AN EVALUATION OF CERTAIN
ASPECTS OF AN EDUCATIONAL PROGRAM
FOR TRAINABLE MENTALLY RETARDED
CHILDREN IN EATON, COUNTY
MICHIGAN

Elizabeth A. Wing

THESIS

ABSTRACT

AN EVALUATION OF CERTAIN ASPECTS
OF AN EDUCATIONAL PROGRAM FOR
TRAINABLE MENTALLY RETARDED CHILDREN
IN EATON COUNTY, MICHIGAN

by Elizabeth Ann Wing

The purpose of this evaluative study was to understand the organization and specific curriculum content of a modified preschool program to determine if there is an improvement in social competency of trainable mentally retarded children as a result of attendance and participation in a program.

The sample consisted of ten children enrolled at the Eaton County Trainable School during the school year of 1965-1966. The sample included six boys and four girls between 5 and 11 years of age. The range of I.Q. was from untestable to 53. The mental age range was from 10 months to 3-9 years. Some of the children had associated physical disabilities and emotional problems. These children were experientially deprived and disadvantaged but not culturally deprived because of family living level, income, or social status.

Data were collected from a parent interview with the mother. The Cain-Levine Social Competency Scale was used in order to ascertain the child's performance level in

The Social Competency Scores obtained from the ratings by the mothers' and the teachers' ratings were in close agreement in communicative skills. The mothers of the two children who fell into the lowest percentile ranking rated their children much higher than the teachers.

The composite mean changes of the four children diagnosed as "Down's Syndrome" showed improvement in the following scores: (1) plus 3.5 communication, (2) plus 4.2 social skills, (3) plus 3.3 initiative, and (4) plus 4.8 self-help. The composite mean changes of the six children diagnosed as "Organic Brain Syndrome" showed improvement in the following scores: (1) plus 2.5 communication, (2) plus 4.2 social skills, (3) plus 6.2 initiative and (4) plus 4.9 in self-help.

This study has attempted to incorporate the concept of behavior modification through social reinforcement in a modified preschool program in order to teach trainable mentally retarded children. Considerably more evaluation, exploration, and expermentation must be done before its applicability can be ascertained. However, this sample at the time of the study showed measurable improvement in social competency while participating in the experimental program. This may prove to be one effective method of teaching severely retarded children.

specific social competency areas. A questionnaire was used to obtain developmental information, social data, and medical history. An independent rating was made by the writer and also by the assistant teacher of the group at the beginning of attendance and again four months later at the time of the mothers' interview.

The guidelines utilized in the modified preschool program incorporated three major principles: (1) education in accord with child development principles and nursery education techniques, (2) use of special clinical educational procedures, and (3) supplying additional materials for sensory training. Methods, procedures, equipment, personnel, daily schedule, and organization follow the pattern of the nursery school.

The primary behavior modification principle used for shaping behavior was that of social reinforcement through praise and attention.

Individual observations were made of the specific motor skill of buttoning and unbuttoning a "Montessori Button Frame" at the beginning and at the end of a four month period. A comparison of task level performance found that five of the children could successfully complete the task and used the clothing frames of their own initiative at the end of the period.

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A PROBLEM

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Department of Home Management
and Child Development

1967

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

ACKNOWLEDGMENT

Appreciation is expressed to Dr. Martha Dale for her guidance and assistance as director of this study. Appreciation is also expressed to Dr. Beatrice Paolucci and Dr. Douglas Gilmore the other members of her committee for their helpful suggestions.

Thanks are expressed to Mr. Donald Scott, Director of Special Education of Eaton County, and Mrs. Sandra Ford, a teacher of the group, for their cooperation in gathering the data.

A debt of gratitude is extended to the American Home Economics Association for a Vocational Rehabilitation Association Grant which made this study possible.

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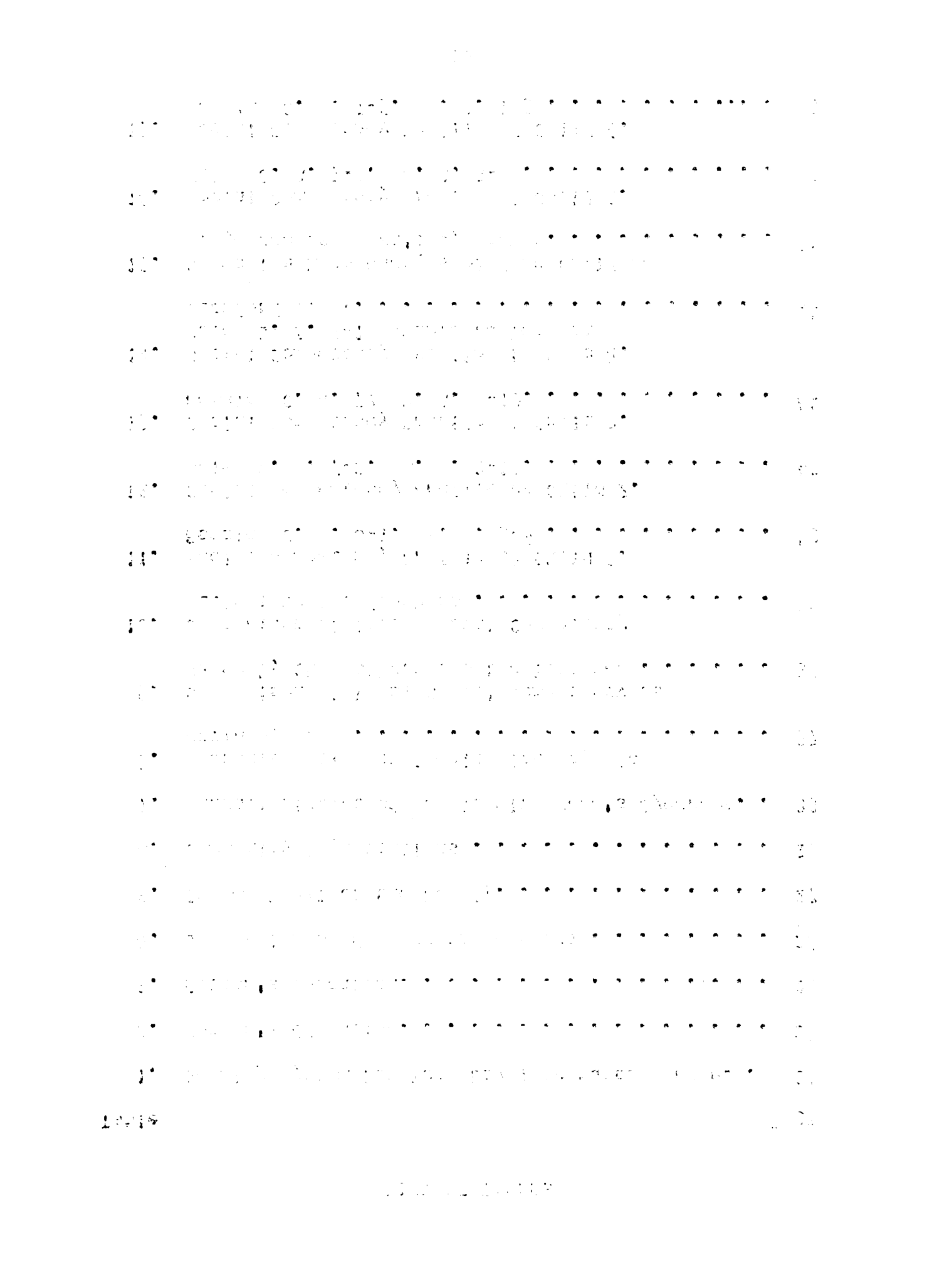

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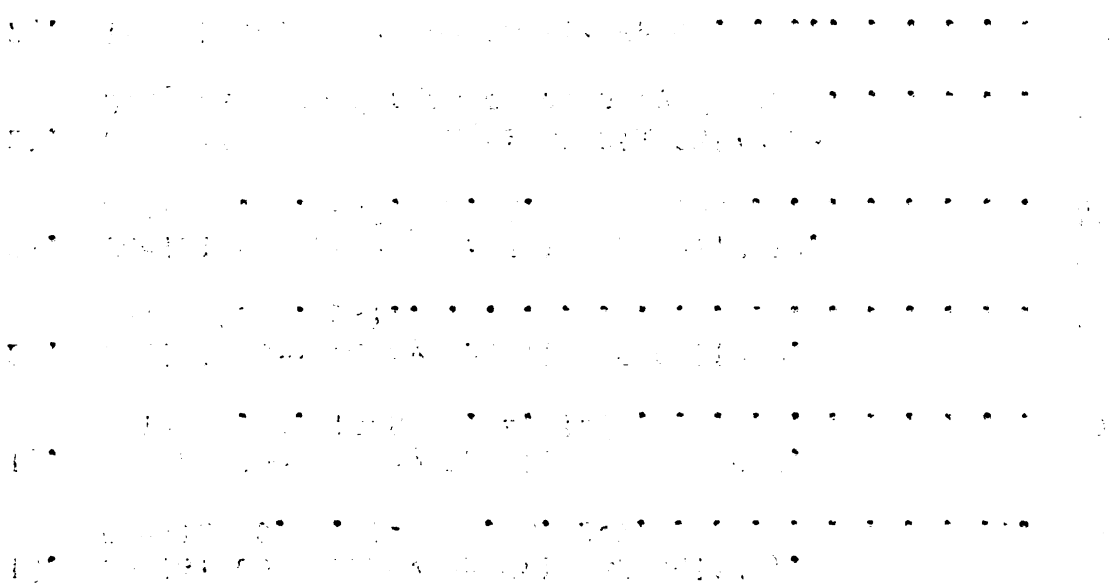

CHAPTER I

INTRODUCTION

"Although children may be the victims of Fate, they will not be the victims of our neglect." John F. Kennedy

Mental retardation is considered the number one health problem among children today because it afflicts nearly 6 million Americans and affects, through the families of the retarded, some 30 million. (1)

New hope is contained in six revolutions now underway in this country: revolutions in understanding, research, maternal and child care, education, recreation and in employment. (1) New techniques and devices have shown that skills formerly regarded as beyond the scope of the retarded can now be learned by many of them.

