent learned to manipulate the materials with which he has to work, his performance gradually shows keener observations. Inasmuch as his work should be as free as possible from arbitrary direction, he should be given many opportunities to exercise his own judgment and to make his own decisions. These are experiences which subnormal children need, since they are repeatedly saying: "Is this the way?" "Is this right?" "Show me how" or "Help me do it."

As a means of expression, drawing can be of very practical help. A boy of 14, with an intelligence quotient of 64, had difficulty in finding suitable words for describing a piece of equipment found in a bakery. The teacher and children were unable to supply the missing words from his meager account. Suddenly he asked for chalk, saying, "I can't say it, but I'll draw it for you." Although his drawing was crude, the name of the object was supplied and his description of the shop progressed with interest. Instead of resulting in failure, this incident gave the boy a feeling of success, since he had at his command the means of overcoming a difficult situation.

General Arts and Crafts

Obviously the particular type of craftwork called for will be determined by the particular unit of experience in which the class is participating. Almost every branch of handicraft offers some opportunity for the mentally retarded child to develop creative ability in connection with the activity under way. The following experiences are among those that

have been used again and again by teachers: Painting flowerpots, boxes, china ware; making candy or flower baskets; bookmaking; block printing; making lamp shades; stenciling curtains; weaving scarfs and rugs; making posters or friezes; making favors for a party; modeling animals or articles of interest; pottery making; tooling leather; making candlesticks; smocking; embroidering. The one thing to guard against is that none of these activities becomes mere "busy work." It must have a definite function and a related place in the classroom experiences if it is to be justified.

Even the younger children can use paper, paints, crayons, clay, plasticine, wood, and cloth with purpose and attention to details. Tin cans and glass bottles are common types of material that have found their way into the arts and crafts room. In a corn-growing community, corn husks were used for weaving mats, napkin rings, and other articles. Scraps of wood gathered here and there become trays, boxes, bookends, and shelves. As the pupil reaches the adolescent age, special emphasis can be placed upon manual experiences that not only satisfy the creative desire but are also utilitarian, with values for occupational activity.

Summary

1. Experiences in the arts offer abundant opportunity for enriching the lives of the pupils and for developing creative ability. They constitute an emotional stabilizer and a means of self-expression that can be secured in no other way.

2. Among the fields of art which should be given a prominent place in the curriculum for retarded children are music, play activity, dramatics, folk dancing, drawing and painting, household arts, and general arts and crafts.

3. Each of these types of activity can be woven into the general unit of activities, thus becoming a part of the total experience rather than a thing apart from the rest of the day's program.

11

Manual and Occupational Experiences

CHILDREN learn by "doing." In no area is this truism more applicable than in manual and occupational experiences. Mentally retarded children enjoy working with concrete materials. From the early years of gross manipulation and exploration of objects in their environment without definite purpose, there is growth toward more and more purposeful activity. The special education program has a role to play in guiding this development and aiding the individual child toward skillful use of his motor capacities.

From childish satisfaction in manipulation and play with tools and materials he grows to enjoy and take pride in constructive efforts which serve a definite end. Many of these experiences are directly related to life activities in his immediate environment, such as food, clothing, and shelter. As pupils approach adolescence, manual activities often center in laboratories and shops, as in household mechanics, foods, clothing, shoe repair, woodwork, metal work, general repair work, electrical work, and modifications of these.

Place in the Curriculum

Mental Health Values

Manual activities serve as a means of expression. The child often interprets and clarifies, through the medium of materials, his concepts and ideas of family, neighborhood, transportation, work, sports, and so on. What he cannot put into words, he draws or models or paints. Even emotional conflicts which he will not admit or of which he may not even be conscious, find relief through manipulative therapy and manual expression. We all find release from mental tension through digging in the garden or sawing wood or working at the carpenter's bench. While not always put first in the scale of values, such therapeutic effects of manual activities

rank high with mentally retarded children. The sheer delight they experience in doing something, in creating something, and in thus giving vent to their emotions and longings is a real advantage in their educational progress.

Occupational Values

Along with the satisfaction that comes from the sheer joy of making things, there are very practical values growing out of manual skills. By far the greatest number of seriously retarded children will earn their living in adult life through the use of their hands. Familiarity with a variety of material and equipment related to mechanical processes, together with a certain amount of skill in their use, will give preparation for the new employment situation ahead. Some experiences have definite occupational implications, as, for example, household science, cafeteria training, clothing, shoe repairing, tailoring, and gardening. Many jobs have been found in factories, hotel kitchens, cafeterias, parks, and elsewhere, for boys and girls who have been industrious and conscientious in their school work.

Numerous employers have emphasized the importance of securing the services of boys and girls who know how to use their hands and who have been taught at school to get along with others, to be punctual and regular on the job, and to be steadfast in work habits. When specific job training is added to these qualifications, successful occupational adjustment becomes probable. The State vocational rehabilitation agencies are increasingly finding it possible to help mentally retarded young men and women of employable age to achieve such adjustment.[1]

Coordination with Other Activities

The teacher should constantly be conscious of the principle of unity running through the whole school program. All too often children have made only a sample of a wooden box, a woven mat, or they have pared potatoes, without getting any real experience from the relationship of these things to the rest of their activities. What the child does with his hands in the shop or the kitchen should be a living part of the total experience to which each specific activity makes its contribution.

[1] *See:* "Employment of the Mentally Retarded," by Salvatore C. DiMichael, and "Subnormal Minds Are Abler Than You Think," by Lloyd N. Yepsen, in *Journal of Rehabilitation*, 15: 3–7 and 8–12, April 1949.

In other words, the teacher must be a teacher of children first, last, and always, with full consciousness of their total lives, and not a cook or a cabinet maker, or a worker in arts and crafts, or even a teacher of *subjects*. If the departmentalized plan is followed in the school program and a specially prepared teacher works with the pupils in manual activities, the need for integration is great. All teachers dealing with the group can plan together to make the program a unified one, centered on a common theme of interest.

