Urgency of preschool programs for mentally handicapped children

Janice Marie Johnson

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THE URGENCY OF PRESCHOOL PROGRAMS
FOR
MENTALLY HANDICAPPED CHILDREN

by
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A RESEARCH PAPER
SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
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This research paper has been
approved for the Graduate Committee
of the Cardinal Stritch College by

Sister Joanne Marie Kuiskan
(Adviser)

Date  Feb. 23, 1971
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CHAPTER I

INTRODUCTION

It was the goal of the writer in choosing this topic for research to gather pertinent information that would stimulate public awareness of the need for preschool programs for mentally handicapped children and then to suggest appropriate areas of concentration which would enhance the child's development from infancy to childhood.

"The most serious problem facing early education is that there simply is not enough of it."\(^1\) It is easy to be overimpressed and misled by the recent surge of interest in the education of young children be they of average intelligence, culturally deprived, or handicapped. The number of Head Start, Nursery School, and Preschool programs for the retarded is mushrooming. But underneath all the fury we are still reaching only a handful of our young children.

Early childhood years are regarded as critical. Realization is growing that the kind of experience with which the young child has a chance to interact affects the development of his intelligence; so too, is the conviction that the young child should be provided with experiences to stimulate his thinking and contribute to the growth of mental structures.\(^2\)

\(^1\)J. Hymes, Teaching the Child Under Six, (Columbus: Merrill Publishing Co., 1968), p. 5.

The need for providing a preschool environment for normal children during these critical years is now being recognized.

So, too, when we compare the growth patterns of young mentally retarded children with the basic theories of child growth and development must we realize that a need for special educational facilities to stimulate development to its potential is vital.

Programs of this type will not only aid in the retarded child's development during the preschool years, but during teen-age years more independence and capability should be noticeable. Therefore, this phase of the education of mentally handicapped children may be more important to him than any phase that follows.

The writer chose to investigate and report the research on Preschool Education in the areas of 1) Preschool Education in general, 2) Preschool Education for the Mentally Handicapped, and 3) Methods that have been used in conduction of preschool classes.

Since at the time of this study, research projects in Preschool Education for the Mentally Handicapped were currently being conducted, little information stating results was available. However, the research investigator reported any data found that were relevant to the topic.

An additional chapter was included containing suggestions for developmental training that the writer believes to be
valuable in working with the preschool handicapped child.

In the final chapter, the necessity of, purposes for, and techniques utilized in a child-parent-oriented preschool program are summarized.
CHAPTER II

REVIEW OF LITERATURE

Preschool Education In General

Interest in early childhood education has come to the fore in the last ten years. Psychologists and educators have become aware of the beneficial effects of providing stimulating environmental experiences for children at as early an age as possible.

The prevailing view of leading psychologists and educators is that human growth and development can be significantly furthered through sound educational experiences at an early age.³

to six-year-olds develop in all areas of growth. The encouragement they receive and the stimulating learning opportunities that are provided during this period determine to a large degree the fulfillment of the child's innate potential.

American investigators in searching for results of understimulation in babies say "babies can learn more than we realize if they are taught by techniques that stimulate the nervous system." If our aim is to stimulate the intellect as was suggested by Fowler and also Kephart who said that "in early childhood mental and physical activities are closely related and that motor activities play a major role in intellectual development," then we must work through a developmental process with learning being primarily of a motor nature.

Movement is basic to all learning. Therefore, the young


5D. Elkind, "Preschool Education: Enrichment or Instruction?", Childhood Education, 45, 6 (Feb. 1969), 324.

child must be stimulated and guided toward purposeful movement. This early motor learning is important for subsequent development of more complex learning. As the child learns to move, the environment stimulates his senses and places external demands on them which when responded to, produce mental growth.

In addition to the area of motor development, opportunities should also be provided for visual, tactile, and auditory discrimination, language development, and social growth.

The teacher plays an essential role in the pre-school program. She must furnish a stimulating environment with a variety of equipment and materials.

While children exercise freedom in choosing activities, teachers play a vital role in initiating new activities by introducing new materials or by regrouping or rearranging the play equipment to suggest new activities and new relationships. The teacher's role is one of promoting activity and encouraging discovery, rather than of telling and explaining.

Presently many preschool programs for middle-class children are being conducted in public schools throughout the country as a result of research showing their effectiveness.

Preschool education for the disadvantaged has been the major educational phenomenon of the 1960's. Similar programs were initiated earlier in our decade but little substantial 

evidence was obtained because of the variety of programs and the lack of follow-up studies. A review of two such programs follows.