In education a great deal of research is now centering on the learning processes and ways of improving the quality of education for the retarded. Until now, all but two out of ten mentally retarded have been denied the opportunities they need in education. Providing proper training helps the community as well as the retarded. With special education and vocational training the retarded may become contributing members of the family and community. (2,3,4)

Interest in the growth and development of trainable mentally retarded children has grown rapidly in recent

years. The term mental retardation is a general term including all degrees of subnormal intelligence. The term "trainable mentally retarded" refers to a definite degree of retardation. (Appendix I) The "trainable mentally retarded" have been defined as follows:

> The mentally handicapped who are unable to profit or adjust to the offerings of the public school program because of extremely low ability. (2:45-46)

Agreement has been reached on the behavioral goals for the development of trainable retarded children. The goals are summarized as follows: adequate habits of personal care, efficient communicative skills, useful coordinations, acceptable habits of work, adjustment to social situations and willingness to follow directions. Other goals frequently mentioned include teaching the child independence, leadership, personal, and occupational adjustment. (4,5,6) These are relative terms and the goals are established on the estimation of probable success for the group. (Appendix II)

The Department of Public Instruction of Michigan specified that education of the trainable child (Type B Program) should be concerned with mental, physical, emotional, and social development. To realize these goals it is suggested that the program include mental hygiene, self-care, physical health and safety, communication and

language development, social competencies, motor coordination and family-home living skills. (7)

> Academic education of the retarded must not be directed toward scholastic knowledge. It must be geared to provide concrete achievements of well-learned simple technical tasks, which the retarded person can often learn well through repetition and rote memory. (8:187)

There is a distinction between "training" and "education" as it appears in the literature pertaining to the more severely retarded. The training program is primarily one of habit formation and may be conditioned by experiences without the insight involved in mastery of academic knowledge. (4)

In view of the educational goals for teaching the severely retarded it may be possible that a modified preschool program would adequately fulfill the educational needs of these children.

The purpose of this study was to better understand the organization and specific curriculum content of a modified preschool program to determine if there is an improvement in social competency of trainable mentally retarded children as a result of attendance and participation in a "modified" preschool program.

> Social competency is the development of learned skills which ultimately permits the child to achieve self-sufficiency and culturally contributory behaviors. (9:2)

Assuming that behavioral changes in the trainable mentally retarded child can be identified and that the rate of change is consistent with their abilities, the change in social competency might be a measure of success of a program. In order to determine the relative improvement of the child, in such a program, it is important that an individual behavior level be established for each child. This involves an evaluation of each child for the purpose of comparing the child's overall social competence with other mentally retarded children of his age group.

CHAPTER II

REVIEW OF LITERATURE

Agreement has been reached on the behavioral goals for the development of severely retarded children. The method of attaining these goals has not been so generally agreed upon. There is a dearth of information regarding methods of organizing, planning and carrying out classroom experiences for the trainable mentally retarded. Very little research has been done on the effectiveness of different methods of education. (10,11)

Many types of programs have been established to teach these children. The types best suited to meet their needs are the subject of controversy.

Strauss advocates a therapeutic educational environment which is planned to counteract as much as possible the general organic disturbances of behavior and attention in the brain-injured child. The class group is small with ample room for each child to be seated a considerable distance apart from other children. He recommends the entire absence of visual materials and instructional materials during the first half-year of a child's attendance. If this extremely "constricted" range of stimuli provided by a neutral environment is too disturbing for the child, the child may be removed to the periphery of the

group. Strauss strongly emphasizes that these arrangements do not produce withdrawal. He recognizes that the child needs social contact and enjoys group living. The teacher "allows" the child to return to the group as soon as the child is no longer disturbed by the presence of other children. (12)

Molloy suggests a "bland environment" for the young trainable child. A "bland environment" is achieved by avoiding the inclusion of any and all extraneous materials. She emphasizes that it is very important to structure and to control carefully the program for this group with a "nonpermissive approach." The close structuring offers security for the child in knowing what to expect next and leaves the child with no doubts as to limitations. This teacher structuring provided safety and channels attention toward specific tasks. (13)

> Careful structuring and a nonpermissive approach must not be immersed in gruffness or unwavering severity. (13:48)

Structuring of rules of behavior is recommended by Stockton. The child's own judgment is limited and this structure can be conducive to development of self-control and discipline within the child. He advocates a "certain amount" of permissiveness and friendliness on the part of

the teacher within the framework of well-defined rules of behavior. This implies a certain degree of firmness and consistency, tempered with sympathetic understanding of the child's needs and problems. The emphasis should be on his abilities, not on his shortcomings and deficiencies. (14)

Another type of school environment has been described by Hewett. He advocates the "engineered classroom." The teacher is assigned the role of behavioral engineer; he defines appropriate task assignments in an attempt to provide meaningful rewards for learning while maintaining well defined limits in order to reduce and, hopefully, to eliminate maladaptive behavior. The teacher engineers the environment in which the probability of student success is maximized and maladaptive behavior is replaced by adaptive behavior.

> Systematic habit training has much to offer the handicapped child, but each step will be slow, and repetition is important. Breaking a complex task into small steps, providing a setting where the child can successfully perform an act and rewarding immediately with praise and correct response will increase learning. The child learns much by mimicry as well as practice. (16:48)

These applied behavior modification principles are organized to represent the elements of all effective teaching: selection of a suitable task, provision of a mean-

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These applied behavior modification principles are recognized to represent the elements of an effective behavior

selection of a suitable task, provision of a mean-

ingful reward for accomplishment and maintenance of a degree of structure under control of the teacher. (15)

Within the last few years numerous therapeutic techniques labeled as "operant conditioning," "behavior therapy" or "behavior modification" have been tried with the severely and profoundly retarded and have shown success in areas where other methods have failed. (15,17,18)

The operant conditioning principles as used in the classroom are explained.

> The most primary is the principle of reinforcement which basically dictates that a reward be given for a certain response so that the probability of that same response recurring will be increased. (18:153)

Giving praise immediately when a desired response is completed is one example of positive reinforcement. Some advocates of this method use candy, or other food and drink as rewards or reinforcers. (18,19,20)

> A reinforcer is defined as a stimulus, the presentation of which, following a response, increases the probability of future occurrence of that response. (20:566)

The most effective reward or reinforcer depends on the individual child.

> Each child was individually assessed as to his preference for rewards. Primarily rewards preferred were very basic in nature: food and drink. As the program continued,...praise and encouragement began to have an effect on the children. (18:156)

Argy studied the relative improvement of brain damaged children trained by the Conventional Pre-school and Montessori methods. The differences recognized by Argy between the two methods were that the equipment differed and the children in the Conventional classes were taught as a group and essentially on the same level. The children in the Montessori classes, under direction, trained themselves at their specific levels, individually. There was more apparent improvement shown by the children in the Montessori group. The author raises the question as to whether this improvement is due to the method per se or to a specifically, individually geared approach. Argy suggests that a program be developed using the essential and proved features of both methods. (10)

A number of "Montessori" schools have been established in the past few years for the trainable mentally retarded child. The Montessori approach to special education has been described as a program of education of the senses through use of concrete materials in a nursery school oriented physical setting as compared to a more formal classroom setting. The exercises of practical life and also the materials in the prepared environment enable the child to learn acceptable social skills at his individual developmental level. (20,21,22,23)

> The "prepared environment: is designed to help the child achieve a sense of himself, self-mastery and mastery of his environment through the successful execution and repetition of tasks ...which are linked to the cultural expectations the child faces in the context of his total development. (23:71)

In planning the conventional nursery school program, the development of the whole child is considered. This includes learning opportunities in such areas as language, communication, motor development, emotional, social and intellectual development. The teacher carefully plans the framework within which the child can express creativity in play, with freedom to explore and experiment. The alert teacher makes use of spontaneous child interests as a learning experience. Nursery schools vary, depending on the type of children being taught. The conventional nursery school does not rely on narrowly prescribed programs but incorporates a pupil-teacher planned program in order to fit learning into the context of the child's environmental and developmental needs. (24,25,26)

The nursery school experience is influenced by five major factors: physical setting, program of activities and routines, the teacher, the peer group plus the child's own personality, ability and interests. (24)

Three types of nursery schools have been summarized according to the general emphasis of program. The programs

which concentrate on the social-emotional development are characterized as child centered with child initiated, permissive experiences, little teacher intervention and deemphasis on cognitive learning. A second type concentrates upon intellectural and language development along with social and emotional development. These have active teacher-sequencing of activities with use of the natural environment in planned and spontaneous learning based on the individual child's needs. The third type emphasize intellectual "push" often paying little attention to individual needs or social and emotional development. The teachers provide directed experiences based on readiness. (28)

CHAPTER III

METHODOLOGY

Description of the "Modified" Preschool Program

The guidelines utilized in the modified preschool for the trainable mentally retarded child incorporate three major principles: (1) education in accord with child development principles and nursery education techniques based on the child's mental age, (2) use of special clinical educational procedures with some of the children that show special disabilities as well as lower mental ability and (3) supplying additional materials for sensory training. (3,6,11,12,13,21,22,26,27) Methods, procedures, equipment, personnel, daily schedule, and organization of the modified program follow the pattern of the nursery school as described by Reed and Landreth. (26,27)

These children, because of their limited abilities to cope with the tasks of everyday living have, many times, faced frustration and failure. They needed affection, a sense of belonging, understanding and respect for their individuality and uniqueness perhaps even more than the normal child. Teaching was almost entirely on a one to one relationship between the teacher and the child. The only teacher-initiated grouping was involved in the feeding

program, namely, at lunch. Since retardation is considered primarily a functional problem and since it is assumed that growth will change function, the individual child's changing needs were continually assessed and his individual program changed.

The Daily Schedule

The following is a sample daily schedule:

9:15 - 9:30 Children arrive. Greet, health check, remove wraps, toilet.

9:45 - 10:00 Free play-indoors.