Using What Is at Hand

The lack of proper equipment is a frequent source of irritation to teachers who are eager to plan manual and occupational experiences with their pupils. It is, of course, necessary to have the cooperation of school administrative authorities if adequate supplies and equipment are to be on hand. No amount of inventive genius can compensate for serious lacks in this direction.

But every teacher can find ways and means of capitalizing upon the resources available. Lunchrooms and cafeterias are all too common in the schools today to disregard the opportunities they offer for various types of occupational service on the part of intermediate and advanced groups. Many a waiter or waitress, bus boy or bus girl, checker, and general clean-up man has had his first experience in the school lunchroom. Children's shoes and clothing repeatedly need mending. Scraps of dress materials, even flour sacks and sugar sacks, have their values. The young children in a school can become the charges of a class in child care. Within the community and the school, the resourceful teacher and principal, even without elaborate equipment, will find abundant opportunity to translate principles into action.

Fortunate was the teacher who found on the school grounds a long unused greenhouse. The board of education was contemplating its demolishment, but the city supervisor of special classes pleaded for its retention and rehabilitation on the basis that it could serve an excellent instructional and prevocational purpose for the special classes which had recently been assigned to the school building. The request was granted, and the greenhouse soon became the center of interest in developing a fascinating experience with flowers in which all pupils of the special classes participated. The youngest children watched plants grow and learned to recognize

and to love them. The older ones learned the secrets of soil preparation, of planting, of watering, and of fertilizing. A commercial element in the project appeared when flowers and plants were ready for the market and were sold to patrons of the school.

The entire curriculum of the classroom drew its theme from the activities in the greenhouse. The children read stories, learned poems, wrote letters, drew pictures, and sang songs of the flowers. They visited attractive flower gardens in the neighborhood. They kept accounts of costs and receipts in connection with the greenhouse activity. The vocational value of the experience appeared when several of the boys who had been most interested in the work later secured jobs in a local commercial greenhouse. Thus an enriching and a practical experience was realized for those retarded boys and girls because someone saw the possibilities of salvaging a dilapidated piece of equipment that was about to be destroyed.

Need of Careful Grading

Manual activities need to be planned so as to progress from the easy to the difficult, from the simple to the complex, as do other subjects of the curriculum. Careful guidance is the secret of the good results produced by mentally retarded and even feeble-minded children, and, contrariwise, poor results sometimes are caused by a lack of careful planning or grading of the activities. The wise teacher sees to it that the pupils have opportunities for manual activities growing out of their experiences and interest, that these activities are within the capacities of the children, and that they furnish a basic experience for the activities which are to follow.

It is impossible to discuss in detail the scope of manual skills in which mentally retarded children may find employment. Two of the most common ones are considered. Others should be handled with the same general principles in mind for careful planning of work and integration of program. The content of experiences in horticulture or auto repairing or any other specific field must be determined in the light of pupil abilities and the technical aspects of the subject.

For convenience and clarity the two areas discussed in the following pages are divided into primary, intermediate, and advanced divisions. In general, the work of the primary division is planned for pre-adolescent children with mental ages from 3 to 6 years, inclusive; the work of

the intermediate division is planned for pre-adolescent or adolescent children mentally 7 or 8 years old; and the work of the advanced division is for adolescents mentally 9 years old or older.[2] There is necessarily much overlapping, since mentally retarded children even of the same mental ages differ in abilities, as do other children. Their personal and social characteristics aid or deter them, as the case may be, in using all of their native capacities. Previous training should always be taken into account. More children than one would think, however, need to begin at the beginning, or near it, and proceed regularly through the various steps. If these steps are carefully planned and are based upon children's interests, the children themselves will enthusiastically choose them and eagerly look forward to reaching the next higher step as a goal of achievement.

Foods and Household Science

Primary Division

Schematically the program for children who are young mentally might be as follows:

1. Household duties:
   - (*a*) Care of classroom.
   - (*b*) Attention to the appearance of the room.
   - (*c*) Sweeping.
   - (*d*) Dusting furniture.
   - (*e*) Keeping equipment in order.
   - (*f*) Washing blackboard correctly.
   - (*g*) Caring for sink in classroom.
   - (*h*) Cleaning classroom tables.
   - (*i*) Washing dishes.
   - (*j*) Caring for milk bottles.
2. Laundry:
   - (*a*) Simple washing of such things as dusters and towels.
   - (*b*) Plain ironing.
   - (*c*) Care of rough-dried clothes.
   - (*d*) Sprinkling.
   - (*e*) Bluing.
   - (*f*) Shaking and hanging clothes.
3. Cooking:
   - (*a*) Preparing cheese and vegetables.

[2] This classification is in general accord with the principles of differentiation set forth in chapter 4.

(*b*) Preparing simple dishes such as boiled rice, macaroni.
(*c*) Cooking dried fruits.

4. Personal hygiene:
   (*a*) Washing hands and face.
   (*b*) Care of nails and hair.
   (*c*) Care of teeth.
   (*d*) Taking baths.
   (*e*) Care of underclothing.
5. Table etiquette:
   (*a*) Skill in handling bits of food and utensils.
   (*b*) Good habits of eating.
   (*c*) Table conversation.

Intermediate Division

The work of this division grows directly out of that of the primary division. If the foundation of good habits has been well laid, the children continue to grow in ability to do the simple everyday tasks of life and keenly enjoy the opportunity of doing real jobs for which they themselves see the necessity. The schematic presentation of the work of this division is as follows:

1. Household duties:
   (*a*) Sweeping.
   (*b*) Dusting.
   (*c*) Scouring.
   (*d*) Scrubbing.
   (*e*) Caring for gas range.
   (*f*) Caring for garbage pail.
   (*g*) Caring for refrigerator.
   (*h*) Scraping and stacking dishes.
   (*i*) Practicing fire prevention.
   (*j*) Cleaning windows.
2. Laundry:
   (*a*) Washing, rinsing, bluing, starching, hanging.
   (*b*) Sprinkling.
   (*c*) Ironing.
3. Cooking:
   (*a*) Preparing fruits and vegetables.
   (*b*) Boiling water for tea, eggs, and starch.
   (*c*) Simple measuring: Cup, tablespoon, teaspoon; ¼, ½, and ¾.
   (*d*) Setting a table or tray.
   (*e*) Cutting bread and making sandwiches.

