

INSTRUCTIONAL MATERIALS FOR USE WITH PRIMARY LEVEL
EDUCABLE MENTALLY RETARDED CHILDREN

by 500

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THE PROBLEM AND DEFINITIONS OF TERMS USED

Of the year's crop of babies in the United States, 100-200,000 are born destined to be mentally retarded. At present there are an estimated 5.6 million mentally retarded individuals in the country, and this figure is expected to rise to 6.5 million by 1970.¹ Of these, the largest number is capable of social and vocational adequacy with proper education and training.

Two or three children of every one hundred cannot succeed in a regular school program because of their limited mental capacity. If these children are to receive educational opportunities equal to those of other children, they will need special help beyond that provided in the regular school curriculum.² To give that special help to those capable of social and vocational adequacy the public schools have established special education rooms.

The popularity of special classes for the mentally retarded is an outgrowth of several assumptions. It has been contended that:³

1. the unique learning problems of the mentally retarded require special methods and materials to accomodate them.
2. the de-emphasis upon academic goals, and the emphasis upon

¹National Association For Retarded Children, Fact Sheet On Mental Retardation And The National Association For Retarded Children (New York: National Association For Retarded Children, Inc., June, 1965), p. 1.

²James E. Marshall, and Marguerite Thorsell, Planning For Educable Mentally Retarded In Kansas Schools (Topeka, Kansas: Special Education Division, State Department of Public Instruction, 1960), p. 3.

³Marion J. Erickson, The Mentally Retarded Child In The Classroom (New York: The Macmillan Company, 1965), p. 40.

social adjustment and personal development, cannot be accomplished in a classroom where the major part of the day is devoted to academic pursuits.

3. the regular teacher is not trained to meet the needs of the retarded child.

4. the retarded child is often rejected by his peers, and realizes greater social acceptance in a group of children more like himself.

5. achieving the goals and objectives for the mentally retarded requires a different curriculum from that of the regular grades.

The goal of special education classes is very much the same as that of regular classes. This includes provisions for personal, social, economic, and civic adequacy. Teachers have made many modifications in the educational programs to pursue this goal. These modifications may include providing a normal curricular program at a reduced rate, seeking curricular procedures and methods designed exclusively for special class use, professional training prerequisites in extensive study of the characteristics and etiologies of exceptional children, and/or restructuring special classrooms by either reducing the pupil-teacher ratio or by eliminating much of the visual and auditory stimulation.⁴

"In planning an educational program for educable mentally retarded, we should remember that they are, first, children, and second, children with limited intellectual ability."⁵ Their training should be based on

⁴Norris G. Haring, and Richard L. Schiefelbusch, Methods In Special Education (New York: McGraw-Hill Book Co., 1967), p. 33.

⁵Marshall, op. cit., p. 15.

the common needs of all children and extended further to provide for their special characteristics and needs.

The Problem

It was the purpose of this study to provide the classroom teacher of the primary level, educable mentally retarded, with information as to materials for instruction suitable for that age group. It was intended primarily for those teachers establishing a new program for the educable mentally retarded in their school, but it may also be of interest to veteran teachers who find it difficult to have time to review the new information regarding methods and materials.

Definition of Terms Used

Educable Mentally Retarded. The generally accepted definition as published by the American Association on Mental Deficiency is that these are persons who have sub-average general intellectual functioning which originated during the developmental period and is associated with impairment resulting in a generally measureable level which is one-half to three-fourths that of normality in one or more of the following: (1) maturation, (2) learning, and (3) social adjustment.⁶ They have IQs from fifty to seventy-five and are expected eventually to achieve academically at least to the third-grade level and perhaps the sixth-grade level by age eighteen. As adults, they can be socially adequate and capable of performing unskilled or semiskilled work. Because of

⁶Haring, op. cit., p. 77.

their intellectual limitations they require the educational services of the special class for the retarded.⁷

Instructional Materials. These are books, visual aids, and equipment for use by the classroom teacher for retarded pupils at the primary level.

Primary Level. A primary level class is composed of educable mentally retarded children from approximately six to ten years of age. Most of the children will have mental ages below six. Consequently, in most instances the children will be at the readiness and prereadiness stage of reading and other activities with a few of the older, more mature members of the class slightly more advanced.

Special Education. This is an area within the framework of general education that provides: (1) appropriate facilities, (2) specialized materials and methods, and (3) teachers with specialized training for children considered handicapped.⁸ The handicapped being referred to in this report are the mentally retarded.

Unit. This refers to an organization of learning activities, experiences, and types of learning around a central theme, problem, or purpose, developed for the students by their teacher, but also with the use of ideas and interests from the students themselves. It should be closely related to the students' present and future environment, and

⁷Halbert B. Robinson, and Nancy M. Robinson, The Mentally Retarded Child (New York: McGraw-Hill Book Co., 1965), p. 461.

⁸Roger Reger, Wendy Schroeder, and Kathie Uschold, Special Education (New York: Oxford University Press, 1968), p. 24.

should consider the needs, abilities, learning characteristics, and objectives of the children in the group. It should also provide for development in the areas of social, emotional, physical, and intellectual growth.⁹

Objectives

The objectives of this study were to:

1. collect methods of instruction in several educational areas for use by the primary level classroom teacher of the educable mentally retarded.
2. provide a listing of materials currently available from commercial sources which would be suitable for a primary level class.
3. provide ideas appropriate for teacher-made materials.
4. gather specific aids for use in the areas of readiness in language development, reading, arithmetic, mental hygiene, social living, science, music, art, and general classroom management.
5. assist the special education teacher by reviewing some of the vast amount of literature currently written regarding the education of the mentally retarded.

Procedure

A review of literature pertinent to the teaching of primary level educable mentally retarded children was made. Periodicals and

⁹Erickson, op. cit., p. 80.

recent publications available from the Kansas State University Library were the sources of information for identifying characteristics of young mentally retarded children as well as for investigating current trends and practices for teaching them. Recent curriculum materials, including curriculum guides as recorded on ERIC microfiche, and materials from the State Department of Public Instruction were examined. Catalogues and brochures from many publishers and suppliers were also collected and reviewed.

Characteristics, objectives, methods and materials for the mentally retarded at the primary level were presented in this study.

REVIEW OF THE LITERATURE

Special education for the retarded is relatively new, having had its beginning in France around 1798. Before that time the retarded were treated according to the specific philosophical orientations and/or superstitions of that period. For example, the Spartans exterminated the weak or defective children and the Romans used them as entertainers or sources of amusement. The Reformation period caused many retardates to be sacrificed in order to expel the "devil" that was supposed to be in them. The turning point was apparently about the middle of the sixteenth century, when Saint Vincent de Paul opened a refuge for the care of all types of unfortunate individuals, including the retarded.¹⁰

¹⁰Haring, op. cit., pp. 76-77.

Attempts at training and educating the mentally retarded were primarily the result of attention by physicians. Their procedures dealt with techniques for training the senses. In France the centers for training the retarded were located in institutions for the blind and the deaf.¹¹

Itard is considered to have conducted the first systematic training program by attempting to educate Victor, the "Wild Boy of the Aveyron." Itard worked with him for five years, but felt his efforts were in vain. However, the French Academy of Science felt his efforts were worthwhile and pointed out to him that Victor should be compared only with himself in the measurement of growth. This was a recognition of the educational value of intra-individual assessment.¹²

Seguin based his ideas on Itard's work, and in the middle 1800s emphasized the need to teach in context, utilizing actual life situations as the basis for instruction.¹³

The training procedures developed by Seguin were elaborated upon by Maria Montessori, an Italian physician. She felt that procedures should include letting the child work at his own rate, exposing him to a flexible and interesting program, providing him with a learning situation and environment which is fun and pleasureable. She believed in making use of the environment for self-improvement, and because she felt it was necessary to give the child as much repetition as he needed she developed many self-instructional teaching devices.¹⁴

¹¹Robert M. Smith, Clinical Teaching: Methods of Instruction For The Retarded (New York: McGraw-Hill Book Co., 1968), p. 7.

¹²Ibid. ¹³Ibid. ¹⁴Ibid.

The first special classes established in public schools in the United States for the mentally retarded were actually classes for the unruly, those with disciplinary problems, and truant boys. They were started in New York City in 1874 and in Cleveland in 1875.¹⁵

During the early and middle 1900s there were many different points of view concerning the retarded. From these evolved a gradual shift from the physiological view to the psychosocial emphasis. Descouedres in 1928 emphasized the Dewey concept of "learning by doing"; Duncan assisted children to relate manual abilities to academic areas by using a project technique; and Inskeep suggested modifying the regular school program by teaching fewer skills, using less complicated materials of instruction, and gauging instruction at a lower level.¹⁶

"Since the middle 1950s, educational practices used with the retarded have been based primarily on evidence from fields other than education." In the 1960s the implication has been that special education must develop a better methodology for educating exceptional children, and that this methodology will depend more upon the arrangement of his environment to produce learning than upon preoccupation with his disability.¹⁷

Many interesting results have come from programmed learning, operant conditioning, inquiry methods, and controlled environmental systems as a consequence of work in rehabilitation centers, learning laboratories,

¹⁵Wallace Wallin, Education Of Mentally Handicapped Children (New York: Harper and Brothers Publishers, 1955), p. 17.

¹⁶Smith, op. cit., p. 9.

¹⁷Haring, op. cit., p. 3.

experimental classrooms, and laboratory schools.¹⁸ "At the present time the educator must be familiar with a wide variety of literature from the specialists as their data will continue to contribute to the rapid developments in methods of instruction."¹⁹ It seems in this age of scientific wonders that special education will continue to shape and be shaped by technology. This is a "wait and see" period in which the classroom teacher must be aware of current research and learn to adapt the findings into useful ideas for her own students.

Educational Characteristics of the Mentally Retarded.

Although there may be exceptions in individual cases, the mentally retarded as a group exhibit certain characteristics which must be taken into consideration when planning curriculum because of their effects on learning. Characteristics which especially affect learning are:²⁰

1. Inability to plan for self
2. Inability to see relationships
3. Learns slowly and forgets quickly
4. Limited in ability to work with abstract situations
5. Limited in ability to make association between words and ideas (comprehension)
6. Lack of originality and creativeness
7. Low standards of workmanship
8. Short attention span
9. Slow at problem-solving, critical thinking, and reaching decisions
10. Slow reaction time
11. Slow to recognize familiar elements in new situations
12. Very local point of view.

¹⁸Ibid.

¹⁹Ibid.

²⁰Marshall, op. cit., p. 15.

Other common characteristics which are less closely related to learning, but still influence curriculum planning include:²¹

1. Prone to illness
2. Somewhat smaller in size and weight
3. Physical handicaps prevalent
4. Low tolerance for frustration
5. Inclined to be over-aggressive
6. Lack confidence in own ability
7. Delayed language development.

Social characteristics of the mentally retarded include:²²

1. Frequent use of inappropriate means of adjustment
2. Many come from underprivileged neighborhoods and homes
3. Often have difficulty in forming friendships with their peers
4. Have some difficulty in participating, understanding, and meeting everyday situations
5. Often have difficulty in following and practicing certain common customs and amenities
6. Tend to come from families which change residence frequently
7. Often have reduced experiences upon which to base academic learning.

Physically the mentally retarded often have inferior motor co-ordination, a high percentage of speech defects, and a high incidence of physical anomalies which detract from their appearance.²³ In addition, they generally have had poor experiences in school and sometimes have experienced failure in school. This leads to many adjustment problems for them in the school, and these problems are often compounded by families who do not place a high value on education in the first place.²⁴ Unless the school can provide early successful

²¹Ibid., p. 16.