Puzzles, peg boards on open shelves.

Large block area.

Doll corner and dolls set up for social play.

Record player and records for individual listening. Secluded area.

Touch books and picture books. Quiet area.

Books for individual stories on request.

Bean bags and basket.

Montessori frames on open shelves.

10:30 - 10:45 Juice time.

10:45 - 11:30 Outdoor free play (only on warm, dry, sunny days).

Hard surface area for wagons and tricycles.

Other equipment: swings and slide.

Facilities utilized: steps with hand-rail, wide circle painted line, painted box squares and wide balance board.

Active indoor play.

Mattress.

Stairs and rocking boat.

11:30 - 12:00 Preparation for lunch: toileting, wash hands, practice sitting in chairs with feet down.

Music and sound identification Practice.

12:00 - 12:45 Lunch

12:45 - 1:00 Preparation for rest on individual cots.

Shades drawn as most children sleep.

1:00 - 2:00 Nap time.

2:00 - 2:15 Transition. Put cots away, put on shoes and outdoor clothing.

2:15 - 2:30 Departure.

The daily schedule was planned specifically to teach the children socially accepted habits of behavior and contribute to their emotional stability by providing a simplified environment where the demands were within their abilities for success.

Routine tasks were of the most basic nature. Preparation for lunch consisted of the following steps: (1) each child walked across the room, found his own locker, and carried his lunch box back to his place at the table,

(2) then he opened his lunch box and removed the contents, (3) he sat in the chair, with his feet down, while the hot dish was served him, (4) he responded in some manner (verbal, nodding, facial) when the assistant asked the question, "Would you care for some milk, J__?" Each child was addressed individually by name.

Systematic habit training was taught by breaking each daily living task into small steps in an unhurried, relaxed setting where the child could experience success at some level. Successful performance was rewarded immediately. The child had the opportunity to learn by mimicry as well as repetition and practice. The daily routines were repeated in as exact sequential order and detail as was possible.

Total Program.

A concentrated effort was made to utilize every activity of the total program for development of the child's social competency. The program was characterized by active teacher sequencing of routines and activities with extensive use of natural environment in both planned and incidental learning.

One of the basic considerations in the program involved establishing a feeling of trust in each child. This was initiated by freedom of expression within well defined limits. The daily routine sequences were consistently

(2) [illegible]

(3) [illegible]

[illegible]

[illegible]

[

structured so that the child felt security in knowing what was going to happen next and what was expected. The consistency and well-defined limitations avoided safety hazards, inherent because many of the children lacked judgmental abilities. Well-defined routines helped in channeling attention for learning specific tasks. Simple directions or suggestions were stated in a positive form and desired responses were rewarded by social reinforcement in the form of praise and approval.

Behavior Modification.

The primary behavior modification principle used for shaping behavior was that of reinforcement. Reinforcement refers to the observation that a child will work to acquire certain environmental rewards. These rewarding events are more technically referred to as reinforcers. (15,17,18,19,20)

The reinforcement procedure required the occurrence of some specified response prior to the presentation of a reinforcer (candy, praise, attention). The reinforcement was given immediately upon performance of the desired behavior without any delay.

This technique is not new and has long been used in nursery school teaching. The principle of praising desired behavior and not rewarding unsocial behavior is often used in teaching. (26,29)

Montessori Dressing Frames.

One of the initial activities in a child's learning of self-help independence is that of undressing and dressing. Dressing frames were used in order to teach this specific skill. These were wooden frames with clothing fabric attached to them. This fabric gave, in simplified and enlarged form, a section of clothing which could be fastened with commonly used fasteners. The material on the series of nine frames were fastened with three graduated size buttons, two sizes of snaps, two sizes of hooks and eyes and two types of zippers. One zipper board was of the open end type found in the construction of childrens jackets and the other was the closed type often used in the fly of boys pants and in neck and skirt openings.

The children of this group were unable to fasten or unfasten their own clothing. The purpose of the frames was to enable the child to work independently, after an individual introduction and demonstration of how they worked, until he perfected the skill without fear or errors.

Each child was given daily practice with each of the frames. The frames were evaluated as to observed difficulty and the child was introduced to the simplest first. If a task was far beyond the child's task level ability it was not used. The teacher demonstrated each movement very slowly

and repeatedly until the child indicated a willingness to try. Each successful attempt at each task level was praised by the teacher. Successful completion of each level was rewarded by a minature marshmallow. The completed task also had a visual reward of seeing a colorful animal picture.

The dressing frames were kept readily available on shelves in the playroom to encourage child-initiated use at any time during the day.

The frame used for the study was four graduated size buttons and buttonholes of the type commonly used for fastening children's clothing.

Description of the Instruments

The Cain-Levine Social Competency Scale.

In order to determine the relative improvement in social competence of the children, individual behavior levels were established by use of the Cain-Levine Social Competency Scale. (See Appendix III)

This scale consists of 44 items divided into four subscales: self-help, initative, social skills and communication. Social competency is measured along a dependence-independence continuum. These items are considered a representative sample of performance behaviors that are important in evaluating the social competence of trainable mentally retarded children. These four areas represent

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examples of living skills which must be mastered if the child is to develop personal autonomy. The four areas were selected because they were within the scope of experiences of this group.

> The Self-Help subscale (SH) is designed to estimate the child's manipulative ability, or motor skills. The concern is not whether the child must be directed to utilize the skill...but with motor performance per se. The greater the child's manipulative ability, the greater his independence.
>
> The Initiative subscale (I) is designed to measure the degree to which the child's behavior is self-directed.
>
> The Social Skills subscale (SS) seeks to assess the degree to which the child engages in interpersonal relationships with other children and adults.
>
> The Communication subscale (C) is designed to measure the degree to which a child makes himself understood. (30:2)

Observation Instrument.

An observation schedule was developed from Hewett's hierarchy of educational tasks to measure the extent of the child's problem, the educational task and the learner reward. (See Appendix IV) The categories were used as a simple method of checking performance on the task of using a button frame. Observations and ratings in terms of specific levels were made at the beginning of the study and again four months later after a period of daily practice using

operant conditioning techniques.

Collection of the Data

The mothers were interviewed in the home. The Cain-Levine Social Competency Scale was used along with a composite family history form. (See Appendix V) The average length of the interview was one and a half hours. Data were collected during January 1966 and February 1966.

The interviewer followed a set format in presenting the questions on the schedule. Scoring depends on the mother's responses as to the habitual performance of the child in regard to each of the items. Discrepancies between reported behavior and school performance are commonly noted. An independent rating was made by the teacher of the group.

The respondents gave indication of interest in the study and were responsive and cooperative with the interviewer. Determinations of task level were tabulated according to the child's response to the presentation of the button board. Weights were assigned according to the degree of task accomplishment and a task level score was determined for each child at the beginning of the study and again at the end of the study four months later. The task level score was used to determine the degree of improvement. (See Table 1)

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Table 1. Scoring System for Task Level on Button Frame

Hierarchy Level	Attention	Response	Order	Exploratory	Social
Weight	0	1	2	3	4
Child's Problem (Oct.) (Jan.)					
Educational Task (Oct.) (Jan.)					
Learner Reward (Oct.) (Jan.)					
Teacher Structure (Oct.) (Jan.)					
Total (Oct.) (Jan.)					

Selection of Sample

The Trainable children in Michigan are placed in the Type B Program if they fall within the criteria specified under Michigan law. The Attorney General of Michigan has defined a trainable mentally handicapped child.

Criteria for Admission

1. Between the age of six and twenty-one years of age.

2. Is developing at a rate of one-third to one-half that of a normal child.
3. Has an IQ range of 30-50 based on an individual psychometric test administered by a psychologist or school diagnostician.
4. Has a minimum ability to take care of their needs, toileting, ambulatory and minimum communication ability in form of speech or gestures in order to make wants known.
5. Has adequate behavior patterns so that he will not be dangerous to himself or others. (7:1)

CHAPTER IV

DESCRIPTION OF THE SAMPLE

The interview schedule included specific questions which were concerned with the family of the trainable mentally retarded child. (See Appendix V) The writer wanted to investigate aspects of family background which might be significant to the study.

Percentages were not used in the description of the sample due to the small size sample. It was felt that a number breakdown would give the reader a more meaningful view of the sample.

Attributes of Members of Families

Family Structure.

All parents of the ten children used in the sample were married and living together except for two families. Of the latter, the father of one family had deserted, the parents were divorced and the mother worked while the child lived with his mother and maternal grandparents. In the second case, the mother had deserted, the father had remarried and the child was living with his father and stepmother.

The number of children per family ranged from one to six children. Six families had three children. Each of the other four families had one, two, four and six children respectively. There was no pattern of consistency of birth

order of the retarded child. Two were oldest children in families of three children, four were middle children in families of from three to six children, three were the youngest child in a family of three children and one was an only child. One family had two out of three children with Down's Syndrome. The older sibling was institutionalized. The normal child was the middle child.

Educational Level of Parents.

Table 2. Mother's Education

Highest Grade Completed	Number of Mothers
8th grade	1
9th grade	1
11th grade	1
12th grade	6
1 year special training	1
Total	10

The majority of the mothers had a high school education. One mother had an additional year of training as a practical nurse. The mother with the eighth grade education was the oldest mother of the group.

Table 3. Father's Education

Highest Grade Completed	Number of Fathers
10th grade	1
11th grade	2
12th grade	6
6 years of college	1
Total	10

The father's educational level ranged from completion of the tenth grade to six years beyond high school. The father with six years beyond high school had completed seminary and had a Master of Arts degree. The median level of school completion for both parents was twelve years. The median number of years of school completed by persons twenty-five years old and older in Eaton County, Michigan was 11.3 years in 1960. The median number of school years completed in the state of Michigan was 10.8 years in 1960. (32:61) Twelve of the twenty parents had completed high school and thus were above the median level of education of both county and state.