(*f*) Making simple candy.
(*g*) Making tea, coffee, and cocoa.
(*h*) Making sauces.
(*i*) Making soups, simple desserts, and hot breads.
(*j*) Preparing meat substitutes.
(*k*) Preparing salad materials.

4. Personal hygiene:
   (*a*) Washing hands before eating.
   (*b*) Personal bathing.
   (*c*) Personal cleanliness in all respects.
5. Table etiquette:
   (*a*) Good habits of eating.
   (*b*) Table conversation.

Advanced Division

With the basic training provided in the early divisions, many of the children in the advanced division are quite able to compete with their normal fellows in the household science departments of the high school. There are so many things mentally retarded children can do when they reach this division that a schematic presentation of the work can give but a bare outline as a guide for the teacher:

1. Household duties:
   All the odds and ends of duties connected with a house, a cafeteria, or a hotel. The standard for this group should be very high.
2. Laundry:
   (*a*) Careful laundering of more difficult pieces of clothing or household linens.
   (*b*) Knowledge of the use of electric washing machines.
3. Cooking:
   (*a*) Cooking all the different types of food which would be used in a family or cafeteria situation.
   (*b*) Gradual growth to complete independent cooking on the basis of a recipe.
4. Personal hygiene:
   Emphasis on cleanliness and good health habits in all life situations.
5. Table etiquette:
   Manners which would make the children acceptable at any simple family or public table.

Woodwork

Woodworking offers values for all age levels. Construction of things has unlimited interest for both boys and girls. However, along with all the fun he may have in hammering and banging, the pupil finds satisfaction

in learning to make things. There is nothing more gratifying than to watch the mentally retarded child develop to the point where he realizes that out of the hammering and sawing he can produce something he wants and can use.

Primary Division

In the primary division, when the children are growing gradually into the knowledge of the construction of things, woodwork is practically an activity of simple hammering, sawing, and nailing. The aim is to have the results only as good as the ability and interest of the children warrant; yet some teachers get amazingly good results and the children the keenest pleasure in attaining these standards.

For the children who want merely to be active and to make a noise there are hammers and nails. Just hammering nails into a block of wood gives the very young and mentally low-grade child much fun and at the same time leads to improvement in muscle coordination. By the time this aimless activity is losing its interest, the teacher may have ready pieces of wood of proper sizes. When the child nails them together, a box appears and he realizes that he has "made" something.

From this step, the child goes on to other steps, improving in the use of the hammer and saw, and learning the use of new tools as the occasion requires. He also learns to handle various thicknesses of wood. These early steps are very difficult, as are the beginning steps in any activity.

Intermediate Division

Any good outline of work used in a regular class in the elementary school is helpful in planning work for the retarded group. Acceptable standards of work and fitness of the article for use and need should be guiding factors.

The correct manipulation of the following tools should be taught in connection with the unit of experience:

- Crosscut saw
- Ripsaw
- Coping saw
- Screw driver
- Coping saw block
- Brace and bit
- Countersink
- Smooth planes
- Marking gage
- Tri-square
- Sloyd knife
- Bench hook

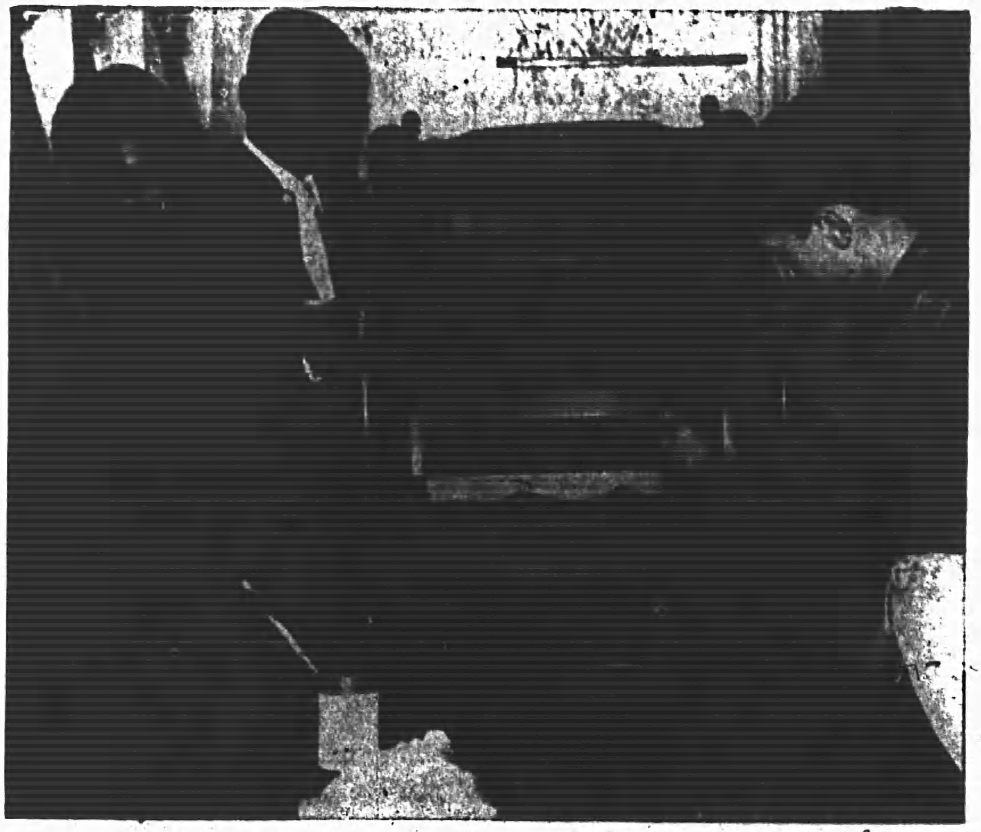
Correct processes, such as the following, should be taught in connection with the unit of work:

- Sawing
- Sandpapering
- Squaring stock
- Gluing
- Boring holes
- Use of screw
- Assembling
- Finishing
- Chiseling

Advanced Division

The children in the advanced division, with the basis of knowledge they have acquired from the activities of the intermediate division, and with the skill acquired from former practice, are able to use more varieties of the tools they already know and to learn the use of additional tools. They are also able to use a greater variety of materials.