One study recently completed in Ogden City, Utah, showed that disadvantaged children who had been enrolled in a local Head-Start program before attending school did better in first grade than did a matched group of children who had not attended a preschool program.\(^8\)

Another study was conducted at the Institute for Research on Exceptional Children, at the University of Illinois.

Differential effects of four preschool programs were evaluated through pre- and post-batteries of standardized tests. The interventions represent levels of structure along a continuum from the traditional to the highly structured preschool. Results from all instruments differentiated among the programs, and clearly favored the highly structured preschool.\(^9\)

In the Karnes, Tesha, Hodgins study, two traditional and community-integrated programs represented the less structured end of the continuum; a third, the Montessori type exemplified a child-centered or traditional approach, with considerable structure; the fourth, an Experimental program was the most highly structured and emphasized learning tasks chosen from school-related curricula. The

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\(^8\)Special Education Newsletter, May, 1970, p. 22.

nature of the teacher-child interaction was considered to be the critical dimension of structure in the programs. After adequate retesting the experimental group showed greater gains in intellectual functioning than any of the other three groups. The children consistently made substantial gains, and a remarkable percentage moved into the high I.Q. level of 100 and above. From this study it was concluded that preschool children learn better in a well-structured program as compared to a less structured setting.

Can we not then conclude from all the available findings on the effectiveness of preschool programs that the very early years of childhood constitute the optimum time for initiating educational intervention into the lives of these little children?

Good preschool programs are designed to enrich the child's world and to help him function to the best of his ability. Sensitive, well-trained preschool teachers who recognize individual differences among the children can sense the specific needs of children functioning below expected levels, and can program accordingly.

Preschool Education of the Mentally Retarded

If about 50% of intellectual development takes place between conception and age 4, and about 30% between ages 4 and 8, then how urgent it is to provide a more stimulating environment earlier in the life of a retarded child.10

A revolution in education of the mentally retarded is taking place. Up until now only two out of ten mentally retarded children were being reached. Eight out of ten could be taught enough to go out into the world and support themselves. Could it be that in the past many of the children who were unable to adjust to our society would have been able to adjust adequately after an intensive preschool program? The cost is insignificant at the preschool level compared to cost of support later. Appel, Williams, and Fiskell supported this when they stated that:

Programs begun early in the retardates' life and extended as long as the need is present will be a crucial factor in offsetting the development of poor interpersonal skills, emotional instability, social inadequacy, and other characteristics, which make adjustment in later years difficult.\textsuperscript{11}

Research is being conducted now concerning the learning process and how to improve the quality of education. With proper training through early stimulation, good special education classes, and adequate vocational training, the retarded individual can fulfill his potential as a participating and contributing member of society.

A child diagnosed as retarded at birth need not and must not wait until school age to receive any formal training. It is during the first three years that he must be strengthened by stimulating contacts in a preschool situation continuing until the child is accepted into a special class

\textsuperscript{11}Appel, Williams, Fiskell, \textit{Mental Retardation}, Vol. 4, #2, 1966, p. 17.
The Preschool program for mentally retarded children, while still in an experimental stage, is currently regarded as a promising preventive measure in the treatment of mental retardation.  

While many of the features of a preschool for the retarded resemble regular nursery school programs, the concern for the treatment of disabilities that accompany mental retardation is an important differentiating feature of the preschool program for mentally retarded children. These particular features and suggestions of dealing with them will be discussed in detail in the next chapter of this paper.

As was stated before, most research programs on early childhood education for the handicapped are still in progress. Of the importance we are certain, but for statistics we must wait. However, the research investigator will review several programs which were completed a number of years ago.

The Skeels-Dye study is often used to illustrate the importance of early intellectual stimulation upon mental growth. This study, which was conducted in 1938, removed a number of preschool children from an orphanage and placed them under the care of teen-aged retarded girls. The love and care given these children provided the emotional bases which are the necessary prerequisites for spontaneous

12Erikson, The Mentally Retarded Child in the Classroom, p. 54.
intellectual growth.\textsuperscript{13}

In 1958, Kirk reported on a project conducted over a five-year period for mentally retarded children. The project involved 81 children, whose retardation was related to organic development, cultural deprivation, or both. The children spent three years in a preschool program and then entered the first grade. During the preschool program, specific materials and activities were revealed by close observation and diagnostic study. After retesting, both control and experimental groups gained in I.Q. points, but the experimental group had an 11.7 I. Q. point gain, while the control groups' gain in I. Q. points was 6.9. At the conclusion of the first grade, the Gates Primary Reading Tests were administered to both groups. There was not a significant difference in reading achievement at that time. It was concluded, however, that even though reading scores did not differ significantly, there was a change in I.Q. that was significant.