Table [illegible]. [illegible] Education

[illegible] Completed	[illegible]
[illegible] grade	1
11th grade	2
12th grade	[illegible]
6 years [illegible] college	1
Total	[illegible]

The [illegible] educational level ranged from [illegible] completion of [illegible] grade to six years beyond high school. The [illegible] with six years beyond high school had completed [illegible] a [illegible] degree. The median level of school [illegible] was twelve years. The [illegible] number of years of school completed by [illegible] twenty-five years [illegible] was 11.3 years in [illegible]. The [illegible] number of school years completed in the [illegible] was 11.[illegible] years in [illegible]. ([illegible]) Twelve of the twenty parents had completed high school [illegible] thus were [illegible] the median level of education [illegible] and [illegible].

Occupational Level of Parents.

Table 4. Occupation of Fathers and Mothers

Child	Father	Mother
1.	Minister	Teacher Aid
2.	Dairy Farmer	Homemaker
3.	Tool & Die Foreman	Part-time Clerk
4.	Automotive Mechanic	Homemaker
5.	Automotive Mechanic	Homemaker
6.	Postal Clerk & Night-watchman	Homemaker
7.	Factory Line Worker	Part-time Waitress
8.	School Custodian	Domestic Worker
9.	Factory Line Worker	Commercial Cleaning Service (nights)
10.	Unknown	Practical Nurse

The occupational level of the parents in the group ranged from professional to unskilled laborer. All of the husbands were gainfully employed at the time of the interview. One father was intermitently unemployed because of a back injury and diabetes.

Family Income

According to the responses of the mothers the family incomes fell into the following categories. As noted in Table 4, many of these families were two income families.

Table 5. Income Level of the Family

Income Level	N
$ 3,000-$4,999	1
$ 5,000-$6,999	2
$ 7,000-$9,999	5
$10,-$13,999	2
Total	10

The median income level for these families ranged between $7,000 and $9,999. Of these ten families five were employed in Ingham County where the median income of families was $6,393 in 1965. The remaining five families resided and worked in Eaton County where the median family income was $5,821. (32:105)

Although income is considered the most important determinant of level of living it may be that other factors such as size of the family, age of the children, local living costs, and especially medical costs inherent in the delicate health of the retarded child might be most significant in these families.

Most four and five-person families need incomes ranging from $6,000 to $7,499 or higher to attain a "modest but

adequate budget." Families with incomes of $7,500 or more may be regarded as living under conditions ranging from about the middle of the "comfort level" to the bottom of the "affluent level." (33) Only one family fell into the "deprivation level." The remainder of the families ranged from "modest but adequate budget" to "middle of the comfort level."

The children of this study were experientially deprived and disadvantaged due to their physical and mental disabilities but not culturally deprived as evaluated according to the family social economic level.

Racial and Ethnic Background.

The group was composed of Caucasians of second, or third generation, Scotch, Irish, English and Western European descent. English was the only language spoken in the home. This factor was due to the geographical area and population composition of the semi-rural Mid-Michigan County in which they lived. The criteria for enrollment have no racial barriers.

Religious Affiliation

All of the families were affiliated with a church. Nine families were of a Protestant denomination and one family was Roman Catholic. The church played an important role in the lives of these families. Nine families attended church

regularly as a complete family and one family alternated their attendance as the retarded handicapped child was unable to participate.

Community Participation.

Table 6. Community Organizations

Organization	Father	Mother
Michigan Association for Mental Retardation	7	8
Civic Clubs (Rotary, Lions, Woman's Club, etc.)	3	4
Band Boosters, P.T.A., Boy Scouts, Girl Scouts	4	6
Social	0	0

The outside activities of the parents centered around civic and service involvement. The primary group interest other than church affiliation centered around fostering growth in the Eaton County Association for Mental Retardation.

Attributes of the Children

Sex, Age and Intellectual Level of the Children.

The ten children enrolled at the Eaton County Trainable School during the school year of 1965-1966 comprised the sample for this study. These children met the legal classi-

fication stipulated by Michigan Law for admission. The group included six boys and four girls between six and eleven years of age. The mean age was seven years six months.

The range in I.Q. was from 25 to 53. However, two of these children were identified as untestable due to their low abilities. The mental age of the group ranged from ten months to three years and nine months.

The formal testing of these children involved the use of different tests, given at various times by different diagnosticians. In view of the testing conditions, the actual I.Q. score does not seem to be a reliable factor. The severity of the children's physical and mental limitations are easily observable.

Physically Inhibiting Conditions.

The handicapped child as compared with the normal child has more similarities than differences, the differences being the factor with which the child has to work. As a severely retarded child, the child was disparate personal educational needs. (34,35,36)

The child does not fall specifically into any classification as he varies in degree of intellectual deficit and social adaptability. Some have associated physical disa-

bilities and emotional problems. Of the following multiple-handicapping conditions, either one or a combination may be present: speech and hearing disabilities, visual defects, convulsive seizures, sensor-motor dysfunctions, perceptual anomalies, dental dysplasias, drooling and incontinence. (29,34) In addition there are the usual psychological concomitants, such as disturbed behavior, immaturity, social isolation, sensory deprivation and motor inefficiency. (5,6,11,27)

Children with low intelligence differ in degree of mental deficit. This is one of the common classifications used. (Appendix I) Classification is also sometimes made according to "clinical types."

> Clinical types refers to mentally deficient persons who possess certain anatomical, physiognomical, or pathological features which are sufficiently pronounced to enable them to be placed in special categories. (5:6)

The group consists of ten children, four identified with "Down's Syndrome" and six being multiply handicapped with a diagnosis of "Organic Brain Syndrome." Of the six with brain damage, five have varying degrees of cerebral palsy involvement and the other one is of unknown etiology. According to Kirk, this general division is to be expected. (36) Although all three types of children are in the trainable program, they vary greatly in their developmental patterns.

Down's Syndrome

"Down's Syndrome" (Mongolism) is one of the more frequent types of congenital anomalies. The physical difference in these children is often perceived at birth. The eyes appear to be far apart and somewhat slanted, usually with an extra fold of skin on the inside corner of the eye. The head of such babies is slightly smaller than normal, making the forehead seem large and the rest of the face small. Usually the arms and legs are short and the hands stubby, with a deep transverse crease across the palm. Other signs may include a flat nose, large tongue and protruding lower lip. (27,37)

In the case of the Down's Syndrome, the retardation is due to internal factors relating to the development of the chromosome. The general behavior of these children is comparatively similar to normal children of equivalent mental age. Individual behavior patterns are relatively predictable and developmental growth follows a fairly reliable sequence. (4,16,38) Behavior problems usually result from lack of understanding.

The deficits of the child with Down's Syndrome have been summarized to include deficits in attention span, symbolic behavior, inhibition, and delayed response. (39,40)
(See Table 7)

Table 7. Characteristics of Female with "Down's Syndrome"

Characteristic	Child 1	Child 2	Child 3	Child 4
Sex	F	M	F	M
C. A.	6-1	5-9	7-2	9-1
M. A.	3-6	2-11	3-10	
I. Q.	53	44	35	Untested
Weight	45½ lbs.	39 lbs.	57 lbs.	39 lbs.
Height	46"	42½"	44"	45"
Retarded Speech		X	X	X
Auditory Impairment			X	
Visual Defects		X	X	X
Ordinal Order of Birth	3	3	4	3
Age of Mother at Birth of Child	34	22	26	41
Frequent Upper Respiratory Infections	X	X	X	X
Dental Dysplasia			X	X
Transverse Crease in Hands	X	X	X	X
Myeloid Leukemia	Yes (child)	Yes (father)	No	No
Siblings with "Down's Syndrome		X		

Organic Brain Syndrome

Clinicians are not in general agreement as to the classification of Organic Brain Syndrome. This is sometimes called "Strauss syndrome," "brain-damaged," "brain injured" or "cerebral dysfunction." However, children with retardation due to external factors frequently present a very irregular and complex profile. Subsequently, behavior is difficult if not impossible to predict.

> A brain-injured child is a child who before, during, or after birth has received an injury to or suffered an infection of the brain. (12:4)

The brain-damaged child is in need of modifications in addition to the requirements imposed by the mental retardation. As a result of organic impairment, defects in the neuromotor system may be present. The child may show disturbances in perception and emotional behavior. The three major characteristics commonly noted are: (1) severe, diffuse and non-specific anxieties, (2) inconsistent patterns of behavior, (3) greatly increased need for human support in the areas of behavior and self-growth.

Related disorders in behavior are commonly exemplified by erratic and inappropriate behavior on mild provocation, increased motor activity disproportionate to the stimulus, distractibility under ordinary conditions, consistent faulty perception, or consistent hyperactivity and poor motor per-

formance. Many times there is a short attention span, spotty intellectual deficits and perseveration. "Perseveration" in this case means giving the same response over and over again despite the fact that the stimulus has changed. Impulsive, demanding, unpredictable behavior may provoke rejection by other children, parents and teachers. (2,12,16,32,34,35)

> When the brain-injured child is confronted with a task which is beyond his ability and which he cannot perform, he may experience a strong reaction of rage, despair, anxiety, or extreme depression with extreme body reactions of crying, trembling and changing color. This reaction is commonly referred to as catastrophic response. (41:36-37)

The complexity of the problem of cerebral palsy makes definition difficult. A series of working definitions has been conceived in three parts: (1) a standard definition, (2) a limited definition and (3) a practical definition.