In this division some boys may begin the more complex problems, such as the building of airplanes, motor and sail boats, book ends, and



Courtesy: Newark, New Jersey, Public Schools

Repairing old furniture has real value and interest for these boys.

medicine cabinets. These are mentioned only as suggestions. Any problem which involves the use of the tools that the boys know and the processes they have learned is a suitable one, provided it is in some way connected with the unit of experience in progress. The boys' interests determine the problem. Unexpected and feasible suggestions come from the children themselves. The boys of this group should be able to compete with boys of their community in the hobby show — and win some of the prizes.

But woodworking need not be only a hobby. For some it will have real vocational value, leading to work as a carpenter's helper or jobber. Utilitarian value it should have for all, making it possible to do simple repair work at home. Unless the work done at school serves this purpose, it has failed in one of its most important objectives.

Summary

1. Manual experiences are one of the most satisfying types of activity for mentally retarded boys and girls, and at the same time constitute valuable preparation for occupational service.

2. There are so many forms and modifications of such activities that a wide choice is open, the selection to be determined by the mental and chronological ages of the children concerned, available resources and equipment, and environmental needs of the community.

3. If manual activities are to contribute to the aims of education for mentally retarded boys and girls, they must help to develop working habits and skills that contribute toward their ability to secure employment and to live as social beings.

4. The principle of unity running through the entire school program makes it desirable that manual activities be an integral part of the total experience centered on a common theme of interest.

5. Manual activities need to be carefully planned, providing for a continuous progression from simple to more complex processes.

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Experiences in the High School

MOST of the experiences described in the preceding chapters are appropriate for use in the high school as well as in the elementary school. To some this statement may seem strange. Yet, if the philosophy of secondary education for *all* American youth is accepted, we should adjust the high-school curriculum to the needs of the adolescent, regardless of his intellectual status. In teaching the adolescent, we must begin where *he* is, whether it be at second, fourth, sixth, or ninth-grade level. Education for life adjustment for all except those who need institutional care has been the theme of many conferences on secondary education. It is therefore fitting to include in this bulletin on the *mentally retarded* a chapter on *high-school* experiences.

Who Are the "Mentally Retarded"

The "mentally retarded" of high-school age, as here defined, are not the slow-learning of dull-normal intelligence, with I.Q.'s approximately between 75 or 80 and 90. These have long been a part of the high-school population, and many secondary schools have earnestly tried to meet their needs through ability grouping or some other means.

The "mentally retarded," as discussed throughout this bulletin, are the more seriously deficient in intellect. They comprise those who, in terms of intelligence quotient, rate *below* 75 or 80. They are academically quite unable to meet the requirements of even a diluted elementary or high-school academic curriculum. They need something different. As children, they have been enrolled in special classes in the elementary schools, or, if in the regular grades, they have required special attention on the part of the teacher.

Many mentally retarded young people, however, while intellectually inadequate, have a good deal of common sense and can learn to manage

their own affairs fairly well. Their social maturity is beyond their mental maturity, though in most cases still somewhat below normal. Physically they may hold their own with others in their age group. They are not by any means institutional cases, but can with understanding guidance learn to take their places in community life.[1]

It is with this latter group that this chapter is concerned — those adolescents who are seriously retarded mentally, but who are socially competent to a sufficient degree to continue to live in the community. To them the schools owe an opportunity to work and play with other adolescents and to learn those skills and attitudes that will help them to attain a measure of occupational success and civic competence in years to come.

What Can the High School Offer?

High schools are usually classified as junior high schools, 4-year high schools, and senior high schools. All of these offer potential opportunities for the personal growth of mentally retarded adolescents, though in fact the programs now in existence for them are almost entirely limited to the junior high school and the 4-year high school.

Most mentally retarded young people are ready to leave school at the age of 16 or 17, and they have usually not progressed beyond the sixth or seventh grade, if indeed they have reached that level. A few, however, remain in school and "graduate," because the school authorities understand the problem and adjust requirements to meet the needs and capacities of the pupil.

In any high school the occupational or vocational experiences offered are planned for a definite purpose — to explore the pupil's abilities and interests, to capitalize upon them, and thus to help him prepare for remunerative occupational service. This is true of normal and mentally retarded pupils alike. Along with these occupational experiences, however, there should come all those other experiences that make up the totality of life. The preceding chapters of this bulletin have discussed these in detail. They are just as applicable to the education of the adolescent as to the child of earlier years.

Many a retarded adolescent may get along fairly well in a particular

[1] For further discussion of this point, see: Doll, Edgar A. Feeble-Mindedness Vs. Intellectual Retardation. *Journal of Educational Research*, 40: 569–73, April 1947.

skill or occupational activity, but he will need the simplest kind of instruction in the 3 R's. Again, he may show a special ability in music or art or sports, but not yet know how to read beyond the fourth grade. High-school experiences should be planned so as to take into consideration all the unevenness of a pupil's abilities, his strong points and his weak points, his likes and dislikes. The high-school teacher who is in charge of a group of retarded pupils, or who has a seriously retarded pupil in one of his classes, finds that there can be no adherence to ordinary high-school standards. It is the pupil — his capacity, his physical and social development, his interests, his achievement, his specific abilities and disabilities — that determines the curriculum.

If this holds true, then every opportunity the high school offers should be open to the retarded pupil, provided his interest and ability point in that direction. The orchestra, the school teams, the cafeteria, the school drives, the service squads, the school patrols all hold possibilities. Art, drama, making slides and motion picture films may attract him. Visual aids of all kinds are helpful throughout. Reading, arithmetic, and community civics must offer specific and practical content, interest, and challenge, not abstract material beyond his comprehension.