²²Special Education Division, The Slow Learning Program In The Elementary and Secondary Schools (Cincinnati, Ohio: Cincinnati Public Schools, 1964), p. 6.

²³Ibid.

²⁴Ibid.

experiences for the mentally retarded, the learning situation itself will be adding to the student's poor self concept as a result of constant failure, lack of acceptance, and general incapacity.²⁵

Educators are generally agreed that the most characteristic educational disability of the retarded is difficulty in learning. This difficulty may be expressed in different ways for different students. Retarded children are older than other children before they learn those things which they will be able to learn. Though growth is slow they do continue to be able to master more and more difficult skills, but eventually their mental growth slows to very nearly a standstill. They may continue to learn more new things, but usually not more and more difficult skills.²⁶

Goals and Content of the Curriculum.

The ideas expressed by the authors in the field of education for the retarded are quite varied in respect to the goals and content of the educational curriculum. These views range from the simple to the complex, and from very general to very specific.

Reger and associates believe that the single most important objective in work with children who manifest significant learning and/or

²⁵Luma Louis Kolburne, Effective Education For The Mentally Retarded Child (New York: Vantage Press, 1965), p. 5.

²⁶Harold M. Williams, The Retarded Child Goes To School, Pamphlet No. 123, U. S. Department of Health, Education, and Welfare (Washington: United States Government Printing Office, 1964), p. 7.

behavioral problems is somehow to "bring these children to the point where they can make rational decisions for themselves and about themselves and their relationships with their environments."²⁷

Robert M. Smith states that teachers should emphasize the development of a "style of life" which will result in adequate responses to social, personal, and occupational situations. All of these things would have the primary aim of developing as self-sufficient an organism as possible. With this in mind, Smith has listed two primary educational objectives for mentally retarded children:²⁸

1. The educational program should be designed to assist the mentally retarded child to develop a repertoire of general information which can be retrieved quickly and at appropriate times.
2. The educational program should assist the mentally retarded child to develop skills necessary to become socially, personally, and occupationally self-sufficient through the effective use of a consistent method of problem solving. The following are sub-objectives which are directly related to this primary aim:
 - a) The educational program should assist the retarded child to develop competency in predicting the consequences of his behavior in areas concerned with the effective social, personal, and occupational interaction with his environment.
 - b) Emphasis should be placed on conceptual rather than rote understandings by the child.

A publication of the Cincinnati Public Schools lists the following fundamental purposes of education for the retarded:²⁹

1. to develop and maintain physical and mental health
2. to develop competency in the fundamental tools of learning, traditionally called the 3 r's

²⁷Reger, op. cit., p. 70.

²⁸Smith, op. cit., p. 53.

²⁹Special Education Division, op. cit., pp. 6-7.

3. to think critically and act responsibly
4. to develop and strengthen home and family life
5. to respect, understand, and live well with others
6. to develop moral and spiritual values
7. to understand and to cope with the physical world
8. to grow in appreciation of the arts and in desire and ability to express oneself creatively through various media.
9. to develop interest and skill in worthwhile leisure-time activities
10. to develop understanding of and respect for the cultural heritage
11. to develop the knowledge, skills, attitudes, and understandings essential for earning a living
12. to develop consumer effectiveness
13. to appreciate the duties, responsibilities, and privileges of citizenship.

Williams lists eleven points to be included in the educational program which he feels are essential. These are more specific in regard to area titles, but contain the same goals as stated in the Cincinnati Schools' Bulletin. A statement of objectives for the mentally retarded would include such basic teaching aims as:³⁰

1. competence in the tools of learning, including the 3 R's
2. health understandings and habits
3. personal competence in daily living
4. social attitudes and skills
5. knowledge of the physical world
6. home and family living
7. understanding of self
8. communication skills
9. citizenship
10. recreational and expressive activities
11. vocational preparation.

Speaking specifically about the curriculum for the primary level class, Johnson states that it should generally revolve around health -

³⁰Williams, op. cit., p. 13.

both mental and phsyscal, social experiences, readiness activities such as visual and auditory discrimination, language, speech, quantitative and motor, and familiarity with common materials and their uses. He feels these should not be taught in isolation, but should be taught through the use of meaningful units and activities.³¹

Even more specific goals for the retarded have been listed in the literature. Robert C. Lally has outlined goals he feels a retarded child should attain. These goals are for various areas in which the child functions. They include:³²

1. The School
 - a) People
 - b) Things and Places
 - c) Classroom Jobs
 - d) Safety
 - e) Recreation
2. The Home
 - a) Family Members
 - b) Household Jobs
 - c) Clothing
 - d) Food
 - e) Shelter
 - f) Safety
3. The Community
 - a) People
 - b) Places and Things.

Each of these areas has goals such as recognition, working, and using the different concepts needed.

³¹G. Orville Johnson, "The Education of Mentally Retarded Children" in Education of Exceptional Children and Youth, William M. Cruickshank and G. Orville Johnson (eds.) (second edition; Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1967), p. 235.

³²Robert C. Lally, "Behavior Goals For The Mentally Retarded," The Instructor, November, 1968, pp. 112-113.

Methods and Materials.

Robinson states, "In terms of their influence on the behavior of retarded children and of the actual number of hours they spend with the children, teachers rank second only to parents."³³

Because of their influence with the mentally retarded, it is imperative that the teachers be highly efficient and effective in their planning of an educational program. The course of study is also an extremely vital dimension to be considered. The need for the systematic sequencing of instruction and the identification of the scope of the program is basic to achieving the goals of education for the retarded. The development of curriculum guides has been based in the past on two considerations, (1) the unique characteristics the children exhibit, and (2) their predicted level of accomplishment in social, personal, and occupational areas.³⁴ . . . "It is clear, however, that a single 'cookbook' approach for teaching the retarded will not work."³⁵

Although the curriculum and administrative plans are important concerns, most educators would agree that method of instruction, or what the teacher does in the classroom, are basic to effective and efficient teaching and learning.³⁶

Teachers of the mentally retarded usually have to develop their own curriculum. Few schools have established curriculum guides for the teachers to use. This means that the teacher must organize a curriculum

³³Robinson, op. cit., p. 455.

³⁴Smith, op. cit., p. 49.

³⁵Ibid.

³⁶Ibid.

which provides for small group and individualized instruction. The daily program must be organized based upon the total maturity of the class, and the grouping must be arranged relative to the chronological age, the social maturity, the mental development, the physical maturity, the emotional stability, and the educational achievement of the individuals in the class. The teacher must be adept at establishing classroom routines and the school day must be orderly and well-planned.³⁷

It is important for the teacher to be skilled in methods of observation of the child during the learning process, and to know how to allow adequate time for each phase, developing concepts slowly, simply, and in sequential order over an extended period of time. She must know how to utilize a variety of teaching approaches to any lesson and be able to use methods that will allow the child to learn as a result of exploration. She must know how to make the experiences of the children concrete and meaningful through the use of audio-visual materials and use methods that are related to the interest and social behavior of the retarded.³⁸

The teacher must be able to develop methodology that provides structured situations for meeting the "life needs" of the children. The knowledge and skills required of the teacher will vary according to the age-group of the children concerned. For example,

the teacher of a primary level class (C.A. 6-10) will need to know

³⁷Romaine P. Mackie, Harold M. Williams, and Lloyd M. Dunn, Teachers of Children Who Are Mentally Retarded, U. S. Department of Health, Education, and Welfare, Bulletin 1957, No. 3 (Washington: Government Printing Office, 1962), p. 8.

³⁸Ibid., pp. 9-10.

how to provide a readiness program which may extend for a three to five year period. This program would include opportunities for verbal and other forms of self-expression with activities to also encourage growth in language development. The program will include intensive training in visual, auditory, and kinesthetic perception and the teacher must provide activities for motor coordination as well as habit training in health, work, safety, and social relations.³⁹

Particular attention and planning will insure that the instruction is highly organized and sequential with no gaps that the child must fill in independently. It will also insure that the instruction is slower in rate than that for normal children, and that it is presented in a greater variety of ways and situations. It also provides for a greater application of skills learned. "The unit of experience provides opportunities for the development of socially meaningful needs and concepts as well as concrete materials for the learning of basic skills."⁴⁰

The teacher who is planning a unit to involve the retarded child should keep in mind these considerations:⁴¹

1. He learns most effectively when he can use concrete materials and real situations.
2. Actual objects and situations, rather than replicas or miniatures, stimulate more practical activities.
3. Observation, visual aids, listening, and experimentation provide more information than vicarious experiences and written materials.
4. The activities planned for the least competent must be as attractive and stimulating as those planned for the rest of the group.
5. The unit is valuable to the degree that it promotes the transfer of learning from the school situation to other aspects of the child's daily living.

³⁹Ibid., p. 11.

⁴⁰Johnson, op. cit., p. 236.

⁴¹Erickson, op. cit., p. 81.

6. The retarded child has had fewer experiences and has less curiosity to stimulate his interest in learning; hence, the teacher must provide a classroom atmosphere to stimulate learning.
7. The interest of the retarded child is often fleeting and shallow; new motivation may be needed to keep the child interested.

Reger and associates feel that materials should be something children can use. It is of no value to present a child with a book he cannot read, and which otherwise does not suit him even though it may be the best possible textbook available in a particular subject area.⁴² It will be up to the teacher to determine the "useability" of materials.

The following facts and suggestions will be helpful in teaching and preparing teaching aids:⁴³

1. Materials should be used which require only a few simple directions.
2. All equipment needed for a specific task should be close at hand.
3. The length of time required for a given task should be short enough to fit the child's attention span.
4. Little opportunity should be allowed for failure or error.
5. Follow developmental levels and keep tasks in sequential order.
6. Refine to its most primitive level any task as much as the child requires so that a success experience can be achieved.
7. These children learn more quickly and understand better when dealing with concrete rather than abstract concepts.
8. The child's day should be planned so that his tasks are varied; similar tasks should not be juxtapositioned.
9. Tasks should not be assigned until the child has the necessary background learning.

⁴²Reger, op. cit., p. 104.

⁴³William M. Cruickshank, The Brain-Injured Child In Home, School, And Community (Syracuse, New York: Syracuse University Press, 1967), p. 164.

10. Learning problems should be approached from as many different directions as seem appropriate. Do not be afraid to try something new if it is indicated, nor to discard something which proves valueless or unworkable.
11. There should be no hesitation in returning a child to an earlier step of any subject when it seems necessary. He may need to relearn or may feel the need for reassurance.
12. Be alert to the possibility of the child's interpreting his task in a different manner than what was intended. If the unexpected learning is correct, capitalize on it. If not, attempt to correct his approach. If this seems upsetting, do it for him (with his help), then put the work away and go on to other things.

In summary, the teacher can create an optimal educational experience by:⁴⁴

1. dividing the activity into small sequential experiences or parts.
2. providing short, dynamic experiences within an activity which have meaning, purpose, and interest to the learner.
3. providing experiences which are appropriate to the learner's maturity level.
4. designing activities and experiences which progress from the simple to the complex and from the concrete to the abstract.
5. giving experiences which require the learner to utilize his senses, emotions, and motor functions.
6. making certain that the activities and experiences are useful and based on life situations.
7. relating the current experiences to the learner's previous experiences.
8. providing the learner with successful experiences.
9. providing the learner with many varied experiences.
10. helping the learner understand how experiences are interrelated.
11. helping the learner see how interrelated experiences relate to the goal.