> Standard definition: Cerebral palsy is a condition, characterized by paralysis, weakness, incoordination, or any other aberration of motor function due to pathology of the motor control centers of the brain (34:2)

> Limited definition: A condition in which interference with the control of the motor system arised as a result of lesions occuring from trauma. (34:2)

**more definitions. Cerebral palsy is a condition,
accompanied by paralysis, weakness, incoordi-
nation, or any other disorganization of motor functions
due to pathology of the motor control centers of
the brain (Sha2)**

**altered definitions: a condition in which inter-
ference with the control of the motor system
arised as a result of lesions occurring from
birth.**

> Practical definition: Cerebral palsy is one component of a broader brain damage syndrome composed of neuromotor dysfunction, psychological dysfunction, convulsions, and behavior disorders of organic origin. (34:2)

Cerebral palsy is the neuromotor component of the "organic brain damage syndrome." (See Table 8)

Table 8. Characteristics of [illegible] with "Organic Brain Syndrome"

Characteristic	Child 5	Child 6	Child 7	Child 8	Child 9	Child 10
Sex	M	F	F	M	M	M
C. A.	7-9	7-5	7-9	10-6	9-1	5-8
M. A.	3-9	1-3	2-7	1-6	3-9	-1 yr.
I. Q.	45	Below 30	30	Below 30	40	Too low for tests
Height	48	46½	45½	49½	48½	43½
Weight	52 lb.	36½ lb.	41 lb.	50 lb.	53 lb.	44 lb.
Retarded Speech	X	X	X	X		X
Auditory Impairment			X			X
Ordinal Order of Birth	1	1	3	2	3	1
Age of Mother at Birth of Child	23	24	25	23	26	22
Cerebral Palsey	X	X	X	X		X
Convulsive Seizures	X	X	X	X		X
Poor Motor Coordination	X	X	X	X	X	X
Catastrophic Response	X				X	
Perseveration	X	X	X	X		
Severe Panicties	X	X	X	X	X	
Birth Factors						
Instruments	X					
Anoxia		X				
Breech	X			X	X	
High Fever Infancy	X					

CHAPTER V

FINDINGS

The Cain-Levine Social Competency Scale was used to estimate the relative improvement in social competency of trainable mentally retarded children as a result of attendance in a modified preschool program.

The Scale was categorized into four subscales: (1) self help which was designed to measure motor and manipulative skills, (2) initiative, which was designed to determine degree of self-direction, (3) social skills which sought to assess the degree to which the child engages in interpersonal relationships, and (4) communication which was designed to measure the degree to which a child makes himself understood. Each item was measured along a dependence-independence continuum. An individual behavior level was established for each child and a percentile rating was obtained by comparing the child's social competency scores with other trainable mentally retarded children of his age group.

Social Competency

Total Social Competency Ratings.

Total Social Competency Ratings were obtained in order to determine the consistency of agreement between the evaluations made by the mothers and the teachers. A comparison

was also made in the total social competency ratings made by the teachers at the beginning of the study and again at the end.

Table 9. Comparison of Total Social Competency as rated by the Mothers and the Teachers

Child	Sex	CA	Mothers' Rating	%tile	Teachers' Rating	%tile	Area of Greatest Difference
1	F	6.1	132	94	132	94	
2	M	5.9	104	87	106	90	Social Skills
3	F	7.2	116	80	107	67	Social Skills
4	M	9	116	44	102	24	Social Skills Communication Self Help
5	M	7.9	101	56	107	67	Self Help Communication
6	F	7.5	74	13	75	13	
7	F	7.4	95	44	95	44	
8	M	10.6	79	0	82	1	Social Skills Communication
9	M	9.1	129	72	134	76	Social Skills
10	M	5.8	83	56	61	20	Social Skills Initiative Self Help

The Social Competency Scores obtained from the ratings by the mothers' and the teachers' ratings are in close agreement. One area in which there was some disagreement was social skills. This might be the result of differences in

opportunity for social contacts at home or a difference in number and age of social contacts in the home.

Eight of the mothers were in extremely close agreement with the teacher in evaluating communicative skills. The mothers of the two children who fell into the lowest percentile ranking rated their children much higher than the teachers.

Two basic considerations are important in regard to obtaining accurate ratings. First, the reason for obtaining the ratings will influence the set of the respondents. In this interview the mothers were informed of the purpose of the interview so there was no threat to the child. The child might possibly benefit by an improved school program. Secondly, the interviewer made an effort to pose the questions so as to guard against value judgments.

Six of the ten children showed the greatest behavior change in the area of social skills. Four children made progress in the area of initiative. Communication skill was the area purposely stressed in the modified preschool program. Seven of the children showed improvement in communication skills. (See Table 10)

Significant change in general self-help skills were not noted in this four month period. This finding would be in agreement with Denny's study. (40)

Children's Social Competency Profiles

The primary purpose of the modified preschool program was to educate the child according to his individual needs based on his abilities and family life experiences. The modified preschool was a part of the "total management" program for the child. (16)

Because of the scatter of diagnoses and characteristics (see tables 7 and 8) of the children it seemed more meaningful to rate the child twice in order to measure possible improvement.

Throughout the study each child and family are described according to the number assigned by the writer. An individually planned program of behavior modification was set up for each child.

The behavioral areas chosen were determined by both the teachers and the families.

Table 10. Comparison of Total Social Competency Ratings by the Teachers

Child	Sex	CA	First Raw Score	%tile Rating	Second Raw Score	%tile Rating	Area of Differences
1	F	6.1	120	84	132	94	Social Skills
2	M	5.9	86	61	106	90	Initiative Communication
3	F	7.2	87	28	107	67	Social Skills Communication Self Help
4	M	9	91	10	102	24	Social Skills Communication
5	M	7.9	96	44	107	67	Social Skills Initiative
6	F	7.5	66	6	75	13	Social Skills Communication
7	F	7.4	64	4	95	44	Social Skills Initiative
8	M	10.6	55	0	82	1	Communication
9	M	9.1	116	44	134	76	Communication
10	M	5.8	56	13	61	20	Self Help Communication

Table 11. Social Competency Profile of Child 1.
Female C.A. 6-1. M.A. 3-6
Classification: "Down's Syndrome"

Social Competency Rating	First Teachers Rating	Percentile	Second Teachers Rating	Percentile
Communications	37	96	38	97
Social Skills	25	82	29	94
Initiative	25	70	27	82
Self Help	33	54	38	77
Total	120	84	132	94

Table 12. Social Competency Profile of Child 2.
Male C.A. 7-2. M.A. 2-10
Classification: "Down's Syndrome"

Social Competency Rating	First Teachers Rating	Percentile	Second Teachers Rating	Percentile
Communications	20	50	24	72
Social Skills	17	50	22	82
Initiative	14	24	22	76
Self Help	35	89	38	95
Total	86	61	106	90

Table 13. Social Competency Profile of Child 3.
Female C.A. 7-2. M.A. 2-10
Classification: "Down's Syndrome"

Social Competency Rating	First Teachers Rating	Percentile	Second Teachers Rating	Percentile
Communications	26	56	31	81
Social Skills	15	18	22	64
Initiative	14	24	20	36
Self Help	28	31	34	60
Total	87	28	107	67

Table 14. Social Competency Profile of Child 4.
Male C.A.9-1. Unable to test on Stanford Binet
Classification: "Down's Syndrome"

Social Competency Rating	First Teachers Rating	Percentile	Second Teachers Rating	Percentile
Communications	19	7	23	19
Social Skills	15	6	16	8
Initiative	22	24	23	30
Self Help	35	31	40	54
Total	91	10	102	24

The first four children were diagnosed as "Down's Syndrome." They range in age from 6-1 to 9-1. The mean age

is 7 years. Their mental age is from 2-11 to 3-6. The mean change in social competency over the four month period is shown in Table 15.

Table 15. Composite Mean Changes of Four Children Diagnosed as "Down's Syndrome"

Subscales	Mean Scores First	Second	Mean Change
Communication	25.5	29.0	3.5
Social Skills	18.0	22.2	4.2
Initiative	19.7	23.0	3.3
Self Help	32.7	37.5	4.8

The behavior patterns of these four children were consistent. Self-help skills specifically chosen as target areas for modification were: (1) building up a simple basic vocabulary, (2) learning to use a handkerchief, (3) sitting with legs straight and together (rather than Indian fashion).

These activities were reinforced through praise at every opportunity during the daily program. The parents were informed of these efforts and cooperated by encouraging the same behavior at home.

Table 16. Social Competency Profile of Child 5.
Male C.A. 7-9 M.A. 3-9
Classification: "Organic Brain Syndrome"

Social Competency Rating	First Teachers Rating	Percentile	Second Teachers Rating	Percentile
Communications	24	44	25	50
Social Skills	16	24	19	43
Initiative	15	11	19	30
Self Help	41	87	44	93
Total	96	44	107	67

Table 17. Social Competency Profile of Child 6.
Female C.A. 7-5. M.A. 1-3
Classification: "Organic Brain Syndrome"

Social Competency Rating	First Teachers Rating	Percentile	Second Teachers Rating	Percentile
Communications	18	16	22	33
Social Skills	18	36	19	43
Initiative	10	2	14	8
Self Help	20	7	20	7
Total	66	6	75	13

Table 18. Social Competency Profile of Child 7.
Female C.A. 7-9. M.A. 2-7
Classification: "Organic Brain Syndrome"

Social Competency Rating	First Teachers Rating	Percentile	Second Teachers Rating	Percentile
Communications	23	38	27	62
Social Skills	11	6	19	43
Initiative	12	4	22	50
Self Help	18	4	27	26
Total	64	4	95	44

Table 19. Social Competency Profile of Child 8.
Male C.A. 10-6 M.A. 1-6
Classification: "Organic Brain Syndrome"

Social Competency Rating	First Teachers Rating	Percentile	Second Teachers Rating	Percentile
Communications	16	0	20	4
Social Skills	11	0	17	4
Initiative	6	0	18	6
Self Help	22	0	27	2
Total	55	0	82	1

Table 20. Social Competency Profile of Child 9.
Male C. A. 9-1 M. A. 3-9
Classification: "Organic Brain Syndrome"

Social Competency Rating	First Teachers Rating	Percentile	Second Teachers Rating	Percentile
Communications	28	44	30	56
Social Skills	22	36	27	70
Initiative	23	30	28	64
Self Help	43	69	49	89
Total	116	44	134	76

Table 21. Social Competency Profile of Child 10.
Male C. A. 5-8 M. A. 10 Mo.
Classification: "Organic Brain Syndrome"

Social Competency Rating	First Teachers Rating	Percentile	Second Teachers Rating	Percentile
Communications	11	10	11	10
Social Skills	11	15	13	24
Initiative	11	11	13	18
Self Help	23	40	24	46
Totals	56	13	61	20

The six children diagnosed as "Organic Brain Syndrome" ranged in age from 5-8 to 10-8. The mean age was 7-10.