In one high school, a boy was at first permitted to spend a half day in the art room because he liked to draw. The rest of the day he spent in talking over with his homeroom teacher, his counselor, and his specially assigned teacher for fundamental skills and social studies the things he was trying to express in his drawings. Skillfully and gradually he was led into more concentrated study of language and civics and arithmetic while continuing his work in drawing. He later became a successful sign painter.

In another high school a boy chose the auto shop as his center of interest. At first he could do little but take the cars apart. With time, he learned also to put them together. Community civics and applied mathematics were added to his program. He joined in some of the school activities, and later left school to take a job on the assembly line of an automobile factory.

Some Examples of High-School Programs

The presence of mentally retarded adolescents in regular high schools is perhaps more common than anyone knows. Well-organized educational

Courtesy: New York City Public Schools

These girls are learning to handle real jobs at the luncheon counter.

provisions for them in the high school are not so common, but they are increasing. Several projects under way in city school systems are briefly described as examples of what can be done. But they are not by any means the only ones in existence. Wherever there is even one mentally retarded adolescent in a school, interested teachers and principal can make a program for him as an individual along the lines that have been suggested in previous chapters. Where there are enough such pupils — even 15 or 20 — further steps can be taken on a group basis.

A Program for Adolescent Girls[2]

Since 1939 retarded girls from special classes in the elementary schools of Rochester, N. Y., selected on the basis of social maturity, have been transferred to a junior high school and assigned to a home room with a specially prepared teacher in charge. The group in general ranges in chronological age from 14 to 17 years; in learning ability from approximately 65 to 75 I.Q.; and from fourth to sixth grade on a standard achievement test. Most of them have spent 3 or more years in special

[2] Description program furnished by Catherine Lovell and Christine P. Ingram, Public Schools, Rochester, N. Y. More detailed information is given in *Journal of Education Research*, April 1947, "A High School Program for Mentally Retarded Adolescent Girls."

classes for retarded children in the elementary schools, and some even as many as 6 to 8 years.

Upon entering the junior high school, these girls participate in all school activities that other pupils enjoy, including the school government council, school clubs, and school service projects. Such experiences give the girl an opportunity to develop social attitudes and habits that make her a contributor in the social group. They give her status and recognition, even though the program she is following does not lead to regular graduation.

The classroom activities are organized in subject areas related to cores or units of experience. The special-education teacher carries the academic subjects, and home economics and shop teachers carry their respective activities. Foods, personal grooming, clothing, and power-machine operating comprise the major occupational experiences. The content of English, arithmetic, and social studies is related to these and other practical experiences. Music, physical education, and sports are also integral parts of the program.

Among the specific activities in social studies and English which have an occupational bearing are the following:

Discussing kinds of industries in which parents are engaged.
Making reports on local industries of world renown.
Exploring the variety of local industries.
Charting jobs for beginners as to knowledge and skill required.
Finding out about service jobs.
Discussing personal assets of the successful worker.
Planning visits to industries and reporting on them.
Making out sample application forms, letters, and time cards.

The program, it is reported, has demonstrated that special education designed for occupational guidance and social adjustment through high-school curriculum modifications has holding power. Girls and parents recognize its value, and the majority of the pupils desire to continue school attendance at least to the age of 17 years. The improved social and occupational status of the girls who have left school has led to an extension of the program. Additional service has become available from vocational teachers selected because of their experience with and interest in retarded pupils. The ninth year provides part-time on-the-job training under supervision of the ninth-year special-education teacher, who is particularly qualified in the guidance of retarded pupils.

A Program for Both Boys and Girls

In Newark, N. J., a comparable program was set up at about the same time (1940) as in Rochester. Each year 50 boys and girls, selected from the special elementary schools and classes for retarded children, are sent to one of the junior high schools of the city. In general, they range in I.Q. from 60 to 70; in social maturity on various inventories, from 80 (S.Q.)[3] upward; in reading grade, from 3 to 4; in arithmetic grade, from 3 to 4; in physical maturity, equal to or above average. Their ambition and will to work have been demonstrated, and the parents' interest in their progress is an assured fact.

When the pupils enter the junior high school, they are given the benefit of special study and guidance. For each one a schedule is made out in conformity with what is learned about him. At first he spends most of his time with a teacher specially prepared to work with retarded pupils; but as his progress and ability are noted he is gradually assigned for one or another period to other teachers and classes in the school. Some pupils are given experiences in tailoring, printing, cooking, music, art; and some who show possibilities are put into academic classes. The special teacher acts as liaison person between them and their other teachers, and tries constantly to be aware of problems that arise and desirable adjustments that should be made.

At the end of the first year, every pupil who has shown satisfactory school membership is given a special certificate. Those who succeed in earning academic credits are allowed such credit, and if ninth-year credit is earned, they are permitted to enter a senior high school. There they are visited by the psychologist, who originally selected them for placement in the junior high school, and help is offered as needed. The present plan in Newark contemplates the extension of the work on the senior high school level, one such school already having a class of this kind in operation.

The principal of the junior high school pioneering in this movement says of it:

> These boys and girls take full part in our school life, in the orchestra, the clubs, and all the extra-classroom activities. They are never made to feel unwanted or rejected. They participate profitably in the educational school contacts and activities, in the common interests and group projects; they play in the school

[3] S.Q. = Social Quotient, based on the Vineland Scale of Social Maturity.

orchestra, serve on the patrol, sing in the chorus, join in the clubs, play on the teams. They grow through the social life of the school and contribute to the social life. They establish and nurture fine friendships with other pupils. They are prized and appreciated by teachers; they are conscious of no stigmatized evidence of demarcation or rejection.