Several important factors aiding preschool education have been derived from the study. First of all, specific materials and activities must be provided for each child. These were determined by individual diagnostic study and observation of the child's level of functioning. Another factor noted was the need for individual tutoring in areas

\textsuperscript{13}Elkind, "Preschool Education: Enrichment or Instruction?", p. 327.
of specific mental disabilities.  

Kirk's study on the effect of preschool education on social and mental development of young educable mentally retarded children was probably that of greatest significance in the education of these children. He has shown the importance of providing early enriched environmental opportunities for the mentally handicapped.

Another study was begun in September, 1964, at Indiana University. It was a diagnostically based curriculum for Psychosocially deprived, preschool, mentally retarded children. An interim report was given. The areas stressed were deficiencies in language; impairments in fine and gross motor coordination; and problems in perception, motivation, and socialization. The children in the project were followed through the first three grades in school and further, if possible. The final data collected in all the areas were not reported since this was an Interim Report. However, it is known that the degree to which the experimental children were able to compete in school would determine the ultimate success of the program and curriculum used.

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The 1968 President's report on Mental Retardation seemed to bridge the old with the new when it stated that:

Studies have found the period of most rapid learning comes years before children reach school. Because of this, the range of a child's intelligence can either be enhanced or blunted by the environment provided for the child. Some new-look programs are now under way to give the retarded child a running start when his potential for learning is highest. Another goal is to prevent functional retardation. Programs range from infant stimulation projects to school-entrance readiness classes.17

Undoubtedly the most influential instrument in promoting public awareness of the need and effectiveness of preschool programs for these children was the Handicapped Children's Early Education Assistance Act passed in September, 1968. The Act funded 24 projects serving handicapped children in preschool or early stages of education.

The Act stemmed from the recognition that the preschool years are critical to a child's future development and that it is, therefore, important that handicaps which may cumulatively retard a child's learning and hamper his emotional and social adjustment be identified and prescribed for as soon as possible.18

Although special educators recognized the need for preschool programs, there was very little information available as a guide for setting up a program of this type.

"Because of the absence of these model programs for preschool handicapped children, state and local educational agencies overlook the fact that it may be less expensive to channel

17Mental Retardation 68, The Edge of Change, The President's Committee on Mental Retardation, p. 5.

18Focus on Exceptional Children, Vol. 1, #4, September, 1969, p. 11.
resources toward infancy and early childhood development, thus reducing the need for more expensive services later on in the handicapped child's life. The National Advisory Committee on Handicapped Children is aware of the expense involved in supporting one of these children in an institution for the period of his life. This minimum cost is $75,000. If a child can be rehabilitated through special education at an early age, the community saves many thousands of dollars. The committee recommends that: "Congress should appropriate funds necessary for the development of model programs of preschool education for handicapped children." All areas of development including emotional, physical, intellectual, and social needs should be stimulated in the model preschool programs. It is urged that they should be comprised of children from the age of birth to six.

Another concern which the act has included in its purpose is the participation and instruction of parents of the mentally handicapped in educational programs which provide comprehensive supplementary aid for them. This part of the planning is of tremendous importance in order for the parents to know how their child learns and how they can help him to learn by reinforcing at home the activities treated in the preschool setting. It should commence as soon as possible.


20 Ibid., p. 4.
after the child is diagnosed as mentally retarded, whether this be shortly after birth or later in the development of the child.

The St. John of God School in Westville Grove, New Jersey, has a weekly parent program conducted simultaneously with the children's program. Questions are attempted to be answered at the counseling session "by involving experts in all areas of retardation and utilizing the services of the more experienced parents, movies, film strips and other media."

In addition to the previously mentioned objectives, the Act also has for its aim,

to acquaint the community with the problems and potentials of handicapped children. This feature is included in the belief that Society, including educators, too often underestimate the capacities of these children, and as a result, often limit their opportunities to develop and function as constructive members of society."22

These 24 model projects funded by the government were still in progress at the time of this researcher's investigation, so no results are available at this time.

In January, 1970, the need for preschool facilities for the retarded was confirmed and acted upon by legislators when the announcement of the first national center specifically concerned with research in the education of handicapped preschool children was made by the United States Office of


22Ibid, Programs for the Handicapped, p. 4.
Education.