⁴⁴Special Education Division, op. cit., p. 18.

There are a great many unanswered questions on the goals and methods involved in the education of retarded children. "In so far as teaching methods are concerned, we can optimistically expect that research will soon yield more definitive guides to the most suitable approaches for different kinds of children at different levels of development."⁴⁵ Each teacher must evaluate her class and decide which materials and methods will be the most effective with them. The following chapter will provide the teacher with a look at some of the items she may wish to choose from.

CURRICULUM CONTENT AREAS

Though the teacher of the retarded will primarily use the unit approach for her class, it is very important for her to have available a wide range of materials to choose from in each of the content areas so that she may build the units to meet the individual needs of each student. This means there will be a need for very simple materials as well as some materials more advanced. Many of the materials created for the average primary classroom will furnish the teacher of the retarded with ideas for making her own materials in her units.

Language Development.

"Speech and language skills is an area in which the educable retarded are often extremely deficient"⁴⁶ There seems to be a

⁴⁵Robinson, op. cit., p. 456.

⁴⁶Johnson, op. cit., p. 237.

higher incidence of speech disorders among mentally retarded persons than among people with normal intelligence, but this does not mean that all mentally retarded persons have a speech and language deficiency. Research has shown that the mentally retarded acquire speech much more slowly than do the intellectually normal, and that the greatest percentage of errors in speech among the retarded appear to be of an articulation type, with voice problems constituting the second area of greatest difficulty.⁴⁷

A basic requirement for successful adjustment of a mentally retarded individual is adequate speech and language development. "Speech and language skills are fundamental to the learning of reading Emphasis should be placed upon increasing a meaningful speaking and listening vocabulary and increased ability in more adequate verbal expression in terms of accuracy, description, and sequence."⁴⁸

Most of the work in the area of language development will be done in cooperation with the speech therapist in her school. She must help to reinforce the work the therapist has started, but the most important contribution the teacher can make will be in making her room an accepting and understanding place for children with speech problems.

Through everyday activities such as "Show and Tell," telling stories, etc., the teacher is building language concepts. She may use the flannelboard, chart stories, puppet plays, etc., to encourage more and better speech from the students.

⁴⁷Smith, op. cit., p. 99.

⁴⁸Johnson, op. cit., p. 225.

Study prints of all types may be used for a variety of activities.

The student may:

1. Name objects in pictures.
2. Make statements about the picture.
3. Add descriptive words regarding the picture.
4. Associate ideas with the picture.
5. Draw conclusions from what he sees.
6. See reasons for happenings in the picture.
7. Guess what has happened previously in the picture.
8. Anticipate what will happen next.
9. Use sequential pictures for story telling.
10. Learn and practise the initial consonants from pictures.
11. Practise reading readiness activities with the pictures.

The teacher will want to look at the Junior Listen-Hear Books and the Listen-Hear Books to aid in auditory discrimination program. They have been prepared by speech therapists Jan Slepian and Ann Seidler, and consist of eleven picture-story books, teacher's guides, and supplementary materials to provide teachers with a systematic method of developing listening skills in young children (preschool through grade three). It provides a variety of interesting experiences with sounds, words, stories, rhymes, and pictures.

The Source Book and the picture-story books take up, in order, five levels of ear training: (1) gross listening to environmental sounds, (2) beginning discriminative listening, (3) discriminative listening and vocal play, (4) auditory discrimination of rhyming words, and (5) auditory discrimination of similar sounding word pairs and initial consonant sounds.⁴⁹

⁴⁹See the Appendix for the address of the Follett Company.

Another valuable aid for the classroom teacher would be a Peabody Language Development Kit for Level #1 (Mental Ages $4\frac{1}{2}$ - $6\frac{1}{2}$). There are four levels of kits prepared by Lloyd M. Dunn and James O. Smith, which consist of 180 lessons for speech stimulation. These lessons are presented daily as interludes from regular academic work. There is no reading or writing required, and no seatwork involved. The lessons promote active participation by all children in the class.⁵⁰

There are also many language activities in the I Want To Learn program which will be discussed in the section on readiness. The teacher will also want to obtain a catalogue of materials from Developmental Learning Materials, which lists their Association Picture Cards, Color Association Picture Cards, Motor Expressive Language Picture Cards, Sequential Picture Cards, Spatial Relation Picture Cards, and other teaching aids.⁵¹

The F. A. Owen Publishing Company lists many valuable aids for the classroom teacher in the area of language development. There are games, plays, flannel board materials, and magnetic materials of interest.

Although there are obviously many sources of materials for language development, the teacher will have to decide which to purchase with her limited budget. If funds are extremely limited, this author suggests that a tape recorder and a good supply of tapes would be the best buy when establishing a program for speech.

⁵⁰See the Appendix for the American Guidance Service, Inc.

⁵¹Address in the Appendix.

Readiness Activities.

Johnson states that, "the greatest proportion of the time a child spends in the primary class, he is at a preacademic developmental stage. As a result, one of the more important aspects of the primary curriculum is the provision of experiences that will provide the children with those skills necessary to benefit from more formal instruction in the academic skills when they are intellectually ready... he must have a background of experience and skill including speech, language, visual memory and discrimination, auditory memory and discrimination, motor ability, understanding of sequence, and so forth."⁵²

Of the commercially prepared materials one of the most interesting is the I Want To Learn Program from the Follett Company. This program provides individual, groups, and class activities in key areas of the readiness program. Materials include eighty charts, and an activity book plus a Teacher's Guide. Readiness concepts dealt with are reading readiness, nature study, social studies, and number readiness. The readiness skills are presented in various activities. These skills are: subject-matter, speaking, auditory, visual, motor, manipulative, creative, and rhythmic.⁵³

Another readiness aid is the Parkinson Reading Readiness Kit which contains flash cards, work sheets, color and form materials, and a teacher's guide. This kit deals with visual discrimination, auditory discrimination, spatial discrimination, and a variety of concepts.⁵⁴

Another aid worth examining would be the Learning To Think Series, Grades K-1. This was developed by Dr. Thelma Gwinn Thurstone and presents

⁵²Johnson, op. cit., p. 213.

⁵³See the Appendix for the address of the Follett Company.

⁵⁴Ibid.

material that is designed to develop mental skills. The lessons in this series present material that emphasizes motor coordination, perception, reasoning, quantitative thinking, word fluency, verbal meaning, spatial thinking and memory.⁵⁵

In the area of sequential perceptual-motor exercises the Dubnoff School Program is available from Teaching Resources.⁵⁶ In the area of visual perception there is a program entitled the Frostig Program For The Development Of Visual Perception by Marianne Frostig and David Horne. The program consists of a diagnostic test, a Teacher's Guide, a set of training dittos for each of the five areas in the program which are eye-hand coordination, figure-ground perception, form constancy, position in space, and spatial relationships.⁵⁷

Frostig defines perception as the ability to recognize stimuli. She suggests that this ability includes not only the reception of sensory impressions from the outside world and from one's own body, but also the capacity to interpret and identify the sensory impressions by correlating them with previous experiences. She says this recognition and integration is a process that occurs in the brain, not in the ears or eyes. Frostig feels the maximum visual perceptual development takes place normally between the ages of three and one-half and seven and one-half.⁵⁸

⁵⁵See the Appendix for the SRA address.

⁵⁶See Appendix for the address.

⁵⁷From the Follett Company.

⁵⁸Reger, op. cit., p. 106.

Auditory Discrimination - Teacher Made Materials.

1. Use two boxes, one with something that rattles and one with paper or cloth to discriminate between quiet and noisy.

2. For discrimination of falling sounds the teacher might use feathers, leaves, stones, blocks of wood, cotton, etc.

3. Shaking sounds can be made by maracas, baby rattles, pebbles in a coffee can, etc.

4. Use 3x5 cards and have the children cut pictures from old magazines and catalogues to paste on them. Each child takes ten cards. A letter is placed on the pocket chart and all the children look through their cards to find words that begin with that sound and then place their cards in the pocket chart under the proper letter.

5. Pretend to be shopping at the supermarket. Use small sacks or a shopping bag and go shopping for picture cards as in number four above. Each child spreads his pictures out on his desk, which becomes the counter for which he is a clerk. One child is chosen to be the shopper, and he takes the shopping bag and says, "I am going to shop for all the things that begin with a b sound." He goes from desk to desk, and as he sees a picture he says, "I would like some - - -." If he does not get all the cards on the desk which begin with b and the person can catch him, he must give up the shopping bag to that child.

6. Make a chart of construction paper with the first letter of each child's name at the top and the entire names in smaller letters beneath. The children then put all words and pictures they can find with the same sound as the beginning of their own name in the chart.

7. The teacher can go behind a screen or put a half screen in front of her so the children cannot see the objects she uses to play

"What Is It?" Possible sounds to use are:⁵⁹

| | | |
|----------------------------|---------------------------|--------------------------|
| tearing paper | bouncing a ball | sharpening a pencil |
| rattling a rattle | walking, running | shuffling feet |
| snapping the lights on | clapping hands | knocking on a door |
| sneezing, coughing | blowing a pitch pipe | tapping (on glass, etc.) |
| dropping an object | jingling money | moving a chair or desk |
| opening a window | snapping of fingers | pouring water |
| blowing nose | shuffling cards | opening or closing |
| banging blocks | clearing the throat | drawers |
| splashing water | vibrating sound | ringing a bell |
| rubbing sandpaper together | beating erasers | chattering of teeth |
| leafing through pages | cutting with scissors | crumpling paper |
| writing on chalkboard | shaking paper clips | opening a box |
| rattling keys | in a glass | striking a match |
| snapping rubber bands | breaking a piece of chalk | rubbing palms together |

Tactile Discrimination - Teacher Made Materials.

Knights and Thompson suggest the following activities:⁶⁰

1. Have the child close his eyes and identify common objects by reaching into a paper bag. Present objects of different sizes (bean, ball, toy, car, doll, closed safety pin, balloon), different shapes (block, banana, coat hanger, toothbrush, book), different textures (fur, bark of tree, marshmallow, velvet, sandpaper, sponge, spoon), and different consistencies (sand, sugar, pebbles, soap flakes, peanut butter, sawdust, flour, jello, ripped Kleenex). Present objects which are warm or cold as well.

2. Have the child feel objects and describe them in terms of shape, size, texture, and consistency (sticky, smooth, prickly, spongy, soft, hard, rough, bumpy, sharp). Both hands and feet may be used.

3. Use puzzles or cut geometric shapes from cardboard and ask the child to find the hole where each was cut from the cardboard. Also cut cardboard forms of animals (elephant, giraffe, snake, turtle, cat), a family of dolls, or foods, and ask the child to feel and identify them.

⁵⁹Betty Van Witsen, Perceptual Training Activities Handbook (New York: Teachers College Press, Columbia University, 1968), p. 31.

⁶⁰Robert M. Knights, and Audrey A. Thompson, Training Suggestions For Children With Perceptual Deficits (Toronto, Ontario, Canada: Canadian Association For Children With Learning Disabilities, 1967), p. 3.

4. Have the child name foods by touching them with the fingers or tongue, but hold the nose to prevent smelling. You might use corn flakes, bread, raisins, peanut butter, honey in the comb, orange, or grapes.

5. Place a block, button or bead in the hand to feel. Then hide it among objects of a different shape and ask the child to find it while blindfolded.