Their coming has done fine things for our teaching staff who now are ready to believe that the high school cannot afford to be a selective institution, that it must assume the responsibility of educating our total generation. Our teachers are, through these pupils, realizing how much more important it is to practice democracy and tolerance and cooperation than to spell them. They are learning that pupils of low I.Q.'s, who cannot handle general concepts, who cannot indulge in logical thinking, who cannot calculate in symbols, can learn to live lives of rich usefulness and fine social contributions. We have all learned that the valuable things in high school are those contacts and interests we used to call extra-curricular, and that we now recognize as the social fundamentals. In these, pupils of low I.Q. are particularly successful.[4]

Retarded Pupils in 4-Year and Vocational High Schools[5]

The New York City Board of Education has established classes for mentally retarded adolescents (with I.Q.'s of 75 or less) in several 4-year academic high schools, where the maximum enrollment per class is 22 pupils. The pupils come from special classes in elementary and junior high schools, or from regular classes if the need of a given student is obvious. They are selected on the basis of social and physical maturity and emotional stability.

Upon being admitted into the high school, these pupils are assigned to special teachers for academic subjects and for occupational education. Individual pupils showing special aptitudes and interests are assigned to suitable shops with the regular shop teachers. The entire class is scheduled for assembly, physical education, and music with the rest of the school.

New York City also sends carefully selected special-class pupils to vocational high schools. Within 2 years, 900 children have been so assigned, selected according to the separate requirements set up by each of 11 vocational high schools. The courses offered have varied according to the pupil's interest and ability, as well as the school's facilities and

[4] From paper as presented at the Thirty-third Annual Convention of the National Association of Secondary-School Principals. *See* "Suggestions for Reading," under MONES, LEON, p. 100.

[5] Description furnished by Winifred Femiani, Public Schools, New York City. More detailed information is given in *High Points*, November 1945, under the title "The Mentally Retarded Go to High School."

equipment. The basic requirement for admission has been the ability to profit by the courses given in the school. The pupils selected, it is reported, constitute the ones "who will be successful as workers in industry in a semi-skilled capacity and who will require a minimum of supervision on the job."

Programs in Smaller Cities

Rochester, Newark, and New York are all cities of large population, and it might easily be inferred that high-school adjustments for mentally retarded adolescents are limited to such metropolitan centers. This is not the case. As examples of programs in operation in smaller cities, several in Ohio are cited.[6] In this State alone, 20 or 25 cities of varying sizes have organized special groups for mentally retarded adolescents in secondary schools.

Niles, a city of about 18,000 population, operates its school system on a 6-3-3 basis. Mentally handicapped children are retained in the elementary school through the age of 13. At the chronological age of 14 years, they enter the seventh grade, and become successively eighth graders and ninth graders, at least in name. At the end of the third year in the junior high school they are admitted to the senior high school if they decide to remain in school longer. Only a few have thus far availed themselves of this opportunity, though their number is growing.

In the junior high school, the pupils are members of regular home rooms, and they attend gymnasium, shop, and assembly programs along with other pupils. Those who show sufficient interest and aptitude are admitted to the art and music classes with their own grade groups. The academic part of their program is operated for the combined seventh, eighth, and ninth grade group on the basis of units. The units emphasized include those on health, on community agencies and services (such as the post office, fire department, welfare department, health department), and on industries in the city and immediate environment. Since Niles is in the steel area of the State, considerable attention is given to the types of work in the steel mills which the pupils may expect to enter upon leaving school.

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[6] Information furnished through courtesy of Amy Allen, Supervisor of Special Education, State Department of Education, Columbus, Ohio; and by Eulalia C. Hyatt, Supervisor of Special Schools, City Public Schools, Canton, Ohio.

Hamilton is a city of slightly more than 50,000 population. It likewise operates its school system on a 6-3-3 basis. Here the program provides that mentally retarded children may be promoted from elementary to junior high school at the age of 13 years. In each of the two junior high schools of the city, there are 3 groups of mentally retarded pupils, one for seventh grade, one for eighth grade, and one for ninth grade.

In one of these junior high schools, the children are assigned upon entrance to the regular seventh grade home rooms. They share all regular home-room activities, including assembly, and they participate in gymnasium work with the regular seventh grade. At the beginning of the term, the boys go to shop as a separate group. But as soon as the shop teacher gets to know them, those boys who he feels can make adjustment to regular junior high school shop are transferred. The same procedure is followed in selecting girls for regular home economics classes and in assigning pupils to participate in art and music classes. Separate shop and home economics groups, however, are maintained throughout the 3 years of junior high school attendance for those who need such special instruction. In this way it is possible to secure a close correlation between academic work as given in special classes and related activities.

During the 3 years of junior high school, considerable attention is

Courtesy: San Francisco, California, Public Schools

Individual projects in the shop have a personal appeal.

given to making a survey of the city — its health and recreation programs, its industries, and other information that citizens of the community should have. At one time, the groups were making a study of the housing facilities of the city, initiated because one of the families represented in the group had been evicted and was found living under extremely bad conditions. The pupils were trying to understand all that was implied in that situation.

At the senior high school level, Hamilton also assigns the pupils to regular tenth, eleventh, and twelfth-grade home rooms. They are enrolled in as many regular activities of the school as their individual potentialities indicate they are able to manage. In addition, they meet with a special teacher in charge of academic work. Under his supervision they participate in a cooperative school-work program during the latter part of the afternoon. The kinds of jobs reported are: Car washing, clerking, delivering for a department store, stockroom work, and caring for children. This work experience is made one of the major topics for discussion and problem-solving during the rest of the school day.

Canton, a city of somewhat more than 100,000 in population, has an 8-4 school system. At the age of 16 years, mentally retarded children who have been in special classes in the elementary school are eligible for consideration for placement in the high-school class. The all-round development of the child is considered in making this transfer, including his physical, mental, social, and emotional status. Psychologist, teacher, principal, and supervisor of special education join in making such evaluation.

As in other cities, the program of the slow learner in the high school minimizes segregation. He is assigned to a regular home room and takes part in assemblies, class parties, and the extracurricular activities available to all students. The special curriculum planned for him is designed to be *life*-centered rather than *subject*-centered. In tool subjects, in social experiences, in health education, and in vocational guidance and training his activities are directed toward the development of a desire and ability to live and work with others within the range of his interests and abilities. It is reported that at the close of the current year seven pupils will graduate from the special program. The type of diploma they will receive is at present writing still undetermined.