The University of Oregon, Eugene, received a contract to set up a center for Research and Development in Early Childhood of Handicapped Children. The head of the center in Oregon, Dr. George Shepard, believes that:

it isn't too early to start the formal education of some children when they are only one year old. Impressive gains can be made in educating handicapped youngsters through new kinds of programs at the crucial preschool age when education is most effective. However, little is known about what techniques and materials will work best for handicapped preschoolers.\(^{23}\)

Initially the research will involve children from 4 to 6 years old but Shepard hopes in the future to have younger children and infants.

The label placed on the handicapped child gives no light on how to educate these children effectively. At the Oregon Center, researchers will use the so-called crucial task approach. In other words, the development of the child will be evaluated by a performance of sequential tasks required to accomplish a certain skill. When the diagnosis is complete, individual tasks, new teaching materials and techniques will be used to help each child climb the ladder of development. Research data from this particular project should be of outstanding interest when the findings are published.

The Ypsilanti, Michigan public school system has special preschool classes along with the Columbia Teachers College,

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\(^{23}\)Special Education Newsletter, National Catholic Educational Association, St. Louis, Vol. 8, #2, May, 1970, p. 21.
Columbia University. "Results of these and other programs have produced evidence that a stimulating preschool environment does have beneficial results upon some mentally retarded children."24

The Pennsylvania Association for Retarded Children (PARC) school plans a pilot infant class for children from birth to 2 years of age. It would require attendance and interaction between parents and child. The parents will be taught how to condition their child in a day program and will be expected to reinforce this at home.

Screening of infants and preschool age children for symptoms of mental retardation (as well as other handicaps) should be part of every community's public health services. School districts should offer special preschool classes whose purpose is to begin, with the identified retarded child under five years old, the careful course of education and training that will produce a socially competent and economically productive adult."25

Current Methods Used in Preschool Classes

As was previously reported in the review of research, there have been too few preschool programs for the mentally handicapped in existence for any length of time from which a conclusion can be drawn regarding the best type of method to be employed in a preschool program. However, a variety of approaches have been used. These will now be reviewed along with their effectiveness where this information is

24Ibid, Erickson, p. 62.

25Mental Retardation, '67 p. 27.
available.

It must be recognized that there is more than one suitable method of teaching and educating young children. Not all of these methods, however, are equally effective. There are at least three different roles for the teacher which have been utilized in an attempt to meet this problem. (1) The teacher-planned approach has been the basic orientation of most preschool programs in the past. In this type of approach the teacher provides intrinsic motivation and structuring of materials; (2) In the teacher-directed approach, more structured and formal learning takes place; (3) In a teacher-involved approach, the teacher is actively involved in helping the child extend his knowledge and make it more meaningful and real to him. This method relies heavily on providing the child with a wide variety of sensory experiences to reinforce each other, and active involvement on the part of the teacher to provide simultaneous visual, tactile, and verbal experiences as the means by which cognitive development can most effectively be accomplished.26

Three programs similar to those mentioned above are: (1) The Traditional Nursery School whose primary goals are social, emotional, and motor development; (2) The Structured Nursery School which leans toward cognitive and language development. The materials and activities in this type are presented according to a specific developmental theory;

(3) The **Task-Oriented Method**, a more recent approach, aims to achieve success in reading, arithmetic, and logical thinking. Task-related activities and materials are employed rather than traditional methods previously used. In this case tasks are provided according to the needs of the child.

A program somewhat different from those previously mentioned was introduced by Bereiter and Englemann, who believe, contrary to the goals of some preschool and nursery classes, that definite goals are necessary if disadvantaged children are to be developed to a level that will insure later school success. Fifteen objectives were set up specifying kinds of learning that are likely to be missed in a program that does not deliberately plan to produce such objectives.

Goals 1-9 pertain to words and constructions that occur in ordinary speech which therefore could be learned in the course of informal conversation. Even though these elements occur frequently, they occur only occasionally in a way that induces learning. The language must be refined for the child or the oral language part of the program could fail to achieve its objectives.

Objectives 10-15 have to do with numerical and reading skills and obviously cannot be achieved without special effort. Children may learn basic counting and concepts of one, two, and three through ordinary conversation but actual counting which is essential to arithmetic cannot be learned except through direct teaching which is not a part of ordinary conversation.
Two approaches were developed in order that the academic goals that have been set forth can be achieved within a limited span of time.

The first of these is called the "verbal bombardment" approach and the second one is simply direct teaching or instruction. Both of these approaches differ considerably from any methods usually found in preschool education.