Table [illegible].

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

Table [illegible].

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

[illegible]

Their mental age range was from 10 months to 3-9. The mean change in social competency over the four month period is shown in Table 22.

Table 22. Composite Mean Changes of Six Children Diagnosed as "Organic Brain Syndrome"

Subscales	Mean Scores First	Second	Mean Change
Communications	20.0	22.5	2.5
Social Skills	14.8	19.0	4.2
Initiative	12.8	19.0	6.2
Self Help	27.8	31.8	4.0

The first teacher rating was made during the first six weeks of school which could be a very important adjustment period for these children. It might be significant to note the mean change in initiative as a result of attendance in a modified preschool program. The mean change in initiative might be an indication of reduced anxieties.

Montessori Button Frame

Each of the children showed some degree of improvement in the performance of the task of unbuttoning and buttoning. (See Table 23)

Tabel 23. Task Level Score on Button Frame.

Child	Child's Problem		Educational Task		Learner Reward		Teacher Structure		Child Total Score	
	B.	E.	B.	E.	B.	E.	B.	E.	B.	E.
*1.	2	4	1	3	1	4	2	4	6	15
*2.	1	3	0	2	0	2	2	2	3	9
*3.	2	4	1	3	0	4	2	4	5	15
4.	1	1	0	0	0	1	2	2	3	4
*5.	1	4	2	4	1	4	0	4	4	16
6.	0	2	0	0	0	1	2	2	2	5
7.	0	0	0	0	0	0	2	2	2	2
8.	0	2	0	1	0	1	2	2	2	6
*9.	1	4	1	4	1	4	0	0	3	12
10.	0	0	0	0	0	0	2	2	2	2

* Task Completed

Total Possible Score 16

The period of introduction of the material was marked by four children showing inattention due to withdrawal as resistance. Two children both with "Down's Syndrome" were receptive but were unable to follow directions. The remaining four children were unwilling to get involved or respond as they were engrossed in other activities. None of the children were "forced" to work on the series of frames, but each was given the opportunity and choice several times a day.

At the end of the four month period five of the children could successfully complete the task and would use the clothing frames of their own initiative. Three of the children who were unsuccessful in the task completion had cerebral palsy involvement in their hands. However, they were responsive. Two of the children were unable to concentrate on any activity long enough for completion of the task and were rated below the two-year level in mental age with cerebral palsy involvement in their hands.

CHAPTER VI

DISCUSSION

Effective management of retardation will necessitate a plan for the development of each individual throughout the total life span. This will require the varied talents of the nation's citizens to insure continuous effort in order that the retardate may achieve his maximum potential.

A suggested plan of management for the severely retarded child of 6-11 years should concentrate on the socialization process in a school program.

In teaching these children, the mental age level is to be considered rather than chronological age. The mental age range was from 10 months to 3-9. The chronological age range was 5-8 to 10-8.

The modified preschool experience represents a small part of the total life experience of the retarded child but these initial experiences outside the home situation can be significant. This is especially true of children who have sometimes had limited opportunity for social interaction outside the family.

In considering the individual needs of these exceptional children, the family was considered a vital component. In the opinion of this writer it is almost impossible to

develop an effective educational program for the child without rapport, understanding, and a close, sharing relationship with the families. Communication between home and school has long been considered an important factor in nursery school education. It is equally important in the education of mentally retarded children.

The modified program incorporated preschool methods and adapted them to the needs of the trainable mentally retarded child. Emphasis was placed on an individualized program with no teacher directed groupings for organized "circle" activities.

The basic concern centers around the individual, so the responsibility of the teacher is to help each child realize as fully as possible whatever potentialities he possesses. In order to do this the curriculum needs to consider: (1) the growth, development, special abilities and disabilities of children, (2) home and community backgrounds of the families, (3) the planned environment-equipment, organization and program.

The profile of the ten families studied revealed that the median level of education for both the parents was twelve years. This median is above the level of both the county and state. All husbands were gainfully employed at the time of the study. Five of the ten families were two-income

families. The median income level ranged between $7,000 and $9,999. The median income for Ingham County was $6,393 in 1965. Five families resided and worked in Eaton County where the median income was $5,821 in 1965. The families were affiliated with a church and a majority were also active in community civic and service type organizations.

Thus it can be seen that the children studies were experientially deprived and disadvantaged but not culturally deprived because of family living level, income, or social status. This sample parallels Farber's findings in regard to family integration and social status factors. (43)

Social attitudes of status devaluation of the physically and mentally disabled are seldom discussed. Many times the families of the severely retarded child must bear the brunt of these attitudes in addition to the never ending responsibilities of care and training.

A profile of the personal characteristics for the children in the sample presented the following picture: (1) The mean age was seven years. (2) The I.Q. range from untestable to 53. (3) The M.A. range was 10 months to 3-9 years. The most significant factor in the profiles of these children is the heterogenous grouping of disabilities. Three of the four children diagnosed as "Down's Syndrome" manifested the usual characteristics of the syndrome. The

fourth child was also extremely hyperactive.

Recent medical research has found a relationship between myeloid leukemia and "Down's Syndrome." (42) One child has leukemia and the father of two children with "Down's Syndrome" has leukemia.

The Cain-Levine Social Competency Scale was used to estimate the childs relative improvement resulting from attendance in a modified preschool program; the relative effects of various teaching techniques and curriculum planning were also evaluated. The ratings by the mothers and the teachers were in close agreement. Rapport with the informant depends on the purpose of the ratings with reference to what is at stake.

There were no significant changes in the general areas of self-help skills as measured on the scale. This may be due to the fact that the self-help skills on the scale were not broken down into specific task level areas. The school program analyzed the eating-task levels into more specific areas. In the area of eating, school emphasis was placed on chewing food with the mouth closed and swallowing food after chewing instead of emphasizing the type of utensils used.

Certain areas of learning opportunity were brought to

the attention of both the mothers and the teachers. Only two of the children had been given the opportunity to learn to fold articles (such as wash cloths and towels), which is one of the criteria on the self-help scale.

These children frequently have individual strengths that may facilitate learning. Each child should be viewed positively, noting his assets instead of focussing on his limitations. The acceptance or rejection he experiences and the degree of independence he is encouraged to assume promotes his skill in interpersonal relationships.

The concept of behavior modification through approval or disapproval has long been used as a nursery school technique. Many procedures involve application of current learning principles, particularly those associated with reinforcement theory. Immediacy of reward is considered a basic part of this theory. To be useful it must be adhered to systematically. It has proved effective with some exceptional children. Considerably more evaluation, exploration and experimentation must be done before its applicability can be evaluated.

There is much current research in this area. The amount of time necessary to facilitate behavior modification seems to vary with the authors. Some "target areas" such as

toilet-training and self-feeding have shown increased profeciency in a four month period. (18) Other authors say self-help growth in the severely mentally retarded should not be expected in a period of less than eighteen months to two years. (40)

This study has attempted to incorporate the concepts of operant conditioning in a daily teaching program as one method of providing a pleasant positive learning experience for severely retarded children.

It may be that a modified preschool program is one effective method of teaching severely retarded children. We have a relatively large body of knowledge concerning characteristics of mental retardation but there is a lag in the possible use of this knowledge in respect to the life of the child to be served.

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28. Schwertfeger, Jane, & Weikart, David P., "The Nature of Preschool Benefits," Michigan Education Journal, March, 1967. p. 18-20.

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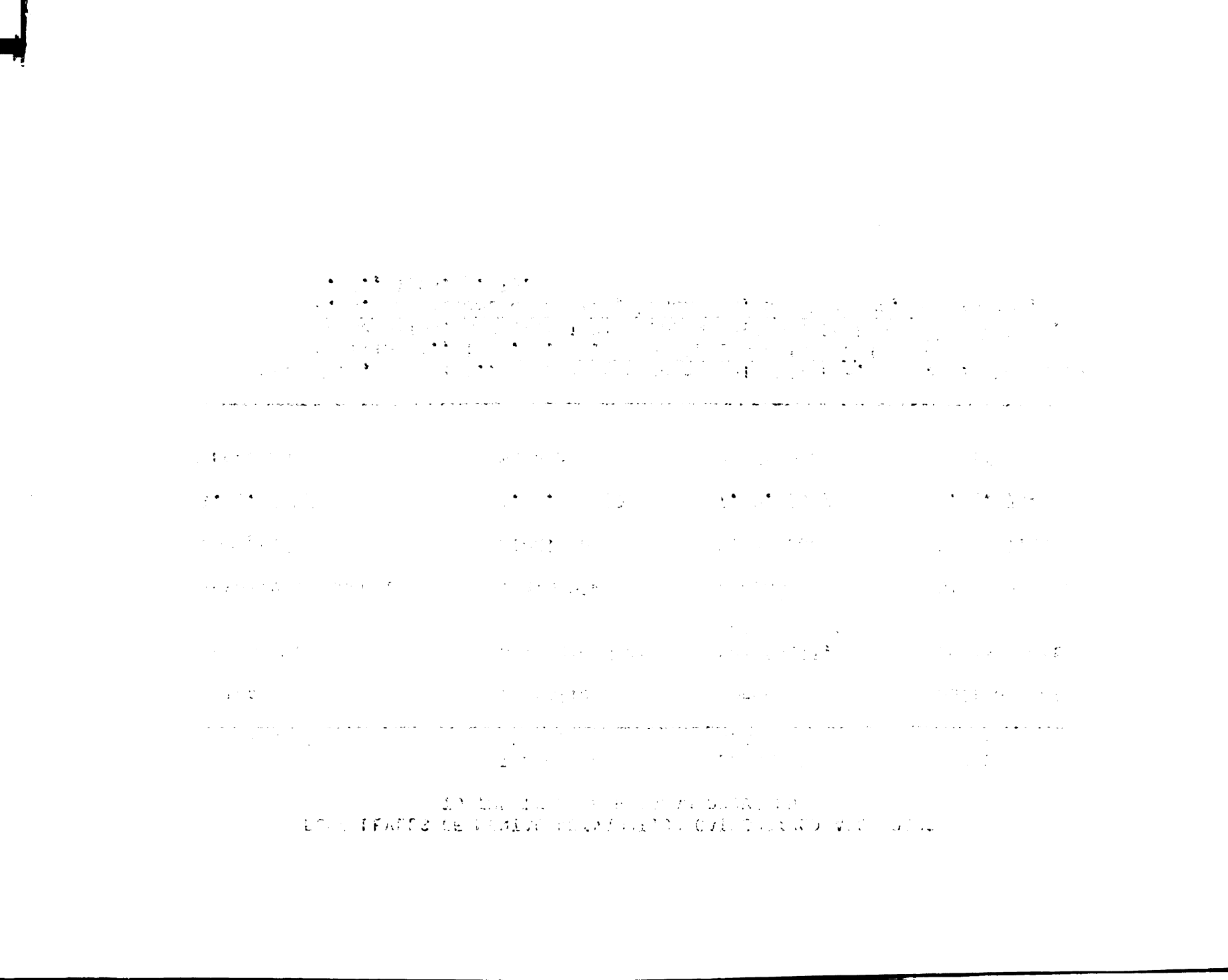
APPENDIX I