6. Use a variety of different objects to sort into smooth and rough, big and little, soft and hard, wet and dry, etc. Also have the child pick out objects which are fluffy, sharp, silky, rough, sticky.

7. Put materials of different sized granules in cans and have the child arrange them in order (salt, sugar, rice, beans, beads, seeds, pebbles, etc.). This activity might also be done with materials to arrange in order of roughness.

8. Fill similar sized cans or boxes with materials having different weights (sand, water, paper, stones, rags; air, etc.) to lift and arrange in order of weight, first with the dominant hand, then the non-dominant, then both hands.

9. Show pictures of different surfaces and ask the child to describe them in terms of how they would feel (rug, soap, peanut butter, glue, wool, sandpaper, bunny, pineapple).

Visual Discrimination - Teacher Made Materials.

1. Place several small objects on a table and cover with a cloth. Remove the cover for a few seconds then replace the cloth and ask the children to name the objects they can recall.

2. Make scrap books with pictures of family members, friends, types of workers, etc.

3. Cut out words which begin with certain letters from newspapers and magazines.

4. Give each child a small bowl of Alphabits and tell them they must find a certain letter and that they can eat all they find.

5. Make words from cardboard or plastic or wooden alphabets. Also use the typewriter to write words or print them with a printing set.

6. Have the children arrange buttons or cut-out forms of animals, dolls, fruit, etc. in order of size.

7. Use three-dimensional letters c, o, l, u, v, h, b, which are 3"x3"x3" and red in color. Each child has a light blue cardboard box that has holes outlined in black which correspond in size and shape to the set of objects. They must put the letters in the proper place.⁶¹

8. Use sets of brightly colored bowls, boxes, etc. which fit inside each other to learn concepts of smaller and larger.

9. Have the children sort various objects according to some property. They might sort blocks, beads, pencils, paper squares, paper shapes, or any type of small toys.

10. Present pictures of absurd situations and ask the students to tell why the picture is silly, or have them point out the funny part of each picture.

⁶¹Smith, op. cit., p. 144.

11. Have the children look for pictures of certain types of objects previously named.

12. Show pictures of dissimilar objects and have the students close their eyes while you remove one picture. They must tell which one is missing.

Keep in stock many objects for a variety of discrimination exercises such as:

- a. Long, longer, longest = felt or paper strips, sticks, ribbons.
- b. Small, smaller, smallest = nested boxes, blocks, buttons, measuring cups.
- c. Big, little = blocks, jars, buttons, balloons, toys.
- d. Tall, short = felt figures, stuffed toys.
- e. High, low = jump rope, small ball, seesaw made from a small board.
- f. Above, below = table shaped piece of felt with box shaped felt pieces to place above and below it.
- g. On, in = box with colored stones.
- h. Use assorted colored paper strips for other activities.

Discrimination of Color - Teacher Made Materials.

1. Ask the children to copy a pattern with multicolored candies. After they have completed it they may eat the candy.

2. Make lollipops 6" in diameter in the colors you are learning. Put the "pops" inside a circle while the children sit around them. One child skips around the circle then stops before another child who tells him a color to find.

3. Make color tops from sucker sticks stuck through the center of milk bottle caps and paint them different colors.

Writing Readiness.

Use oversized chalk for the first activities in writing on the chalkboard. This chalk is sometimes referred to as "railroad chalk" or number 888, and can be purchased at book stores or other school supply outlets. In addition to chalkboard activities the class may use finger painting materials, large newsprint, and various colored magic markers. Templates may be used at the board or on paper, and may either be made by the teacher or purchased from sources such as Montessori Materials, Teaching Aids, 159 West Kinzie Street, Chicago, Illinois. Other supplies to use might include clay, pipe cleaners, colored duplicating master units, and sandpaper letters and numbers.⁶²

Some teachers have utilized sand or salt trays for writing and other motor development activities. These are made by lining a tray with a sheet of brightly colored paper and covering it with sand or salt. The visual image becomes more clearly visible and mistakes are easily corrected.⁶³

Commercial items of interest to the teacher include Training Fun With Writing, Books I, II, and III.⁶⁴ The Gamco Industries, Inc. also has ditto masters entitled the Let's Write Series⁶⁵ and the Milton Bradley Company has puzzle cards of manuscript letters. Lyons and

⁶²Reger, op. cit., p. 133.

⁶³Ibid.

⁶⁴See the Appendix for the Mafex Co.

⁶⁵All publishers' addresses are in the Appendix.

Carnahan have Handwriting With Write And See, and of course other publishers have materials planned for use in regular primary classes that could be used by the teacher to prepare her own materials. Also worth examining are the Readiness Exercises For Writing from the Teachers Publishing Corporation.

Reading Readiness.

In developing reading readiness the following activities seem especially appropriate:⁶⁶

1. Give the child an opportunity to deal with the concrete object.
2. Label objects in the classroom.
3. Use pictures and art activities to expand the child's concepts.
4. Encourage conversation and storytelling.
5. Use description, riddle, rhyme, and puzzle games.
6. Use audio-visual aids.
7. Use dramatization, marionette and puppet shows, pageants and operettas.
8. Teach the pupil to construct and use picture dictionaries.
9. Use oral and written directions.
10. Teach the skills of classification and categorization.
11. Emphasize thought-initiating experiences.

Reading.

Reading is probably the single most important skill taught in the school Thus reading needs to be taught as a tool, and numerous opportunities for the use and application of the tool must be provided in the classroom through unit activities and work in the informational or content areas.⁶⁷

Basic objectives for the reading program include:⁶⁸

⁶⁶Emerald V. Dechant, Improving The Teaching Of Reading (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1964), p. 130

⁶⁷Johnson, op. cit., p. 224.

⁶⁸Smith, op. cit., p. 130.

1. Development of a basic sight vocabulary with elaboration on the existing speaking and listening vocabulary.

2. Development of a consistent method for word attack which is appropriate for each child and based on his idiosyncratic strength and weaknesses.

3. Development of skill in and a desire to read independently for information, pleasure, and personal satisfaction.

4. Development of an adequate level of reading competence to allow for effective social and vocational participation in society.

The available literature has yet to yield evidence that one approach to the teaching of reading is better than any other. It appears that the better method is the one that works for a particular child. Accordingly, we support the notion that methodology should be based upon the learning characteristics of the child.⁶⁹

"Many authorities would agree that children should have reached a mental age of 6-0 to 6-6 before reading instruction is provided."⁷⁰

In addition to the mental age, the teacher must consider the desire of the child to read, his experiential and language background, and his physical and emotional development.

One of the commercially prepared reading series which can be used at an early level of instruction is the Peabody Rebus Program. The two characteristics of this program which particularly set it apart from traditional readiness and beginning reading programs are the incorporation of a programmed text format, and the use of Rebus as a link between spoken language and reading. The materials consist of pupil workbooks and Teacher's Guides, plus word cards, and readers in the transition stage. Although this program is intended primarily for

⁶⁹Haring, op. cit., pp. 92-93.

⁷⁰Ibid.

first graders, it has been tested for use with the mentally retarded. Copies of the research done in this area may be obtained from the Institute on Mental Retardation and Intellectual Development, George Peabody College, Nashville, Tennessee 37203.⁷¹

Because the teacher may have a wide range of reading abilities and levels in her primary class, she might want to supplement the Rebus Series with the Programmed Reading from the Sullivan Associates. In Programmed Reading the material is divided into small segments, each of which presents the pupil with a problem to solve. He responds by choosing between words, filling in missing letters, etc. Immediately after the pupil makes his response he learns if his answer is correct. Since the program is designed so that his responses will be correct at least ninety-five percent of the time, he is constantly being rewarded.⁷²

The first phase of the prereading program consists of letter-sound work presented by the teacher. In this phase the pupil learns the names and most common sounds for the letters a, i, n, p, t, m. By the end of this stage, the pupil can recognize sixteen simple words. Materials for this stage include a set of large alphabet cards for the teacher, a set of sound-symbol cards, and an alphabet chart for the small letters. The workbooks can be used with plastic overlays to make them nonconsumable, and the pupils will find them colorful and easy to use.⁷³

⁷¹Available from the American Guidance Service, Inc.

⁷²Available from the McGraw-Hill Book Company.

⁷³McGraw-Hill catalogue.

Supplementary materials for the Programmed Reading Series include: storybooks, Webstermasters, filmstrips, test booklets, word cards, and character posters and a sound-symbol chart.

Two professional books the teacher may want to have for her own reference are Readiness and Reading For The Retarded Child by Bernstein from the John Day Company, and Reading Methods And Games For Teaching The Retarded Child by Hunter from KNOW Publications, Inc.

A different type of reading series being produced commercially is the Non-Oral Reading Method. This method was originated by James E. McDade who worked with retarded children at the Wentworth School in Chicago. The present materials offered by the Primary Educational Service were developed by Clara Meara Guibor while a primary teacher and a reading consultant in the Chicago Public Schools. The series consists of dictionary charts, corresponding word cards and picture cards, games, puzzles, and Teacher's Guides with day-by-day lesson plans. This would be good for seatwork activities and sightword drill.

A very colorful addition to reading supplies would be the Alphy's Show-And-Tell from the 3M Company. This consists of a set of prepared color transparencies, a student alphabet text and a Teacher's Guide. With the transparencies the children work with left-to-right orientation, upper-and-lower case letter discrimination, alphabetical sequence, programmed instruction, proper printing habits, and listening skills.⁷⁴

⁷⁴3M Products are available from the Modern Office Methods, Inc., 121 West Sixth Street, Topeka, Kansas 66603.

For additional sound work the Appleton-Century-Crofts Co. offers Phonics With Write And See and Making Sounds Work With Write And See. These are both self-correcting books and make use of a special pen or crayon which makes marks appear to show the right and wrong answers. While these books could not be used with all students, they may be very useful for some.

The teacher of a primary level class will certainly want to check the catalogues of the F. A. Owen Publishing Company and the Educators Publishing Service, Inc. as well as the Teachers Publishing Corporation for all types of aids in the field of reading. Their materials include books, ditto masters, games, flannelboard aids, and a wide variety of other supplies.

The Wasp Filmstrip Co. has a kit which uses a multisensory approach (visual, kinesthetic, and tactile) to teach what they call 54 Functional Words. The kit has nine filmstrips, fifty-four flash cards, a sixty-four page workbook and a Teacher's Guide. The words used in the program are: danger, poison, in, out, bus stop, post office, warning, caution, up, down, airport, railroad station, stop, no trespassing, left, right, doctor, dentist, railroad crossing, school crossing, push, pull, barber, cashier, emergency, exit, open, close, drugs, hospital, high voltage, explosives, private property, keep off, bridge, underpass, keep out, beware, wait, walk, park, meat market, prohibited, construction, fire, flammable, polluted, police, fallout shelter, safety zone, name, street, town, telephone.

Ideas For Teaching The Alphabet.