"The verbal bombardment" approach has the advantage that one does not have to figure out specific ways to teach the various concepts and operations. Correspondingly, it has the disadvantage of being more wasteful, and it entails the possibility of missing certain specific objectives in spite of intensive efforts. The direct-instruction approach ensures that better day-to-day control over pupil progress so that she will know what objectives need additional attention.27

Bereiter and Engelmann set up a study based on the direct-instruction approach. The results were in accordance with their initial beliefs about what a preschool program should produce. "It achieved an above normal rate of learning in certain specific areas which had been chosen as most critical for academic success."28 Further results over this nine-month period found that these children progressed from being over a year retarded in language abilities to the normal level in language test scores and IQ, and also showed gains in arithmetic and reading. An examination of the


28Ibid. p. 54.
21.

results of other preschool programs disclosed only two that had achieved results of this magnitude and both of these experiments had used either the "verbal bombardment" approach or the direct instruction method.

Four preschool programs were initiated by Karnes, Tesha, and Hodgins at the University of Illinois. The methods used in conducting these classes were two traditional and community-integrated programs, a Montessori type program, and a highly structured experimental program. The experimental group made considerable gains in intellectual functioning and continued to show substantial gains consistently. Karnes, Tesha, and Hodgins determined from these findings that preschool children learn better in a well-structured program.29

Another preschool environment has been constructed stressing the development of sensory training, independent skills, and exercises in self-help skills and practical life.

In a study done with 3 year old children in six different types of nursery schools it was found that those in Montessori Nursery Schools obtained significantly higher scores in all areas tested than did traditional nursery school children. It was concluded that the gains made were due primarily to greater cognitive maturity because of the

organization of materials in Montessori classes, freedom to choose activities in this environment, and mixed ages of children in each classroom. 30

Art has been found a valuable tool in education and development of the preschool retarded child. It helps to stimulate self-expression and creative ability. "Art work allows the children to gain skills so that they can express their emotions and thoughts." 31

The Reinforcement theory of teaching is another means which has proved effective in dealing with older retardates and has been employed by some teachers of young pre-school children to produce correct language response.

The writer believes there are probably many more unpublished methods being used in existing preschool classes. It is the responsibility of the teacher to acquaint herself with as many available programs as possible so she can choose the best methods, techniques, and materials suitable for the needs of the children she is teaching.

Hopefully, from the data that have been gathered and reported in this chapter pertaining to the programs for the average preschool child, the mentally retarded preschool


child, and the methods and techniques used thus far in these classes the reader will be more convinced of the need to be an advocate of early childhood education, especially for the retarded, and to spread the knowledge he has gained to those in a position to provide such facilities.
CHAPTER III

SUGGESTIONS FOR A CURRICULUM GUIDE

Before embarking on a full-scale effort to develop these programs, those concerned with assisting the handicapped child need to know what approaches may be most successful in promoting the utmost development of his capacities and to have available a variety of models to assist them in the careful implementation of major services to facilitate the early childhood development period of the handicapped child.32

Hopefully this contribution of the writer may serve as one source from which an educator may draw to assist him in working with the preschool child.

As a child grows he is expected to perform certain tasks. The curriculum follows a pattern of developmental tasks based on the needs of the children in the areas of motor training, sensory training, language development, and social adjustment which are believed by this writer to be those needing the most stimulation and attention from birth until age five.

"If we attempt educational intervention at an early period in a child's life, we must gear these programs to

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32Ibid., Programs for the Handicapped, p. 6.
his capacities and interests at that point." Therefore, we find out at what level the child is functioning in each particular area involved in the program and compare with what he should be doing for his age. From this information received tasks which stimulate the child to reach a desired level can be employed.

Motor Training

Movement is basic to all learning. It is through motor planning that man expresses intelligence. Therefore, it is necessary for a child, very early in his life, to discover how to move an arm, a hand, a leg, and how to support his weight to move his body weight through space. He must learn to plan his movements. Since most mentally handicapped children are slow in motor development and planning, stimulation and activities must be provided to lead the child to a more effective use of his body.

The following is presented as a guideline for the development of motor planning and motor skills.