Common Features in High-School Programs

In all of the high-school programs cited there are certain common features and objectives. Briefly stated they are as follows:

The high school is willing to accept the retarded pupil at his own level and to plan for specialized instruction in terms of his own ability to achieve.

The retarded pupil is assimilated into the regular high-school student-body in all activities in which he can profitably participate.

In every possible way the retarded pupil is made to feel his own personal worth, both students and faculty regarding him as an accepted and acceptable member of the student body.

Emphasis is placed upon practical learnings, as contrasted with theoretical knowledge, and upon experiences that are closely related to home life, community civics, health and sanitation, leisure-time activities, associations with other people, and a definite job objective.

In the selection of pupils to be promoted to such a high-school program, emphasis is placed upon a reasonable amount of physical and social maturity, even in the presence of serious intellectual deficiency.

One more thing needs to be said regarding this last point. There is no suggestion in this chapter that children with serious social incompetence and physical stigmata *plus* intellectual deficiency should be admitted into the secondary school. For some of these, institutional care may be necessary; for others special occupational centers under public-school auspices, but not connected with a regular secondary school, have been provided. But for those whose deficiency is primarily intellectual, even though it be serious (as measured by intelligence tests), the secondary school has a major responsibility. What the high schools are trying to do in some localities may be an incentive to other school systems to explore the possibilities of action.

Summary

1. All adolescents with serious intellectual deficiency are not feeble-minded. Many of them are socially competent to a reasonable extent and can take care of their own affairs provided they have the proper guidance and educational opportunities.

2. The secondary school has begun to recognize its responsibility for serving *all* youth.

3. Adjustment of the curriculum in the junior high school, the 4-year high school, and the senior high school can be achieved for one or two pupils, or for an entire class. Such adjustment can develop the potentialities of retarded young people for personal growth and for occupational achievement.

4. There are examples of successful high-school programs under way, in which special teachers who are prepared to teach the mentally retarded take the major responsibility, coordinating their work with the efforts of other teachers to whom individual pupils may be assigned.

5. In such programs the physical development and social maturity of the pupils have been factors of major consideration in their placement. The opportunity afforded them for high-school experiences, despite a low intellectual standing, helps them make better social and vocational adjustment in the community.

6. Only when every retarded adolescent has the opportunity to realize his greatest possibilities personally, socially, and occupationally, can it be said that the schools have met the challenge of educating all American youth.

13

Special Problems of the Residential School

THE PLACE in which a child is being educated does not affect the general philosophy and objectives underlying his education. His own nature, his probable destiny, and the social environment in which he is to play his part are rather the determining factors. Hence, what has been said in the foregoing chapters concerning curriculum adjustment applies to mentally retarded children everywhere. The fact of retardation is common to them all, whether they are enrolled in day schools or in residential schools; in public schools or in private schools. And the fact of retardation must be met by an adjustment of curriculum which is common to all, subject only to those variations which arise as the result of the successive levels of chronological, mental, and social development.

Some school people have been prone to emphasize the differences between so-called institutional schools and day schools and to forget their similarities. The child of 60 I. Q. who, because of some environmental complication, leaves the home community to enter a residential school does not by reason of that change of residence alter his intellectual status or his educational needs and abilities. Other factors have entered the picture which reveal the need for continuous supervision on the basis of a 24-hour day and a 365-day year, but his capacity for learning remains the same. What is good educational content for him in one place should be satisfactory in the other. The method that is successful in one place should be successful in the other. As the special problems of the residential school are considered in this chapter, they should not be permitted to overshadow the problems that are the same for all schools and classes for retarded children.

It should be recognized that not all inmates of many State or private institutions for the feeble-minded attend the school sessions conducted as part of the institutional life. Those children who are too mentally deficient to profit by school instruction are not included in the consideration of this bulletin; neither should it apply to those who are physically adults of middle age or beyond, but who are mentally still children. Some of the latter have been taught to perform useful tasks about the institution which represent the realization of their maximum capacity. But they are not in the daily attendance upon the school program, and they are not children within the age groups being considered here. Educable children between the ages of 6 and 16 or 18 are the theme of this study, and theirs is the right of regular systematic instruction wherever they are. In most institutions for the feeble-minded this is effected through the organization of a daily school program for them under the guidance of trained teachers.

That some special problems do exist in residential schools is obvious. The very nature of the institution is bound to produce situations not known in the day schools, but these do not necessarily militate against the application of sound principles of curriculum adjustment. In fact, some of them promote rather than hinder the program.

Continuous Supervision and Control

The control of the residential school over its pupils extends through 24 hours of the day and 365 days of the year. The continuous supervision that is practiced there cannot be exercised in day schools because of the limitations of time. Therefore the possibilities in a residential school of an integrated program in which educational and social values are combined go far beyond the limits achieved by the day school. Through the use of units of experience, classroom activities can be coordinated with activities carried on in the cottage, in the kitchen, in the dining room, and in other phases of institutional life. Experiences during out-of-school hours can become the subject matter of reading, writing, numbers, and language, to an extent not known in the day school. Cottage life gives the best possible opportunity to develop desirable personal and social habits which in turn can become the theme of discussion in the classroom. Social, industrial, academic, and physical development of the child can

proceed hand in hand with one another through a complete practical integration of his experience during a 24-hour day and during every season of the year.

Selection of Group

The pupils of a residential school are a selected group. Because of environmental situations, extreme mental deficiency, or social conflict, they have not succeeded in making adjustment to community life. Many—if not the majority—of them are truly feeble-minded, being both socially and intellectually incompetent. The curriculum must therefore be organized to meet the peculiar needs of the respective types. Those who have been assigned to the residential school because of undesirable home or community environment can, if they are persons of sufficient intelligence to accept needed training, be prepared to return to the community later under more favorable environmental conditions. Those who are too deficient ever to return to the community must be prepared to take their places in institutional life. Those who are in the institution because of the addition of behavior complications to low intelligence must be carefully studied with reference to their possibilities for satisfactory social adjustment. Some will be able to go back to the community. Others will need to remain in the institution indefinitely and will need to be trained accordingly.