1. Arrange the children's names in alphabetical order.
2. Sing alphabet songs.
3. Find names in the telephone book.
4. Put words on the chalk tray and have the children select words alphabetically.
5. Divide the alphabet into three parts (a-g) (h-p) (q-z) and have drills in telling which part of the alphabet a certain word would be found by the first letter.
6. Past pictures on 4"x6" cards with a one-half inch strip pasted across the bottom to make a pocket. Use both capital and lower case letters which are $1\frac{1}{2}$ "x $\frac{1}{2}$ ". After all the letters have been matched, the child uses a self-checking key and puts the letters in proper sequence.⁷⁵
7. Make a picture dictionary of letters by cutting up magazines and catalogues.
8. Mark a shoe box into twenty-six squares on both the bottom and top lids. On squares or circles of cardboard, print letters of the alphabet. The child puts them in the proper order and then uses a key to check.⁷⁶
9. Use two 6"x10" pieces of cardboard hinged together. On the inside draw two inch squares with one-half inch strips of cardboard across forming a pocket for each. Number the squares from one to twenty-six. Make twenty-six $1\frac{3}{4}$ "x $1\frac{3}{4}$ " squares of cardboard with pictures representing each letter. Make fifty-two 1 "x $1\frac{1}{2}$ " pieces of cardboard with upper and lower case letters. The child first puts the pictures in order and then the capitals and the lower case letters.⁷⁷

⁷⁵Selma E. Herr, Learning Activities For Reading (Dubuque, Iowa: Wm. C. Brown, Co. Publishers, 1961), p. 5.

⁷⁶Ibid., p. 6.

⁷⁷Ibid.

10. Make small accordian books by folding paper for the pages and using 4"x5" wide strips as long as possible. The children measure off 4"x5" squares and fold them to make the accordian type book. Use enough pages to have twenty-six pages for drawing or pasting pictures which represent the alphabet.

11. Cut out twenty-six blue paper footprints and print 3" high lower-case manuscript letters on them. Lay these on the floor in a walking pattern. Capital letters are printed on yellow footprints and laid in a pattern to bisect that of the blue ones. From clear Contact paper cut a footprint outline and leave an inch margin all around it, and use these to fasten the other footprints to the floor. Ask the pupils to jump on one foot from a to m, and on the other foot from n to z. Each jumper reader says the letters aloud as he jumps.⁷⁸

Other Reading Activities.

1. Use notebook rings and 3"x5" cards to group words to be learned. They can be hung on a pegboard so they are easily accessible. Different cards may be used to serve different purposes. If certain words are to remain on the ring for a long period of time, cover them with clear Contact paper.⁷⁹

2. Prepare five sets of cards containing: children's first names, last names, house numbers, street names, telephone numbers. A card set should be made for each child. Use a different colored card for each set.⁸⁰

3. Use the lid and bottom of a box to classify things. Write "We belong here" and paste appropriate pictures in the box. 2"x3" cards have pictures to classify, and the child places them in the correct area of the box. Ideas to use are:⁸¹

⁷⁸Miriam Piequet, "Jumping Jacks and Jills," The Instructor, June/July, 1969, p. 57.

⁷⁹Janet Thomas, Teaching Language Arts To Mentally Retarded Children (Minneapolis, Minnesota: T. S. Denison and Co., Inc., 1968), p. 5.

⁸⁰Ibid., p. 9.

⁸¹Herr, op. cit., p. 10.

| | |
|---------------------------|------------------|
| school-home | farm-city |
| run-fly | work-play |
| long-short | big-little |
| fast-slow | toys-pets |
| clothes-tools | make-grow |
| vegetables-fruit | night-day |
| time-place | breakfast-dinner |
| fly-swim | wheels-wings |
| to live in-to wear | people-pets |
| to ride-to smell | to hear-to feel |
| to eat-to hear | trees-flowers |
| wild-animals-tame animals | |
| summer-winter | kitchen-bedroom. |

4. Cut out large letters and have the children paste pictures on the outline that begin with that letter.

5. Make a verb blanket by collecting drawings from workbooks and coloring books which illustrate action words. Transfer them to 10" squares of old bed sheets and print the name of the action word beneath the picture. The students then sew the squares together. The pictures might be traced over with tubes of embroidery paints.

Arithmetic.

Understanding quantitative concepts and their use is necessary if a child is to comprehend fully the world about him and make use of arithmetical concepts and skills to be taught at a later date. The child must learn basic quantity or amount, sequence (counting), an understanding of the language used in dealing with quantities, and finally the recognition and association of the written number with the quantity and process involved.⁸²

Children in the slow learning group require more time and activity with teaching aids in arithmetic. The primary pupil is able to learn to understand many phases of arithmetic by the use of teaching aids which permit him to use his hands, to listen as well as look, and to talk

⁸²Johnson, op. cit., p. 230.

instead of just sitting and merely trying to do busywork with his pencil and paper. Usually a combination of the sensory, tactile, auditory, and visual will be better than any one approach used separately.⁸³

"Instruction must be practical and utilitarian with especial emphasis on a social and vocational orientation." Teachers should ask the following questions:⁸⁴

1. Is the material under consideration potentially important to the retarded child's future success?
2. What procedures can be employed to teach the important components of the topic under consideration in the most efficacious and practical way?
3. What procedures can be used to foster a conceptual understanding of the material by the youngsters, and how can they be encouraged to generalize and apply these understandings?

Objectives for the arithmetic program include:⁸⁵

1. Development of an understanding of numbers and the processes involved in arithmetic computation.
2. Seeing relationships between various computational processes and the manner in which these tools can be used for solving various types of problems.
3. Development of a more structured and organized response repertoire emanating from an understanding of the logical structure of arithmetic.
4. Development of more dependence on and comfort in using abstractions as points of references instead of total dependence on concrete reference points.
5. Movement toward greater dependence in using a consistent method for solving problems in place of random, impulsive behavior.

⁸³George I. Thomas, and Joseph Crescimbeni, Individualizing Instruction In The Elementary School (New York: Random House, 1967), p. 339.

⁸⁴Smith, op. cit., p. 164.

⁸⁵Ibid., p. 165.

When planning the arithmetic program the teacher will find many helps in the series planned for regular primary classes. In addition, there are special professional books she may wish to have in her library.

Teaching Arithmetic To Young Children by Feingold from the John Day Company would be of interest, as would Training Fun With Numbers from the Mafex Associates, Inc. Gage Textbooks offers the On Your Own In Arithmetic Series which includes concepts of numbers, addition and subtraction facts to ten, and addition and subtraction facts eleven to eighteen.

The Continental Press, Inc. has ditto masters in the areas of number concepts, money, and time. The Stanley Bowmar Co., Inc. has a kit entitled Teaching Children Mathematics Through Games, Rhythms, And Stunts. Also of interest are the materials available from the Cuisenaire Company of America, Inc.

Two programs meant for the regular grades, but which contain some excellent ideas in their Kindergarten and Grade One books suitable for primary level special education are the SRA Elementary Mathematics Program and the Greater Cleveland Mathematics Program, both from Science Research Associates, Inc. Also of interest is Alphy's Number Kit from the 3M Company which contains prepared color transparencies and a seatwork book.

A unique source of ideas for teachers is the Nuffield Mathematics Project. The books in the project include: Beginnings, Mathematics Begins, Shape and Size, and Computation and Structure.⁸⁶

⁸⁶From John Wiley and Sons, Inc.

Teacher Made Materials.

1. Paint bottle caps a variety of colors and paint a number on each. Each player shakes two bags of caps (one containing numbers and the other symbols). The player then tries to answer the problem and gets a point if it is correct.⁸⁷

2. Make a large, triple-sectioned flannelboard with each section marked with yarn, paint, etc. Staple envelopes to the back of the board to contain items to use in counting and simple computation. These might include pictures of: fish, dogs, dolls, drums, houses, kittens, horns, stars, cups, leaves, cherries, sticks, balls, canes, hats, cars, lollipops, and numbers.⁸⁸

3. Use colorful bottle caps of all kinds for a number matching game. On a cardboard 5"x12" draw around the caps with a marking pencil to make pictures on the cardboard. Doing one picture at a time, put matching numbers on the circles and bottle caps. All caps of the same color should have the same number. The children then complete the pictures with the caps.

4. For a measurement activity, cut many blocks of various lengths, widths, and thicknesses. Number them and put them in a decorated container. Also in the carton are a metal tape, cloth tape, yardstick, and ruler. In their free time the children can measure a block and write their findings on a duplicated sheet.

5. Shape pipe cleaners into numbers and glue them on 4"x4" cards. The children can close their eyes and feel the numbers.

⁸⁷Ethel M. Turner, *Teaching Aids For Elementary Mathematics* (New York: Holt, Rinehart and Winston, Inc., 1966), p. 12.

⁸⁸Ibid., p. 14.

6. On twenty strips of cardboard write the numbers one to five. Place them upside down in two plastic cups. The children form two lines and the first one in each line draws a card, reads the number, and takes that many steps forward. The line getting around the room first is the winner.

7. Paper tubes from paper toweling may be used for pins in a bowling game. Of five pins, only two are marked. One has four colored balls on the side, and the other has five. These are the only two to count in the scoring.

8. Use ten cards all the same size. Put circles on the cards to represent numbers one to ten. Cut out a square piece the same size from each card and write the numerals on them.

9. Make a large playground number line with ten numbers in each direction. Spaces should be large enough for a child's feet.

Mental Hygiene.

The following points have a direct bearing on the effectiveness of instruction in social, personal, and emotional development of the mentally retarded:⁸⁹

1. Liberal use should be made of films and other audio-visual aids. These aids will allow a child to experience a variety of typical and atypical personal, social, and emotional situations on repeated occasions and, by stabilizing stimuli, allow each child to analyze and reanalyze faulty behavior. Moreover, use of audio equipment gives each child a chance to monitor his own responses and reflect on their appropriateness.

⁸⁹Smith, op. cit., p. 223.

2. Throughout instruction in these areas, emphasis should be placed on appropriate behavior, with inappropriate behavior deemphasized. The mentally retarded tend to remember best what not to do instead of what constitutes a correct response. Whenever appropriate, the teacher should use models, idols, and authority figures to emphasize important points or correct behavior.

3. The older mentally retarded children should see a clear association between vocational requirements and appropriate social and emotional behavior. Correct behavior should both be understood and satisfactorily applied to various situations.

4. Each child's experiences and activities should be based on what the teacher predicts will constitute the child's future social and emotional behavior. The program may be different for each child.

5. Professional advice from school psychologists, guidance counselors, clergymen, local health officers, and other experts should be sought by the teacher whenever needed.

6. Opportunities to interact in practical situations with children and adults who are intellectually normal should be provided the retarded.

7. For some classes some variety of self-government might be useful.

One of the factors for success in the classroom will be the way the teacher handles the matter of discipline. The following would be a good list for the teacher to refer to to remind her of the:⁹⁰

"ABC's of Good Discipline"

- A -- Affection. A basic tie between teacher and disciple.
- B -- Balance. A wise weighting of values.
- C -- Consistency - of goals, not always methods, and tempered by the individual differences of place and time.
- D -- Democracy. The rights of the individual of self-respect and a feeling of personal worth.
- E -- Effort. Continuous and never ceasing.
- F -- Firmness - but not rigidity.
- G -- Generosity, of time and patience.

⁹⁰Harriet E. Blodgett, and Grace J. Warfield, Understanding Mentally Retarded Children (New York: Appleton-Century-Crofts, Inc., 1959), p. 15.