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33Hess and Bear, Editors, Early Education, Robinson and Robinson, Aldine Publishing Co., Chicago, 1968, p. 6
<table>
<thead>
<tr>
<th>Chronological Age</th>
<th>Expected motor development</th>
<th>Suggested tasks to stimulate motor development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth</td>
<td>Moves limbs - rolls body</td>
<td>Massage limbs; move from bended to straight position to stimulate imitation. Provide games involving rolling of body, e.g. roll-in barrel. To produce a rolling movement rotate one foot over the other.</td>
</tr>
<tr>
<td>1-4½ mo.</td>
<td>Sits erect without support</td>
<td>Rolling and crawling movements should strengthen muscles and enable child to attain an erect sitting position. However, to prop child in a sitting position often would be a good beginning.</td>
</tr>
<tr>
<td>2-5 mo.</td>
<td>Crawls - moves with abdomen touching floor</td>
<td>Stimulate movement with body in contact with floor by pushing the child's foot from the back. If done frequently enough, the child becomes aware that he can move himself. Get on floor in front of child and motivate him to crawl by using a toy or clap hands. Crawl through box or under low furniture. Human bridges - Stand with legs apart and encourage child to crawl through.</td>
</tr>
<tr>
<td>4-13 mo.</td>
<td>Creeps - moves on hands and knees; moves from sitting to prone position (face down); puts object in and out of container</td>
<td>Provide tunnels, barrels, and bridges to creep through. Games, such as, imitation of animals, clowns, etc. can be used for motivation. Use playskool mailbox, shoe, building cups, or ordinary kitchen utensils and pots for developing</td>
</tr>
<tr>
<td>Chronological Age</td>
<td>Expected motor development</td>
<td>Suggested tasks to stimulate motor development</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>4-13 mo. continued</td>
<td>Creeps</td>
<td>the ability of moving objects from one container to another.</td>
</tr>
<tr>
<td>13-15 mo.</td>
<td>Walks alone. Builds two blocks together.</td>
<td>The previous motor activities done frequently and consistently should develop competent walking skills. Use large blocks, nesting cups, and smaller blocks as child progresses. Have him imitate what you build and then encourage him to build on his own.</td>
</tr>
<tr>
<td>18-46 mo.</td>
<td>Runs fairly well; throws ball; kicks ball. Imitates crayon strokes; builds blocks-three to six together.</td>
<td>Good balance must be present before running can be attempted. Children must be motivated to run either by imitation or by the use of music. Big strokes or circles with crayon on newspaper. Games: Circle ball game Two person kick ball Infant sponge or texture ball throw Bean bag game</td>
</tr>
<tr>
<td>36-72 mo.</td>
<td>Body Awareness—ability to know the location of the body and its parts. Uses a leg in a skilled role, e.g. jumps, hops, skips.</td>
<td>A strong mobility program should make a child aware of the parts of his body. Also, rubbing the limbs, pointing to body parts by direction or by imitation, or assembling body puzzles. Provide march music for marching, skipping, and jumping. Balance board activities. Step climbing for developing good leg control.</td>
</tr>
</tbody>
</table>
Sensory Training

Sensory-motor intelligence is the first stage in the development of intelligence, beginning at birth and lasting about two years. However, the training of the senses continues until the child is about seven.

The three external senses that are most useful in learning are vision, hearing, and touch. Suggestions for developing visual, auditory, and tactile competence have been considered and described below.

A. Visual Competence

<table>
<thead>
<tr>
<th>Chronological Age</th>
<th>Expected visual development</th>
<th>Suggested tasks to stimulate visual development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth</td>
<td>Light reflex</td>
<td>Have a mobile hanging over baby's crib at a distance where he can see and move the objects. Provide the child with as many visual stimuli as possible.</td>
</tr>
<tr>
<td>1-4½ mo.</td>
<td>Notes stable outline</td>
<td>Allow child to follow with his eyes moving lights and objects.</td>
</tr>
<tr>
<td>4-13 mo.</td>
<td>Eye-hand coordination begins to develop.</td>
<td>Motivate him to reach for familiar persons. Hide objects near you and have him find them. Have him imitate gestures and sounds. Name and point to parts of body simultaneously. Present child with names of people and things in his environment. Pound nails.</td>
</tr>
<tr>
<td>Chronological Age</td>
<td>Expected visual development</td>
<td>Suggested tasks to stimulate visual development</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>12-45 mo.</td>
<td>Differentiates simple visual symbols-likenesses and differences.</td>
<td>Match shapes in Playskool formboards. Pegboard activities Match pictures Match colors-use buttons String beads-one-at-a-time</td>
</tr>
<tr>
<td>36-67 mo.</td>
<td>Recognizes basic forms-circles, squares, triangles Matches letters</td>
<td>Easy puzzles Easy bead patterns Trace large pictures of circle, square, triangle-gradually reduce size until child can copy each. Sort pictures in categories Teach names of colors as they are matched. Provide big letters for matching. Review all activities frequently</td>
</tr>
</tbody>
</table>