This training for institutional life involves preparation for usefulness in line with the activities necessary for the maintenance of the institution. Thus the content of the manual and prevocational experiences offered to children during their school years will logically depend upon the opportunities that will later be available for their application. In the larger institutions girls will be able to render their services in the household, in the hairdressing shop, and in the dining room. Boys will contribute to the maintenance of the institution through simple carpentry, shoe cobbling, painting, barbering, printing, gardening, and farm work. In every case the probable future of the child as a permanent resident of the institution will color the training he receives in industrial activities.

Psychotics and Defective Delinquents

Most serious among behavior problems found in the residential school are those characterizing the psychotic and the delinquent. Mentally deficient

children who show definite symptoms of psychosis, as well as those who are known as defective delinquents, are likely to disrupt any curricular program. They need a highly specialized type of training, probably in a separate institution, or at least in a separate unit quite apart from the school for the mentally deficient. As long as they remain unclassified in a large institution for the mentally deficient, they complicate the school program by demanding much individual attention and even by demoralizing the general atmosphere of the schoolroom. Because the residential school is likely to receive these difficult cases, it must make the needed provision for careful diagnosis, treatment, and individual instruction of each one in accordance with the needs revealed.

Service to All Age Groups

The fact that persons of all ages are resident in many of the institutions for the feeble-minded makes imperative an arrangement which will give to the children enrolled the opportunity to work in groups *of children*, just as they would do in day schools. This places a responsibility upon residential schools for careful classification and assignment of each child to classroom work, as well as a prevention of undue contact with older feeble-minded inmates. The proper organization of a school within the larger institutional life which includes service to preschool children, bedridden patients, physically mature adults, and old people is not an easy matter. Each child's right must be safeguarded to live his life as a child with other children. Some residential schools limit their enrollment to children and young people of school age, and some even to those of higher level of intelligence comparable to that of pupils in special day schools classes for the mentally retarded. Under such a program of classification, the problem of educational planning loses much of its difficulty.

Differentiation of Curriculum

The problem which the day school faces in the adaptation of curriculum content and method to meet the needs of various age and ability levels is still further accentuated in the residential school. We find here many more children with a mental age below 6 years than in the day school, and at the same time there are all degrees of subnormal intelligence even up to high-moron level. Therefore the process of classification must be carried

on not only in separating children of school age from adults and from children of preschool age, but also in making extensive application of the principles of curriculum adaptation to the various groups of children of school age.

No detailed consideration will be given here to the methods of adaptation, since these have been discussed in previous chapters. The groups that have been considered are: (1) Those educable children who are mentally below the level ordinarily prescribed for entrance into the regular first grade; (2) pre-adolescent children who are mentally 6 years old or older; (3) adolescents of a mental level lower than 9 years; (4) adolescents of a mental level of 9 years or more. The task of the residential school is to add to the educational service for these respective groups (which is in essence the same as in the day school) the continuous social supervision and training made necessary by complications of circumstances.

Research Function

The residential school is peculiarly suited to the use of experimental methods and research. Many of them are under the direction of medical men or other highly trained persons who are especially interested in the fields of pathology, biology, and eugenics, as applied to the mentally deficient. In some, there are clinical laboratories which have been the battleground of intensive research, designed to increase knowledge and to develop possibilities of training. The activities of the classroom may make a valuable contribution to this program of research through the use and evaluation of experimental methods of instruction. Only controlled experimentation will ultimately prove the value of desirable procedures, and it is to the scientific laboratories of residential schools that one must look for a large contribution in certain phases of needed investigation.

Summary

1. The education of mentally retarded children within the same general range of intelligence is governed by the same philosophy and objectives regardless of where they are educated. Curriculum content and methods in residential schools should in general be the same as those used in day schools, with whatever adjustment may be necessary to meet the peculiar problems of the institution.

2. There are certain conditions peculiar to residential schools which

need to be considered in formulating a curricular program in such schools. Chief among these are the continuous control of the school over the children enrolled; the selective nature of the group assigned to residential schools; complications arising from the presence of psychotics and defective delinquents; the residence in the institution of persons of all ages; and the special opportunities open for research and experimentation.

3. The fact that the residential school exercises 24-hour supervision through the year makes possible the realization of an integrated program of life experience through which classroom and extra-classroom activities can be coordinated in the form of experience units even more closely than in the day school.

4. The predominance of serious problems in the residential school that have proved incapable of adjustment in the community produces complications that make necessary the most careful diagnosis and treatment of each individual case.

5. The residence in many institutions of persons of all ages, from the preschool child to the elderly man or woman, necessitates a plan of classification of inmates which will give to each child of school age his right to learn along with other children of his approximate age and ability.

6. The residential school offers abundant opportunity for scientific research directed toward the improvement of curriculum practice.

Some Suggested Readings

SOME of the most helpful materials on curriculum adjustments for the mentally retarded are found in current periodicals. The *Journal of Exceptional Children*,[1] *American Journal of Mental Deficiency*,[2] *Occupational Education*,[3] and *Special Education Review*[4] deal exclusively with problems of special education and related matters, and these are the periodicals most likely to include articles on curriculum for the mentally retarded. Other periodicals dealing with more general fields of education and child welfare also publish such articles from time to time. Current issues of all these are found on the shelves of many public and professional libraries.

This list of suggestions for reading does not attempt to include the many such periodical articles that have appeared. It is limited to a few of the books and parts of books that relate to the major topics of this bulletin. With only a few exceptions, these books have been published not earlier than 1940. They all reflect current philosophy and practice. Several may be found to be out of circulation, but copies should be available through library service. Many other good references will no doubt be found in local professional libraries.[5]

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[2] Official organ of the American Association on Mental Deficiency, with business office: P. O. Box 96, Willimantic, Conn.

[3] Published by The Association for New York City Teachers of Special Education, with editorial office at 224 East 38th Street, New York 16, N. Y.

[4] Published under the auspices of Newark Chapter of the International Council for Exceptional Children, with editorial office at the Board of Education, Newark, N. J.

[5] Additional reference lists on the education of mentally retarded children are available from the Office of Education upon request.

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