FOUR LEVELS OF MENTAL RETARDATION CATEGORIZED ACCORDING TO THE TYPE OF PROGRAM PROVIDED

NURSING CARE	TRAINABLE CLASSES	EDUCABLE CLASSES	REGULAR CLASSES
Idiot	Imbecile	Moron	Dull-normal
Dependent	Semidependent	Marginally independent	Independent
Totally dependent	Trainable	Educable	Slow learner
Low grade	Middle grade	High grade	Borderline
I. Q. 0-25	I. Q. 25-50	I. Q. 50-75	I. Q. 75-90
*Profound	*Severe	*Moderate	*Mild

Sources: Kirk, Samuel A., Educating Exceptional Children. Boston: Houghton Mifflin Co., 1962. P. 90. *The President's Panel on Mental Retardation, A National Plan for a National Problem: Chart Book, U. S. Department of Health, Education, and Welfare, Washington, D. C., 1963. p. 15.



APPENDIX II

ACCORDING TO THE FOUR LEVELS OF MENTAL RETARDATION

(Classification Developed by the American Association on Mental Deficiency)

LEVEL	PRE-SCHOOL AGE 0 - 5 MATURATION AND DEVELOPMENT	SCHOOL AGE 6 - 21 TRAINING AND EDUCATION	ADULT 21 AND OVER SOCIAL AND VOCATIONAL ADEQUACY
PROFOUND	Gross retardation; minimal capacity for functioning in sensori-motor areas; needs nursing care.	Obvious delays in all areas of development; shows basic emotional responses; may respond to skillful training in use of legs, hands and jaws, needs close supervision.	May walk, need nursing care, have primitive speech; usually benefits from regular physical activity; incapable of self maintenance.
SEVERE	Marked delay in motor development; little or no communication skill; may respond to training in elementary self-help, e.g., self-feeding.	Usually walks barring specific disability; has some understanding of speech and some response; can profit from systematic habit training.	Can conform to daily routines and repetitive activities; needs continuing direction and supervision in protective environment.
MODERATE	Noticeable delays in motor development, especially in speech; responds to training in various self-help activities	Can learn simple communication, elementary health and safety habits, and simple manual skills; does not progress in functional reading or arithmetic.	Can perform simple tasks under sheltered conditions; participates in simple recreation; travels alone in familiar places; usually incapable of self maintenance.
MILD	Often not noticed as retarded by casual observer, but is slower to walk, feed self and talk than most children.	Can acquire practical skills and useful reading and arithmetic to a 3rd to 6th grade level with special education. Can be guided toward social conformity.	Can usually achieve social and vocational skills adequate to self maintenance; may need occasional guidance and support when under unusual social or economic stress.

Source: The President's Panel on Mental Retardation, Mental Retardation, A National Plan for a National Problem: Chart Book, U.S. Department of Health, Education, and Welfare, Washington, D.C., 1963, p. 15.

APPENDIX III

BEGIN HERE

he appropriate statement and enter its number
:orrect column.

PERSONAL CARE

DRESSING — SH

1. Cannot put on any clothing.
2. Can put on most clothing, can zip, cannot button.
3. Can put on most clothing, can zip and button.
4. Completely dresses self, except for shoe tying.
5. Completely dresses self, including shoe tying.

TYING SHOE LACES — SH

1. Cannot pull laces tight.
2. Can pull laces tight.
3. Can make first part of the knot.
4. Can tie bow.

INITIATING DRESSING — I

1. Does not initiate dressing.
2. Occasionally initiates dressing.
3. Frequently initiates dressing.
4. Nearly always initiates dressing.

UNDRESSING — SH

1. Cannot remove any clothing.
2. Takes off most clothing, can unzip, but cannot unbutton.
3. Takes off most clothing, can unzip and unbutton.
4. Completely undresses self.

CARE OF SHOES — SH

1. Cannot wipe shoes.
2. Can wipe shoes, but cannot brush or polish.
3. Can wipe and brush shoes, but cannot polish.
4. Can clean, brush and polish shoes.

WASHING HANDS AND FACE — SH

1. Cannot wash hands or face.
2. Partially washes hands and face; needs help in finishing.
3. Washes hands and face, but needs to be checked each time.
4. Washes hands and face and sometimes needs to be checked.
5. Washes hands and face and does not have to be checked.

BRUSHING TEETH — SH

1. Cannot brush teeth.
2. Makes brushing motions, but does not brush adequately.
3. Brushes teeth adequately, but cannot apply paste.
4. Applies paste and brushes teeth adequately.

KEEPING NOSE CLEAN — I

1. Does not keep nose clean.
2. Occasionally cleans nose.
3. Frequently cleans nose.
4. Nearly always cleans nose.

TOILETING — I

1. Does not wipe self.
2. Occasionally wipes self.
3. Frequently wipes self.
4. Nearly always wipes self.

MEALTIME SKILLS

USE OF UTENSILS — SH

1. Cannot use utensils in feeding self.
2. Feeds self only with spoon.
3. Feeds self with fork.
4. Uses spoon and fork and can cut with knife in eating.

Notes:

NIFE SH →
ucible in eating.
ter, jam, etc., with knife.
ood, such as meat patties, French toast,

removed from home.

EPARATION SH →
ream simple foods.
ondiments not requiring spreading, such as
e cheese, etc.
ondiments requiring spreading such as
ter, cheese spread, etc.
ood requiring mixing, such as cold pud-
ed fruits, etc.
ood requiring cooking, such as Jello, oat-
e.

ATTING
ness silver, plates, cups, etc., on table. SS →
ess silver, plates, cups, etc., on table.
ous items around table, not necessarily
g eating.
ers, glasses, and utensils in positions he
ed.
g eating utensils, napkins, salt, pepper,
e, in positions he has learned.

NG TABLE SH →
e table.
ion of untreakable dishes and silverware.
ion of breakable dishes and glassware.
ds, scrapes and stacks breakable dishes for
.

ERAL TASKS AND RESPONSIBILITY

NG UP LIQUIDS SH →
aning up spilled liquids he smears over
ea, making a bigger mess.
e some liquid, but job must be completed by
one.
e liquid area but requires finishing touches
one else.
e liquid and does not require someone to
it.

NG UP MESS
ntaneous initiative in cleaning up own mess.
ually takes initiative in cleaning up own mess.
ly takes initiative in cleaning up own mess.
always takes initiative in cleaning up own → I
ess.

RTING ACCIDENTS
to report accidents (e.g., spilling, breaking,

ually reports accidents.
ently reports accidents.
always reports accidents.

PLETING TASKS When given
nsibility for a task (e.g., picking
aning room) he:
not do task without being reminded.
ionally does task without being reminded.
ently does task without being reminded.
always does task without being reminded.

NDING TO TASKS Child wil
ntention to task (e.g., cleaning up
g things away):
ion does not exceed five minutes.
ion does not exceed ten minutes.
ion does not exceed fifteen minutes.
on if time exceeds fifteen minutes.

KING BED
not make or undo bed.
undo but cannot make bed.
spread sheets and blankets on bed, but
ld or put pillow in case.
completely make bed, including tucking a
e pillow in case.

Notes:

F KNIFE

SH →

ıse knife in eating.
butter, jam, etc., with knife.
lt foods, such as meat patties, French toast,

at, if removed from bone.

PREPARATION

SH →

prepare simple foods.
s sandwiches not requiring spreading, such as ts, cheese, etc.
s sandwiches requiring spreading such as butter, cheese spread, etc.
s food requiring mixing, such as cold pud- cold drinks, etc.
s foods requiring cooking, such as Jello, eat- etc.

E SETTING

SS →

et place silver, plates, cups, etc., on table.
places silver, plates, cups, etc., on table.
places items around table, not necessarily they belong.
plates, glasses, and utensils in positions he arned.
all eating utensils, napkins, salt, pepper, etc., in positions he has learned.

RING TABLE

SH →

lt clear table.
s table of unbreakable dishes and silverware.
s table of breakable dishes and glassware.
s table, scrapes and stacks breakable dishes for ag.

GENERAL TASKS AND RESPONSIBILITY

ANING UP LIQUIDS

SH →

cleaning up spilled liquids he smears over r area, making a bigger mess.
up some liquid, but job must be completed by one else.
up liquid area but requires finishing touches meone else.
s up liquid and does not require someone to h job.

ANING UP MESS

I →

not take initiative in cleaning up own mess.
sionally takes initiative in cleaning up own mess.
uently takes initiative in cleaning up own mess.
ly always takes initiative in cleaning up own s.

ORTING ACCIDENTS

I →

s not report accidents (e.g., spilling, breaking,)
asionally reports accidents.
quently reports accidents.
rly always reports accidents.

PLETING TASKS When given onsibility for a task (e.g., picking leaning room) he:

I →

s not do task without being reminded.
asionally does task without being reminded.
quently does task without being reminded.
rly always does task without being reminded.