B. Auditory Competence

<table>
<thead>
<tr>
<th>Chronological Age</th>
<th>Expected auditory development</th>
<th>Suggested tasks to stimulate auditory development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth</td>
<td>Startle reflex</td>
<td>Provide child with as many auditory stimuli as possible.</td>
</tr>
<tr>
<td>1-4½ mo.</td>
<td>Responds to threatening sounds</td>
<td>Talk to baby often. Ring bell to attract child's attention</td>
</tr>
<tr>
<td>4-13 mo.</td>
<td>Places sound in space by looking in direction. Stops at call of name.</td>
<td>Call child from different positions thus allowing him to be aware of sounds from different angles. Continue speaking to child frequently. Allow child to be in different environments so as to hear a variety of sounds and voices. Try to teach child his name.</td>
</tr>
<tr>
<td>Chronological Age</td>
<td>Expected auditory development</td>
<td>Suggested tasks to stimulate auditory development</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>12-45 mo.</td>
<td>Body reaction to sound</td>
<td>Present simple commands to child to which he must respond.</td>
</tr>
<tr>
<td></td>
<td>Recognizes familiar</td>
<td>Use tape of environmental sounds and have child guess what sound he hears.</td>
</tr>
<tr>
<td></td>
<td>environmental sounds</td>
<td>Provide opportunities for child to locate environmental objects named.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Work at getting child to find people, body parts, objects, clothing, etc. as you name them.</td>
</tr>
<tr>
<td>36-67 mo.</td>
<td>Understands 2000 words and simple sentences</td>
<td>Read child a story and have him act out certain parts or retell if he can speak.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Have child turn his back while you tap rhythm, clap hands, blow whistle, hit with a hammer, crumple paper, etc. Child must imitate what he heard.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Action records-teach child to carry out directions they hear.</td>
</tr>
</tbody>
</table>

C. Tactile Competence

From the sense of touch the learner derives information. Many opinions have been expressed on the importance of tactual stimulation during infancy. It probably serves to initiate body awareness and thus plays a major role in the achievement of identity. It is during this stage of awareness that some form of cognitive linking begins to form in preparation for the stage of perception. Frank felt that tactual stimulation given during infancy effects one's eventual verbal abilities
and his interactions with the outside world.  

The writer has listed a few suggestions that may be helpful in stimulating the young child's sense of touch.

<table>
<thead>
<tr>
<th>Chronological Age</th>
<th>Expected tactile development</th>
<th>Suggested tasks to stimulate tactile development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth</td>
<td>Babinski reflex</td>
<td>Much physical contact with baby while feeding, carrying, dressing, bathing, etc.</td>
</tr>
<tr>
<td>1-4½ mo.</td>
<td>Perceives vital sensations</td>
<td>Give an extra amount of massaging with hand and with towel after bathing. As child crawls his skin should become more sensitive to touch. Have child pick out rough and smooth - use a smooth block and one covered with sandpaper. Put in bag large and medium sized objects familiar to child - have him pick out the designated object without looking.</td>
</tr>
<tr>
<td>4-13 mo.</td>
<td>Responds to tickling, rubbing, fanning</td>
<td>Do the same type of activity as suggested above but use small objects.</td>
</tr>
<tr>
<td>36-67 mo.</td>
<td>Recognizes small objects</td>
<td></td>
</tr>
</tbody>
</table>

Language Development

From the time a child is born he must have the experience and opportunity of hearing noises and human speech.

Even at this early age he is affected by these sounds, although he does not respond to the auditory stimulation. This is receptive language. If he is exposed to these often enough, he will eventually produce a motor response. Once the child listens and responds to the sounds heard, such as responding by some movement during roll call, he is ready for expressive language.

The following is a developmental program of activities designed to stimulate oral language and verbal intelligence.