- H -- Helpfulness, ever-ready and wisely given.
- I -- Imagination. Resourcefulness in finding new and better ways.
- J -- Joyousness. The delights of success should be every day.
- K -- Kindness, with the long view.
- L -- Laughter, the balance wheel in times of stress.
- M -- Management. Judicious choice of methods.
- N -- Nurture - of good health in emotional relationships.
- O -- Outlets, direction of drives into ways acceptable.
- P -- Praise, never stinted.
- Q -- Quietness. Frequent freedom from anxieties and excitements.
- R -- Routine, necessary and comfortable.
- S -- Security. Safety and protection from unnecessary dangers.
- T -- Tolerance, of failures and weaknesses.
- U -- Understanding, of individual differences in interests and skills.
- V -- Vigilance, watchfulness for danger signals.
- W -- Warmth. The readiness to express affection.
- X -- To mark the place - here and now.
- Y -- For "Yeses". May they outnumber the "Noes."
- Z -- Zest, for today and tomorrow.

The slow learner must develop a realistic appreciation of his strengths and weaknesses because these will affect his personal, social, and occupational adjustment. He must be helped to accept realistically his limitations on the one hand while he develops an appreciation that he also has worthwhile strength which he can utilize. The school must provide him with opportunities to obtain status through socially-acceptable means and give him the opportunity to become productive, useful, and to gain a feeling of importance.⁹¹

Although it is difficult to plan mental hygiene activities until the teacher knows her group, she will find that there are some source books available with materials to help her make at least an outline of such a program. Among those strongly recommended is A Teaching Program

⁹¹Special Education Division, op. cit., p. 387.

In Human Behavior And Mental Health by Ralph H. Ojemann, Alice S. Hawkins, Katherine Chowning of the Preventive Psychiatry Research Program Institute of Child Behavior and Development at the University of Iowa. The book lists outcomes and objectives, nature of materials, experiences for developing a causal orientation, suggested stories for kindergarten and first grade. It also contains delightful illustrations as well as using the causal approach in basic reading materials, arithmetic, and social studies. It may be ordered from the Department of Publications, The University of Iowa, Iowa City, Iowa 52240.

Seven Stories For Growth is a book of stories by Daniel A. Sugarman and Rolaine A. Hockstein. The authors have intended this book to be used in the emotional education of primary-school children. It contains stories for the teacher to read aloud, and there are discussion points listed after each story. It is published by the Pitman Corporation.

The Curriculum Aids Workshop of Fort Wayne, Indiana, offers the DuMill Guidance Method. It is a kit which consists of eight sack puppets (to be completed by the children); twenty-eight stimulus pictures; and a teacher direction manual. The teacher explains to the children a certain difficult situation and the students must solve the problem. A review of appropriate behavior concludes the lesson.

The following are sources of books of interest in this area:

1. Bailey, Matilda, "Therapeutic Reading," ABC Language Arts Bulletin, Vol. 1 #6, American Book Co.
2. Colm, Hanna, "Do Our Children's Books Meet Emotional Needs?", Understand The Child, XX, 4, October, 1951.

Ideas For Teaching About Understanding And Accepting Oneself.

1. Have the children tell about the jobs and duties performed by members of their households. Mount pictures representing these household activities, and have the children sort them into activities performed by men and women.

2. Read appropriate stories and poems about girls and boys.

3. Assign various leadership roles to each pupil during the course of the year. Help to establish pride in doing an assigned job well by recognizing pupil performance.⁹²

4. Talk about sharing materials and equipment with others. Point out that no one uses his size or strength to take advantage of someone else.

5. Talk about the experiences which may make boys and girls happy or sad. Have children identify feelings by studying facial expressions of people in pictures. Encourage pupils to create stories which describe the feelings of the people in the pictures.

6. Talk about proper behavior for children when company comes to the classroom or to the home.

7. Read stories and poems which help pupils improve conduct. Talk about the conduct of the various story characters and have the class evaluate the characters as "good" or "bad."⁹³

⁹²Special Education Division, op. cit., p. 394.

⁹³Ibid., p. 395.

8. Help the children identify behavior which is acceptable for their sex and age.

9. Discuss topics such as "What should I be able to do for myself?"; "What are some things I can do well?"; and "What are some things I need to learn to do?".

10. Use a good conduct clown and write the names of the students who behave well on paper balloons.

Social Living.

The provision of experiences in group living is of extreme importance and should be an integral part of any primary program.⁹⁴ . . . the social values and esthetic standards of the child's culture must be taught in simple, often concrete, and interesting form to children in projects suitable to the learning environment; otherwise the special classroom will provide for only a limited program of cultural preparation.⁹⁵

Objectives in the area of social skills include:⁹⁶

1. The students must develop an understanding of reasons for laws and rules in our society and the implications of breaking or violating these established standards.

2. The retarded child must develop an awareness of the need to be alert to the attitudes, feelings, and opinions of others and learn to respect these opinions as sources of possible additional information which could be of direct value to them personally.

3. Concepts associated with personal care and good grooming need to be stressed throughout the school program. The children need to learn to care for their personal needs so that they are viewed as attractive and better accepted as compatriots and models of appropriate behavior by their fellow students.

4. The value in the children's showing mannerly behavior, honesty, and truthfulness needs to be stressed.

⁹⁴Johnson, op. cit., p. 212.

⁹⁵Haring, op. cit., p. 3.

⁹⁶Smith, op. cit., p. 210.

A primary class must provide the child with experiences to make him aware of information about himself (name, address, age, etc.) and his relation to his family, the school, and the community. Any units planned in social living should especially stress health habits and all aspects of safety. There should be very simple experiences regarding food, clothing, and family life.

The teacher of the primary class will find there are many possibilities in preparing units in this area. A good source of information is Homemaking In The Elementary Schools by Suzanne Sickler, available from the Department of Vocational-Technical Education, New Brunswick, New Jersey. This is a complete guide prepared for grades kindergarten through six of regular classrooms which gives ideas for experiences in food, clothing, family life, and housing. It also lists resources which include books, films and filmstrips, and teaching units. Each grade level is divided into the headings: "Some Basic Understandings," "Some Suggested Experiences," "Integration Possibilities," and "Some Suggested Resources." Although not specially a guide for the retarded, most of the earlier activities should adapt very easily.

Lawrence Senesh, Professor of Economic Education at Purdue University, has developed a social studies program entitled Our Working World for the primary grades. The set of materials includes a record set, a textbook and an activity book which should be of help to the teacher. The first grade materials deal with the family and are entitled Families At Work. They also should be of interest and be easily adapted. The series is available from the SRA Company.

The John Day Company publishes Basic Lessons For Retarded Children by Hamilton. There are two workbooks in this program which deal with basic family concepts.

Transparency masters from the 3M Company include Basic Health-Head To Toe, Lower Elementary Safety, and ABC's of Safety.

The National Safety Council publishes School Safety Magazine and also produces many valuable safety aids. Of special interest in this magazine are clever safety songs.

Safety units may be prepared about patrol members and their jobs, policemen and firement, fire drills, home safety, sports safety, classroom safety, seasonal safety, and any number of safety problems that may arise in day to day living.

In the area of food experiences the children should be made aware of the proper diet and how to prepare simple foods. In learning to cook, the children can learn to work together as a team, and learn to follow and interpret a recipe. They will find words that stand for things, and must follow directions in a certain sequence. They will learn about quantity, weight and measure, and keeping time. The finished product will give them the incentive to master these operations. In addition to the ideas given in Homemaking In The Elementary Schools, there are many children's cookbooks available, and most teachers will know of simple recipes from their own kitchens which would be suitable.

In learning about eating in public, the children could play "Restaurant." Have the children cut out from magazines colored pictures of breads, pies, fruit, vegetables, meat dishes, etc. Put these on a

table over which a "cook" presides. The other children sit around small tables or desks pushed together which have been set with paper plates, knives, forks and spoons that have been designed, cut out, and colored by members of the class. Before taking their seats, the customers look over the cook's display. The "waiter" takes each customer's order and repeats the order to the cook. The cook places the appropriate pictures on a tray, which the waiter carries back to the table. The waiter then gives each "dish" to the proper customer.⁹⁷

In getting along with others, the children may need to practice simple activities each day to promote good citizenship. The following are but a few of the possible suggestions:⁹⁸

1. Talk about what makes a happy day. Have pupils suggest rules which will help the class get along together. Make a chart of the rules.
2. Demonstrate the rules of courtesy which should be practiced by girls and boys. Plan situations in which the children practice courtesy toward adults and each other.
3. Identify the rules of the school. Take a tour of the building to practice some of the rules.
4. Play games which require taking turns.
5. Provide classroom situations in which pupils may practice taking turns.
6. Select and read appropriate poems and stories which illustrate acceptance and tolerance.
7. Talk about some of the ways to make friends.
8. Talk about the ways that boys and girls show respect for the feelings of others. Explain how teasing and name calling may result in hurt feelings and the loss of friends.

⁹⁷Van Witsen, op. cit., p. 39.

⁹⁸Special Education Division, op. cit., p. 396.

Science.

Science need not be taught as a series of lessons on specific concepts. A functional approach to the teaching of science should emphasize instruction on concepts which directly relate to the student's daily life and experience. Science concepts may also be taught as a part of other units.⁹⁹

A very helpful book in the area of science is a volume by Katherine Wensberg, entitled Experiences With Living Things, published by the Beacon Press. It contains stories and many interesting activities and experiments. Experience unit topics include: Earthworms, Robins, Cat, Tree, Woodpecker, Spiders, Moles and Shrews, Ant, Grass, Garden, Bees, Caterpillars and Butterflies, Grasshoppers and Crickets. The subtitle of the book is "An Introduction to Ecology for Five-to-Eight-Year-Olds", and many of the ideas seem just right for a primary level class.

A science table might be prepared in the corner of the room with a variety of experiences the children could examine individually. There might be something there for them to take apart and put back together, or ditto sheets to work about topics such as animals, weather and seasons, earth and earth components, the universe, forces, etc. Things like an ant farm and an aquarium would also be appropriate. Plants of all types could be included, and a small window garden of vegetable plants might be interesting. Art activities are plentiful in this area also.

⁹⁹Edward L. Meyen, and Donald L. Carr, In-Service Training Materials For Teachers Of The EMR (Iowa City, Iowa: Iowa State Department of Public Instruction, 1967), p. 1.

Music and Art.

The primary aim in teaching music to the mentally retarded is not to train them as musicians, but to assist them to a greater enjoyment of music. Music can bring to the retarded a sense of security through its order and structure and can provide experiences that bring about greater development of self-esteem.

The mentally retarded are capable of participating in many musical experiences, including movement to music, rhythm activities, singing, listening, and simple instrument playing.

In working from the simple to the complex, a music unit for the retarded might begin with an acquaintance with all types of sound. This would include both musical sounds and the everyday sounds around them. Throughout the day music can be enjoyed either through singing or listening in all of the subject areas.

A second step might be to introduce rhythms through large muscle activities. An excellent book to guide these activities would be the Clap, Snap and Tap Band by Carl W. Vandre from the T. S. Denison Co.

Very simple music notation could be introduced through large muscle activities as directed in the book The Playground As Music Teacher by Madeleine Carabo-Cone from Harper and Brothers Publishers.

Most children are able to learn simple songs on the piano, and the teacher could use a variety of beginning instruction books to present songs either with a number approach or by letters or notes. Of special interest would be the Musical Keyboard Method by Richard Weber from the Plymouth Music Company.

Other helpful music sources are:

Ginglond, David, and Winifred Stiles. Music Activities For Retarded. Nashville, Tennessee: Abingdon Press, 1965.

Schaum, John. Keyboard Talent Hunt. Milwaukee, Wisconsin: Schaum Publications, Inc., 1967.

Clark, Frances. Time To Begin. Evanston, Illinois: Summy-Birchard Company, 1960.