ENDING TO TASKS Child will attention to task (e.g., cleaning up, ing things away):

SS →

ime does not exceed five minutes.
ime does not exceed ten minutes.
ime does not exceed fifteen minutes.
n if time exceeds fifteen minutes.

KING BED

SH →

not make or undo bed.
n undo but cannot make bed.
n spread sheets and blankets on bed, but cannot k or put pillow in case.
n completely make bed, including tucking and put- g pillow in case.

Notes:

Notes:

, no furniture, but is unable to pick up — SH →

s no furniture, and can pick up dirt in

ch as tables and chairs, and can pick up

ES — SH →

and pillow cases with help.
and pillow cases without help.
ks and pillow cases without help, and
reads with help.
without help.

WAY — I →
irected to do so.
y without being told.
without being told.
ay without being told.

YTHES — I →
without being told.
hes without being told.
es without being told.
thes without being told.

NDS — SS →
s to other people.
note to other people.
without note if only one object is desired.
without note if no more than two objects

OVEMENT — SS →
or yard alone.
diate area of the house.
ck.
t.

LEPHONE — SS →
t.
unable to take message and/or call appro-

s appropriate person. Cannot take message.
e appropriate person and takes message.

ERSONAL SKILLS

other children. — SS →
with other children.
other children.
s with other children.

s — SS →
when in use by others.
en not in use.
sion to use other's objects.
to use other's objects.
ission to use other's objects.

ROPERTY When he has bor- — SS →
he:
roperty to owner.
rty to owner.
to owner.
roperty to owner.

OTHERS — SS →
its play to one or two children.
a larger group (three or more children).
ger group (three or more children).

LAY — I →
ldren to play with.
r children to play with.
children to play with.
her children to play with.

SISTANCE — I →
nce to others.
ssistance to others.
stance to others.
assistance to others.

Notes:

SS 34

OTHERS

other children.
child only when they are playing to-

stops his own play to help another child.
his own play to help another child.

COMMUNICATION

LANGUAGE

rds — gestures only.
complete sentences.
plete sentences.
more complex sentences, connecting a
actions or statements.

Y OF SPEECH

cates by gesture only.
but speech is frequently indistinct.
somewhat clear but occasionally indistinct.
generally clear and distinct.

13

STANDABLE SPEECH

understood by anyone.
derstood by immediate family only.
derstood by neighbors and friends.
derstood by most people.

IFICATION

state first name.
first name only.
full name.
full name and address.

25

TING WORDS

repeat sounds or words made by others.
at most sounds made by others.
at most words made by others.
at complete sentences made by others.

26

ATING WANTS

t indicate, even by gesture, that he wants
to share something with him.
s by gesture and limited speech but does
ne object (i.e., "I want," "Give me.")
s that he wants someone to share with him
ng objects.
mplete sentence to express his desire for
e to share with him.

2

ERING QUESTIONS When a question he:

t respond.
es by nodding, pointing or other gesture.
answers question, but with incomplete
e.
answers question with complete sentence.

ERING DOOR

t gesture or speak, just stands there.
es that someone is at door by gesture only.
es that someone is at door by using incom-
entence.
es that someone is at door by using complete
ce.

VERING MESSAGES

t deliver messages by gesture or other means.
eliver a simple message by gesture only.
eliver a simple message verbally.
eliver a more complex message verbally (more
ne thought or activity).

ATING OBJECTS TO ACTION

t name objects in pictures or story books.
name objects and people in pictures but cannot
ate actions.
relate objects to action but unable to connect
ns into a story.
connect actions in a picture to tell a story.

Total Each Column and Transcribe Scores to Next Page

	SS	I	SH
HELPING OTHERS			
1. Never helps other children.			
2. Helps another child only when they are playing together.			
3. Sometimes stops his own play to help another child.			
4. Usually stops his own play to help another child.			
COMMUNICATION			
USE OF LANGUAGE			
1. Says no words — gestures only.			
2. Speaks in incomplete sentences.			
3. Speaks in complete sentences.			
4. Speaks in more complex sentences, connecting a number of actions or statements.			
CLARITY OF SPEECH			
1. Communicates by gesture only.			
2. Can speak, but speech is frequently indistinct.			
3. Speech is somewhat clear but occasionally indistinct.			
4. Speech is generally clear and distinct.			
UNDERSTANDABLE SPEECH			
1. Cannot be understood by anyone.			
2. Can be understood by immediate family only.			
3. Can be understood by neighbors and friends.			
4. Can be understood by most people.			
IDENTIFICATION			
1. Cannot state first name.			
2. Can state first name only.			
3. Can state full name.			
4. Can state full name and address.			
REPEATING WORDS			
1. Cannot repeat sounds or words made by others.			
2. Can repeat most sounds made by others.			
3. Can repeat most words made by others.			
4. Can repeat complete sentences made by others.			
INDICATING WANTS			
1. Does not indicate, even by gesture, that he wants someone to share something with him.			
2. Indicates by gesture and limited speech but does not name object (i.e., "I want," "Give me.")			
3. Indicates that he wants someone to share with him by naming objects.			
4. Uses complete sentence to express his desire for someone to share with him.			
ANSWERING QUESTIONS When asked a question he:			
1. Does not respond.			
2. Responds by nodding, pointing or other gesture.			
3. Verbally answers question, but with incomplete sentence.			
4. Verbally answers question with complete sentence.			
ANSWERING DOOR			
1. Does not gesture or speak, just stands there.			
2. Indicates that someone is at door by gesture only.			
3. Indicates that someone is at door by using incomplete sentence.			
4. Indicates that someone is at door by using complete sentence.			
DELIVERING MESSAGES			
1. Cannot deliver messages by gesture or other means.			
2. Can deliver a simple message by gesture only.			
3. Can deliver a simple message verbally.			
4. Can deliver a more complex message verbally (more than one thought or activity).			
RELATING OBJECTS TO ACTION			
1. Cannot name objects in pictures or story books.			
2. Can name objects and people in pictures but cannot indicate actions.			
3. Can relate objects to action but unable to connect actions into a story.			
4. Can connect actions in a picture to tell a story.			
Total Each Column and Transcribe Scores to Next Page	SS	I	SH

CAIN - LEVINE
SOCIAL COMPETENCY SCAL

by Leo F. Cain, Samuel Levine, and Freeman F. Elz
San Francisco State College

Child's Name _____

Parent's Name _____

Address _____

_____

_____

Other Data _____ *Sex: M*

_____

_____

_____

	YEAR	MONTH	DA
Date	_____	_____	_____
Birthdate	_____	_____	_____
Child's Age	_____	_____	_____

	Raw Score	*Percentile*
C	_____	_____
SS	_____	_____
I	_____	_____
SH	_____	
Adj*	_____	_____
Total	_____	_____

**If child is male, add the appropriate correction to his SH raw score:*

For CA 5-0 to 5-11 2 points
For CA 6-0 to 7-11 3 points
For CA 8-0 or over 4 points

REMARKS:

Interviewer: _____

Agency: _____

CONSULTING PSYCHOLOGISTS PRI
577 College Avenue, Palo Alto, Calif.

APPENDIX IV

Description of the Hierarchy of Educational Tasks

Hierarchy Level	Attention	Response	Order	Exploratory	Social
Child's Problem	Inattention due to withdrawal or resistance	Lack of involvement and unwillingness to respond in learning	Inability to follow directions	Incomplete or inaccurate knowledge of environment	Failure to value social approval or disapproval
Educational Task	Get child to pay attention to teacher and task	Get child to respond to tasks he likes and which offer promise of success	Get child to complete tasks with specific starting points and steps leading to a conclusion	Increase child's efficiency as an explorer and get him involved in multisensory exploration of his environment	Get child to work for teacher and peer group approval and to avoid their disapproval
Learner Reward	Provided by tangible rewards (e.g., food, money, tokens)	Provided by gaining social attention	Provided through task completion	Provided by sensory stimulation	Provided by social approval
Teacher Structure	Minimal	Still limited	Emphasized	Emphasized	Based on standards of social appropriateness

Sources: Hewett, Frank M., "Educational Engineering with Emotionally Disturbed Children". Exceptional Children, Vol. 33, No. 7, March, 1967, p.459-471.

APPENDIX V

FAMILY HISTORY

1. Birthdate of child?_____

2. Place of birth?_____

3. National descent?_____

4. Occupation of father?_____

5. Occupation of mother?_____

6. Language in the home?_____

7. Education of mother?_____

8. Education of father?_____

9. Marital status?_____

10. With whom does the child reside?_____

11. Family money income per year
    _____under $3,000
    _____$3,000 to $5,000
    _____$5,000 to $7,000
    _____$7,000 to $10,000
    _____$10,000 to $14,000

12. Schools attended? County? Date entered?

    _____

    _____

13. Number and age of siblings
    ____male_____

    ____female_____

14. Health:
    Diptheria_____ Scarlet fever_____ Measles_____
    Mumps_____ Frequent colds_____ Chicken Pox_____
    Tonsilitis_____
    Pneumonia_____
    Hearing_____
    Sight_____

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. Family income per year
    _____ Under $5,000
    _____ $5,000 to $9,999
    _____ $10,000 to $14,999
    _____ $15,000 to $19,999
    _____ $20,000 to $24,999
    _____ $25,000 to $34,999

12. _____ (Salary) _____

_____

_____

13. _____

_____

_____

14. _____

_____

_____

_____

_____

_____

_____

Hospitalizations:

What	When

15. Birth:
Weight_____ Height_____
Pregnancy_____
_____
Age of mother at birth of child_____
Age of father at birth of child_____

16. Medical diagnosis_____
_____

17. Do you belong to a Church?_____
Which one?_____
Do you take part in church activities?_____
Do you attend church regularly?_____

18. Do you belong to any clubs or groups?_____
Which ones?_____

19. Does your husband belong to a church?
Which one?_____
Does he take part in church activities?_____

20. Does your husband belong to any clubs or groups?_____
Which ones?_____

10.

11.

12.

13.

14.