<table>
<thead>
<tr>
<th>Chronological Age</th>
<th>Expected language development</th>
<th>Suggested tasks to stimulate language development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth</td>
<td>Cries</td>
<td>Child must be spoken to often and in a warm, affectionate tone.</td>
</tr>
<tr>
<td>1-4½ mo.</td>
<td>Cries for a reason</td>
<td>Have child look in mirror as instructor points to his facial parts and names them.</td>
</tr>
<tr>
<td>4-13 mo.</td>
<td>Makes lip, tongue, and throat sounds; babbles; imitates gestures; says da-da</td>
<td>Make sounds with mouth and encourage imitation, reinforce correct response with a clap. Reinforcement is of vital importance.</td>
</tr>
<tr>
<td>13-15 mo.</td>
<td>Can say 3-5 words</td>
<td>Imitative Vocabulary; Name people, objects, pictures, etc. and have child imitate the words spoken. Be sure to use reinforcement for correct responses or effort.</td>
</tr>
<tr>
<td>15-18 mo.</td>
<td>Says 4-5 words</td>
<td></td>
</tr>
<tr>
<td>18 mo.</td>
<td>Asks single word questions-20 words</td>
<td></td>
</tr>
<tr>
<td>19-22 mo.</td>
<td>Vocabulary of about 110 words-2 word couplets</td>
<td></td>
</tr>
<tr>
<td>24-30 mo.</td>
<td>Speaks short sentences</td>
<td></td>
</tr>
<tr>
<td>30-45 mo.</td>
<td>Names simple objects; repeats 2 digits</td>
<td></td>
</tr>
</tbody>
</table>
Chronological Age | Expected language development | Suggested tasks to stimulate language development
--- | --- | ---
36-67 mo. | Speaks in complete sentences; knows community helpers; knows songs and rhymes; Names colors | Use Peabody Language Development Kit (Kindergarten level) | Use tape recorder for child to hear himself.

Social Adjustment

As in the other areas of development, mentally handicapped children are slower adjusting to people outside their families. Therefore, it is necessary to provide them with as many outside social experiences as possible. The number of contacts the child has with other children during the first few years of life is an important factor in determining how far his social development will progress. Just as the number of social experiences the child has is important, so is the kind of these opportunities. A daily outside environment where acceptance, love, and security with independence are encountered is of vital importance to the present and future life of a mentally handicapped child and his family. This type of atmosphere can be experienced in a daily Pre-school program for the child with this handicap.

The parents of these children can also find this program a learning experience. Close contact between home and school can be an asset in helping the parents better accept, understand, and teach their handicapped child. Occasional group-parent meetings enable these parents to discuss problems and find encouragement from professionals as well as other mothers.
and fathers. It is at this time that they can share ideas on how to handle difficulties that may be presenting themselves.

Not only does the handicapped child become better adjusted in society, but his parents discover how they can help the public be aware of the need for more help for the handicapped, especially the Pre-school mentally handicapped. For, as was mentioned before, his social adjustment in adult life or lack of it can be determined by the kind of experiences the child meets in his early years of life.
CHAPTER IV

SUMMARY AND CONCLUSION

The writer reviewed and presented information concerning the existing programs for the preschool age child with emphasis on the need for such programs and the activities used on an experimental basis. Few results were reported due to the short span of time over which the programs have been in existence.

Similar information was discussed pertaining to the types of programs needed for mentally retarded preschool age children. Studies that had been conducted involving these children were reviewed. Also included here was the government's opinion stressing the need for good preschool education for the retarded. This was expressed in the President's report on Mental Retardation in 1968 and the Handicapped Children's Early Education Assistance Act. It was believed that if children are stimulated and exposed to formal learning at a very early age, less money would be needed for a sheltered environment when the children reach their late teens or early twenties. Information on the all-important concern of the instruction of parents of mentally handicapped children is found here in connection

35.
with the Early Education Assistance Act.

The researcher cited and explained the various approaches employed by the existing programs, such as the teacher-planned approach, the teacher-directed approach, and the teacher-involved approach. Studies were mentioned of well-known educators who used one or more of these approaches in their programs.

Finally, suggestions were made that can be used by a teacher or anyone wishing to improve the progress of a mentally handicapped or slow developing child.

The four areas felt to be those needing the most concentration during infancy and the early years of life are: motor training, sensory training, language development, and social adjustment. Specific tasks were mentioned to be used with a child having difficulty achieving certain levels of development.

The researcher has learned much since the initial undertaking of this paper. Hopefully, the reader will be enlightened to the needs presented in these chapters and relay their awareness to educators, businessmen, and whomever they meet.

The widest possible attention to the problem of mental retardation is a national necessity. The problem affects all parts of American society. The best thinking and action of labor, industry, the professions, and government must be brought to bear on this problem. It is too significant a problem, too tough a challenge to be left to a comparatively few specialists and other interested persons. 35

35Mental Retardation '67, A first report to the president of the nation's progress and remaining great needs in the campaign to combat Mental Retardation, p. 30.
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