Richards, Mary Helen. Threshold To Music. Palo Alto, California: Fearon Publishers, Inc.

Materials from the Rhythm Band, Inc., P. O. Box 126, Fort Worth, Texas 76101.

Harlan Palmer has developed a program for pre-kindergarten to grade three entitled Learning Basic Skills To Music. It presents numbers, colors, alphabet and body awareness. It is available from the Stanley Bowmar Co., Inc.

Like all children, retarded children possess creative ability and manual dexterity in varying degrees. Some children are good with colors while others may be able to sew or do woodworking. Most of their art projects will be in keeping with units of instruction being presented at that time, or with the season or holiday.

The John Day Company publishes Craft Projects For Slow Learners by Schmidt, and the Mafex Associates have three volumes of Training Fun With Art. Know Publications, Inc. has Arts And Crafts For Retarded by Helene L. Hunter, Agatha Whelan Wahl, and Rose Irvin Williams. These are but a few of the source books available for the teacher to use, and she will find a great many ideas for art activities in the educational journals also.

Art Suggestions For The Classroom.

1. Paint with Epsom Salts. Add the salt to very hot water until no more will dissolve. It makes lovely winter scenes.

2. Use a potato masher to paint interesting pictures.

3. For naphthalene art melt $\frac{1}{3}$ cup of naphthalene (moth balls) in a container in a double boiler. Pour the melted naphthalene into a container $\frac{3}{4}$ full of cold water. It will solidify and form fantastic shapes. You can add color by putting a small piece of wax crayon in the melted naphthalene.

4. Papier Mache. Three large sheets of newspaper will make about one cup of pulp. Tear into small pieces about the size of a dime; drop into warm water. When thoroughly soaked overnight, pour off excess water. Using two straight smooth sticks about 1" across, pound and grind paper into pulp very fine. Place in cheese cloth, stocking or strainer, and press out all the water. Store in a covered container until needed. To use add one part thick creamy paste to two parts pulp and mix in a plastic bag.

5. Papier Mache Cows. Use half pint milk cartons for the heads; round cereal boxes for the bodies; buttons for eyes and noses; rolled paper or tubing for legs; yarn for tails. Crisscross strips of newspaper dipped in thin wallpaper paste to join the milk carton to the cereal box. Let dry. Make four holes in the box and insert legs. Cover the entire cow with papier mache and let dry. Paint.

6. Nail pictures. Use pieces of wood one foot by one foot and two inches thick. Outline an object on the square with nail holes or dots. The child hammers in nails to complete the picture.

7. Hand Puppets. Use drawings or figures from magazines to mount on heavy paper and then fasten to popsicle sticks. Other puppets may be made by using a cardboard tube for the head and cloth for the body and hands.

8. Mother's Day Favor. A flower is cut from colored paper and stapled to a pipe-cleaner stem with the other end of the cleaner in a paper flower pot. A snapshot of the child is placed and pasted in a cupcake wrapper and fastened to the flower center.

9. Use odd pieces of colored construction paper. Give each child a piece of plain paper and have them paste the odd pieces on the plain paper and, using any medium, make something of it. Swatches of cloth might be used for this also.

10. Draw a large face on the chalkboard and let each child either change or add one new feature to the picture.

11. Draw a scene on the board which is simply a background, perhaps a mountain and a tree. Each child must add something to the scene.

12. Things to make out of leftovers:

Acorns = animals, brownies, beads, nature study.
Bamboo = tent and wigwam poles, furniture, hobby horses.
Baskets (berry) = cradles, wagons, crayola trays,
plant containers.
Beads = book marks and booklet decorations, Indian
projects, eyes for dolls.
Brushes (tooth) = use for "spatter work."
Buttons = wheels, people pictures.

13. Things to collect for art work:

| | |
|---------------|-----------------|
| Calendars | Balloons |
| Candle ends | Butterflies |
| Cans | Cellophane |
| Catalogues | Egg Cartons |
| Cloth Scraps | Fur |
| Corks | Colored Glass |
| Feathers | Marbles |
| Felt Scraps | Fruit pits |
| Gourds | Pipe Cleaners |
| Paper Tubes | Popsicle Sticks |
| Seeds | Ribbon |
| Shoe Laces | Rickrack |
| Wheels | Seed Pods |
| Spools | Springs |
| Window blinds | Colored string |
| Yarn | Bottle Caps |

14. Make name puzzles by using a piece of light weight poster board 2"x12" and write the name with a felt marker. Cut the letters apart into puzzle pieces.

15. Emphasize one color for approximately a two week period. Use a special area on a bulletin board with the caption "Let's Think Colors" and the sub-title "Let's Think _____" (red, etc.), using one color at a time for study. The children could bring objects or pictures from home relating to the color, and these displays are captioned ("apples are red, etc.") To coincide with the bulletin board have the children make notebooks entitled "My Let's Think Colors Notebook." Large size oaktag (12"x18") is used for covers and the small size construction paper is used for dividers. Either rings or brass holders fasten it together. Cut and paste pictures from magazines on drawing paper for each color.¹⁰⁰

Physical Education.

"Planned experiences to promote growth and improvement of skills in these areas (physical and motor development) should be included in a primary curriculum for a number of reasons."¹⁰¹ They may work on unskilled

¹⁰⁰Jack C. Dinger, Ed., "Teacher Talk," Education And Training Of The Mentally Retarded, Vol. 3, No. 3, October, 1968, pp. 152-156.

¹⁰¹Johnson, op. cit., p. 213.

and semiskilled jobs where they need physical and motor skills, or they may need these skills in nonvocational activities such as reading, writing, coloring, drawing, cutting, pasting, etc. "The development of physical and motor skills is important to the learning of future academic, vocational, and avocational skills, and in the more satisfactory performance of other readiness activities."¹⁰²

Physical objectives for the program are to:¹⁰³

1. Improve general physical health and appearance.
2. Develop and improve basic motor skills and fundamental body movements such as running, walking, grasping, climbing, hanging, throwing.
3. Increase physical stamina, motor ability, and physical fitness through development of organic prowess of the body.
4. Develop coordination, strength, muscular endurance, muscular power, flexibility, agility, balance and speed.
5. Experience more balanced growth.
6. Improve posture, rhythm and grace, and control of movement.

Social objectives for the program would be to:¹⁰⁴

1. Develop skills and abilities necessary for successful participation in a variety of wholesome activities.
2. Increase social independence.
3. Develop greater degrees of acceptance and belonging as an individual.

¹⁰²Ibid.

¹⁰³American Association For Health, Physical Education and Recreation, Recreation And Physical Activity For The Mentally Retarded (Washington: Council For Exceptional Children, 1966), p. 22.

¹⁰⁴Ibid.

4. Develop better self-care skills and better participation.
5. Achieve adjustment to demands of the group and work as a part of it.
6. Develop more respect for the rights of others and become more cooperative and more sociable, outgoing and friendly.

Emotional objectives to be achieved are:¹⁰⁵

1. Greater levels of courage, self-confidence and poise.
2. Improvement of self-image.
3. Increase self-respect.
4. Experience greater satisfactions through participation.
5. To feel secure in a variety of situations.

Some interesting activities for the children might include:¹⁰⁶

animal lore, acquatics, aquarium activities, astronomy, bait casting, bicycle caravan, bird watching, cook outs, fishing, flower arranging, gardening, hiking, horseback riding, insect collections, picnics, scavenger hunts, tree study, sledding, etc.

Bryant J. Cratty, Associate Professor, Perceptual-Motor Learning Lab., UCLA, has developed a card file entitled Learning And Playing: Fifty Vigorous Activities For The Atypical Child. It offers a variety of active games which provide reasonable challenges, and yet are simple enough to encourage participation by those with learning disabilities. The games are printed on large cards for easy handling and are divided

¹⁰⁵Ibid., p. 23.

¹⁰⁶Ibid., pp. 25-27.

into the following categories: Line Games, Circle Games, Rope Games, Pattern Recognition, Serial Memory Tasks, Base Games, and Grid Games. This may be obtained from the Stanley Bowmar Co., Inc.

Newsletters dealing with physical education and recreation for the mentally retarded are:

Challenge. Project on Recreation and Fitness for the Mentally Retarded. c/o AAHPER, 1201 16th Street, N.W., Washington, D.C.

Information Center - Recreation For The Handicapped. c/o Little Grassy Facilities, Southern Illinois University, Carbondale, Illinois.

Recreation For The Retarded. c/o National Association For Retarded Children, 420 Lexington Avenue, New York, New York.

Information regarding the Special Fitness Awards For The Mentally Retarded and Special Fitness Test For The Mentally Retarded may be obtained from AAHPER-NEA Publications Sales, 1201 Sixteenth Street, N.W. Washington, D. C. 20036.

Activity Ideas.

The following are suggestions taken from Dynamic Physical Education For Elementary School Children:¹⁰⁷

1. Animal Tag. Divide into two groups along two parallel lines about forty feet apart. The children in group one decide what animal they wish to imitate. They go over and pantomime for group two. If group two guesses correctly, they chase the ones and capture as many as possible to be on their side.

¹⁰⁷Victor P. Dauer, Dynamic Physical Education For Elementary School Children, Third Edition (Minneapolis, Minnesota: Burgess Publishing Co., 1969), pp. 122-147.

2. Back-To-Back. Use an uneven number of children. On signal, each child stands back-to-back with another child. One is left without a partner. This child gives a signal (claps hands, etc.) and all change partners. To add variety the teacher can give commands like run, skip, hop, jump, slide, etc. while the children move around the room. When a whistle is blown, they must find a partner and stand back-to-back.

3. Cat and Rat. The children stand in a circle with a "rat" inside and a "cat" outside. The circle raises and lowers arms to save the "rat."

4. Old Man (Old Lady). Mark a line down the center of the play area. Half of the children are on one side and half on the other. The teacher directs them to run, hop, skip, etc. and at a whistle they run to the center line and join hands with a partner without crossing the line with their feet. The one left is the Old Man.

5. Automobiles. Give each child a cardboard wheel. The teacher has three flash cards colored red, green and yellow. The children drive around following the teacher's signals. Special cars could be an ambulance or a fire truck, and when they make a siren noise the others must pull over to the side and stop.

6. Straddle Bowling. One child is the bowling target and stands with his feet wide enough apart so that a ball can pass through. Another child is the ball chaser and stands behind him. The other children line up behind a line and roll a ball between the target's legs. Give points for not touching the legs of the target.

7. Horizontal Ladder. (a) Pencil - hang from rung with feet pointed to the ground; (b) Knee lift - hang with the knees up so the thighs are parallel to the ground; (c) Bicycle - hang and move feet as if pedaling a bike; (d) Half Lever - legs are brought up parallel to the ground with the knees straight and the toes pointed; (e) Scissors - point toes and move the legs back and forth like a scissors.

8. To make a balance board use a twelve inch square piece of three quarter inch plywood and mount it on a half inch piece of wood two inches by two inches, the half inch being the height the board is to be off the floor. The child stands on this and tries to balance. When he has learned to balance on this, the support can be raised from one half inch to one inch, one and one half inch, and two inches.¹⁰⁸

¹⁰⁸Van Witsen, op. cit., p. 58.

9. To make a jump board use a board eight feet long by eight inches wide and place it on two low supports, one at either end. The child jumps up and down on the board. This may also be used for walking exercises.¹⁰⁹

Classroom Management.

Teachers might be interested in the following characteristics Reger feels a teacher of the retarded should have:¹¹⁰

1. The ability to mobilize and sustain a high level of energy.
2. Alertness and responsiveness.
3. Personal stability and self-control;
4. An orientation toward being a teacher (rather than say, a psychotherapist or an administrator).

There are also guides listed for classroom management which should be useful:¹¹¹

1. Do deal with the children in a positive manner.
2. Do deal with the children with consistency.
3. Do accept the children as worthwhile individuals.
4. Do make sure that the child always completes a task correctly even if the teacher must help him do so.
5. Do correct the child's work as soon as possible after completion.
6. Do use color extensively.
7. Do use manipulative materials extensively.

¹⁰⁹Ibid.

¹¹⁰Reger, op. cit., p. 56.

¹¹¹Haring, op. cit., p. 204.

8. Do remember that the child needs much help in integrating learned facts and behavior.
9. Do evaluate every bit of work given to each child in light of his abilities and disabilities.
10. Do remember the child wants and needs to succeed.
11. Do provide an environment in which the child can gradually learn to assume more and more responsibility for his own behavior.
12. Do not expect miracles overnight.

The following is a list of materials for a classroom for the mentally retarded prepared by Marion Welsh Botta and published in the November, 1962 issue of the Instructor Magazine. Although they are all items common to most classrooms, it may be helpful to look at this list when ordering supplies for the classroom for the first time.

Two pocket charts (26"x20") with four pockets each.
 Alphabet cards (6"x6") upper and lower case letters.
 Number cards (4"x3") with numbers from 1 to 100.
 Number "dot" cards with groups from 1 to 10.
 Money symbol cards.
 Name cards (4"x12") first and last names.
 Clock dial with moveable hands.
 Little clock dials for each child.
 Safety-sign cards (4"x14").
 Color word cards (4"x10").
 Color swatches (8"x8").
 Paired word cards (4"x10").
 Number word cards (4"x10") from 1 to 12.
 Calendar-word cards (4"x12") week days and months.
 Basic vocabulary cards (4"x10") - use words from the Dolch list, preprimer and primer words the children use a lot.
 "How Many" cards - 1 dog, 2 cats, etc.
 A flannelboard or felt board.
 Cutouts for number grouping for flannelboard.
 Plain color blocks - enough for each child to have one of each color.
 Sets of sticks - 1" thick in varying lengths for arranging lengths.
 Plain color 1" counting cubes.

Tongue depressors for counting and number grouping.
 Wooden "sound cylinders" - graded from "loud" to "soft."
 Texture blocks with a different texture on each side - such
 as sandpaper, etc.
 Real money: 1 dollar, 2 half dollars, 4 quarters, 10 dimes,
 20 nickels, 100 pennies.
 Alphabets of cardboard, wood or plastic.
 Alphabet-building set - consists of cardboards they can use
 to make the alphabet - long and short lines, small and
 large half circles.
 Rulers and yardsticks.
 Measures - spoons, cups, pint, quart, $\frac{1}{2}$ gallon, gallon.
 Household scale.
 Puzzles.
 Picture file.
 Realia.
 File of pictures framed on cardboard.

Storage.

For storage problems in the classroom collect a variety of cans and boxes. Use cans with lids for beads, buttons, feathers and soft things, little bottles, bottle caps and such, corks, stones. Cover the cans with Contact paper and put a sample of the contents on the outside.

Use small boxes for spools, papers, tubes, sticks, string and ribbon, yarn, other things. Use large boxes for cans and smaller boxes, wheels and such, cloth, bags, plastic bottles. Also have a box marked "Fasteners" with brass fasteners, Scotch tape, masking tape, a stapler and staples, white glue, paste, paper clips, colored wire from discarded cables, needles, thread.

Free Time.

Make an activity train along the bottom edge of the bulletin board. Use cereal boxes to hold games, worksheets, science experiments, stories, puzzles, art ideas, etc., to be finished in the child's free time.

Bulletin Boards.

Use a cork or a box with a lid to make exhibits stand out. Make a shelf by stapling a paper to the board and support it by using pieces of yarn. Form an arm with a piece of wire and hang the title, etc., on the arm. For motion attach a spool to the bulletin board and hang words with yarn or string. A spring can be used for this also.

Guests and Parent Information.

Make and decorate a guest book with one page for each month. The pages should be decorated with seasonal designs. Appoint a child to present it to the visitors.

Make a larger book 24"x36" with a cover and a page for an outline of what has been studied in each field to date. The following pages include one for each child to list some of his classwork.

Each day write classroom experiences on a chart and at the end of the month reproduce the chart on a 9"x12" paper for each child to mount on a sheet of construction paper cut into a shape suggesting the season or holiday.

Make a folder into which each child puts samples of his work every month. On the last school day of the month send the work home and write a note asking parents to write back and tell how they feel about this month's work.

Books and Magazines.

For organizational hints read the book 'Round The Clock In The

Classroom by Edna Anderson, from T. S. Denison and Co., Inc.

John L. McCarthy of the School of Education of Central Michigan University, has a little booklet entitled A Guide To Curriculum Materials For Exceptional Children which gives information for all levels of special education.

Three articles worth looking at for ideas in the field of Audio-Visual Instruction are: Aserland, L. "Audio Visual Instruction For The Mentally Retarded," AV Instructor. Vol. 11, November, 1966, pp. 727-30; Larsen, J. A. "Media In Special Education," AV Instructor. Vol. 12, June, 1967, pp. 610-11; and "Summer School Program For The Educable Mentally Retarded," AV Instructor. Vol. 12, September, 1967, pp. 688-90.

Professional Journals For The Teacher.

Plays Magazine. - Darlington Street, Boston, Massachusetts 02116.
Eight issues per year. \$6.00 per year.

Children Limited. - NARC, 420 Lexington Avenue, New York, New York 10017. Six issues per year. \$1.00.

Digest of the Mentally Retarded. - Mentally Retarded Inc., 107-20 One-hundred twenty-fifth Street, Richmond Hill, New York 11419. Three issues per year. \$4.00

Exceptional Children. - CEC, 1201 Sixteenth Street, N.W., Washington, D. C. 20036. Nine issues per year with membership in CEC.

Mental Retardation. - American Association on Mental Deficiency, P. O. Box 96, Willimantic, Connecticut 06226. Comes bi-monthly. \$5.00 per year.

Pointer. - Association For Special Class Teachers and Parents of the Handicapped, Inc., P. O. Box 1878, Grass Valley, California 95945. Three issues per year. \$3.50 per year.

Much of the latest material being produced by individual teachers and school systems is being recorded on microfische through the ERIC centers. Every teacher should make herself acquainted with these sources of information at the local library or through a university library. The microfische may be ordered for the school if there is a special reader available, or hard copy of various volumes may also be ordered.

SUMMARY

Because of increasing interest in the education of handicapped children of all types, more and more classes are being established in the public schools as "special education rooms." The State of Kansas has specified that each school district must provide for the handicapped in some manner, and this has led to a great increase of special rooms to educate the mentally retarded. Because the number of teachers needed for the retarded has also increased, many teachers are accepting positions of this type with limited training and experience. Once the school year has begun there is very little time for them to review literature regarding methods and materials. It was hoped this study could bring together ideas from many current sources into one volume to aid the beginning teacher, and provide additional information and aids for all teachers in this field.

It was found from the literature that special education for the retarded is relatively new, and that as a consequence of new methods being tried in learning laboratories and experimental classrooms and centers, there will be many changes in education for the retarded in

the not too distant future.

Authorities agree that the teacher has a great deal of influence with the retarded, second only to that of the parents, and that the very difficult job of choosing methods and materials for the retarded rests with the teacher. This necessitates familiarity with a wide range of literature in many areas of instruction.

It was found from this study that there are now many materials prepared commercially for the education of the retarded, and that there are many materials easily adapted for them. It is necessary however, for the teacher to make many of her own instructional aids, and to adjust other materials to her individual group.

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APPENDIX

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1. American Guidance Service, Inc., Publishers' Building, Circle Pines, Minnesota 55014.
2. Ardelle Manning Productions, P. O. Box 125, Palo Alto, California 94300.
3. Childcraft Equipment Co., Inc., 155 East 23rd Street, New York, New York 10010.
4. Continental Press, Inc., P. O. Box 554, Elgin, Illinois 60120.
5. Cuisenaire Co. of America, Inc., 12 Church Street, New Rochelle, New York 10805.
6. A. Daigger and Co., Inc., 159 W. Kinzie Street, Chicago, Illinois 60610.
7. Developmental Learning Materials, 3505 N. Ashland Avenue, Chicago, Illinois 60657.
8. Educators Publishing Service, Inc., 75 Moulton Street, Cambridge, Massachusetts 02138.
9. Education Unlimited, 617 West Maple, Independence, Missouri 64050.
10. Encyclopaedia Britannica Educational Corporation, Representative, 1525 Hickory, Salina, Kansas 67401.
11. F. A. Owen Publishing Co., Dansville, New York 14437.
12. Fern Tripp, 2035 East Sierra Way, Dinuba, California 93618.
13. Follett Educational Corporation, 1010 W. Washington Boulevard, Chicago, Illinois 60607.
14. Gage Textbooks, 1500 Birchmount Road, Scarborough 4, Ontario, Canada.
15. Gamco Industries, Inc., Box 310, Big Spring, Texas 79720.
16. General Learning Corp., Early Learning Division, 310 N. Second Street, Minneapolis, Minnesota 55401.
17. Imperial Productions, Inc., Dept. K, Kankakee, Illinois 60901.
18. Jenn Publications, 815-825 East Market Street, Louisville, Kentucky 40206.

19. John Day Company, 200 Madison Avenue, New York, New York 10016.
20. Lyons and Carnahan, 407 East 25th Street, Chicago, Illinois 60616.
21. Mafex Associates, Inc., Box 519, Johnstown, Penna. 15907.
22. McGraw-Hill, Manchester Road, Manchester, Missouri 63011.
23. Milliken Publishing Co., 611 Olive Street, St. Louis, Missouri 63101.
24. Milton Bradley Co., Springfield, Massachusetts 01101.
25. Modern Office Methods, Inc., 121 West Sixth Street, Topeka, Kansas 66603 (handle 3M Products).
26. National Safety Council, 425 N. Michigan Avenue, Chicago, Illinois 60611.
27. New Century Publications, 440 Park Avenue South, New York, New York 10016.
28. Primary Educational Service, 1243 W. 79th Street, Chicago, Illinois 60620.
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32. Wasp Film Strips, Pommer Lane West, Pleasantville, New York 10570.

INSTRUCTIONAL MATERIALS FOR USE WITH PRIMARY LEVEL
EDUCABLE MENTALLY RETARDED CHILDREN

by

MARILYN KAY RIAT

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AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1969

The increasing number of mentally retarded children being educated in special education classes in the public schools demand the development of instructional materials and methods to meet their individual needs.

Today, the educator must be familiar with a wide variety of literature from the specialists to become aware of current research and to be able to adapt the findings into useful ideas for her own students.

Although each individual is different, the mentally retarded as a group have exhibited certain characteristics which affect their learning and education. These include physical, social, emotional, and intellectual characteristics.

Objectives were stated for the overall program for the mentally retarded at the primary level, and for each area of instruction. The unit method of instruction was found to be most suitable for the primary student, but rather difficult for the teacher to organize.

Methods and materials, both commercial and teacher made, were listed for the use of the teacher planning a program at the primary level for the educable mentally retarded. Criteria established in the review of literature were utilized in selecting the materials to be included in this report.