DOCUMENT RESUME

ED 257 236 EC 172 563

AUTHOR McGreevy, Patrick; And Others
TITLE A Comparison of Two Approaches to Home-Based Training for Parents of Severely Handicapped Preschool Children. Final Report.
SPONS AGENCY Special Education Programs (ED/OSERS), Washington, DC.
PUB DATE Jul 84
GRANT G008300195
NOTE 65p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Daily Living Skills; *Home Programs; Parent Child Relationship; *Parent Education; *Preschool Children; Preschool Education; *Severe Disabilities; *Skill Development
IDENTIFIERS *Individualized Curriculum Sequencing Model; *Massed Practice

ABSTRACT

Parents of 16 severely handicapped preschoolers were trained to use the Individualized Curriculum Sequencing (ICS) model--an approach to increase functioning skills. Training and consultation took place in the home. The ICS format incorporates features of skill clusters; concurrent task sequencing; training in functional settings; functional, age-appropriate materials and tasks; distributed trials; and stimulus variation. The ICS format was compared to the massed trial training (MTT) format in terms of parent participation and acquisition and maintenance of new skills by the children. Analysis of data is provided, including responses to effects of the ICS model and the massed trial training approach in terms of aims met, days required to reach aim, and rate of acquisition (gain score). When given a choice, parents showed a slight preference for MTT. (CL)

# A Comparison of Two Approaches to Home-Based Training for Parents of Severely Handicapped Preschool Children

A Final Report Submitted to
U.S. Department of Education
Grant Number G-008300195
CFDA 84.023P

Submitted by

Patrick McGreevy, Ph.D.
Louisianna State University
Lynette Lacy, M.S.
University Affiliated Facility for Developmental Disabilities (UAF)
University of Missouri-Kansas City
Carl F. Calkins, Ph.D., Director

July, 1984

TABLE OF CONTENTS

LIST OF FIGURES

# A COMPARISON OF TWO APPROACHES TO HOME-BASED TRAINING FOR PARENTS OF SEVERELY HANDICAPPED PRESCHOOL CHILDREN

## I. INTRODUCTION AND PURPOSE

Parent participation in the education of their preschool handicapped child is often stressed by special educators as an integral part of the total educational process. Hayden and McGinness (1977) highlight the importance of parent involvement in early intervention programs for severely handicapped children. Vincent and Broome (1977) discussed the value of parents as members of the transdisciplinary (Hutchinson, Note 1) educational team. Various models have been developed to train parents to work with their handicapped child at home (Wahler, 1969; Filler & Kasari, 1981; Bricker, Casuso, Pearson, Mendoza, & Praeto, 1977; Vincent, Dodd, & Henner, 1978; Mendelsohn, 1978; Kissel, Johnson, & Whitman, 1980; Fowler, Johnson, Whitman, & Zukotynski, 1978). These parent training models have assumed the parents can be trained to help their handicapped child acquire new skills, maintain learned skills, and generalize learned skills across settings. These models have been implemented with handicapped children of various ages and ability levels. Several of these models have recently demonstrated the ability to train parents to teach their severely handicapped child at home (Mendelsohn, 1978; Filler & Kasari, 1981; Kissel, Johnson, & Whitman, 1980; Fowler, Johnson, Whitman, & Zukotynski, 1978).

Many practitioners in the field of special education have expressed the need for a comprehensive training and follow-up model specifically designed to train parents to work effectively with their preschool severely handicapped child at home. Practitioners have also recognized the need for a model that is easily implemented by parents as part of their normal, daily routine of family activities. The University Affiliated Facility for Developmental Disabilities (UAF) at the University of

Missouri in Kansas City (UMKC) attempted to respond to this need through this research document.

The purpose of this study was to examine the Individualized Curriculum Sequencing (ICS) model (Guess, Horner, Utley, Holvoet, Maxon, Tucker, & Warren, 1978; Holvoet, Guess, Mulligan, & Brown, 1980) and the massed trial training format to determine which is more effective as an approach to home-based training for parents of severely handicapped preschool children. Specifically, this study compared the ICS model with a massed trial training format with respect to parent participation during a parent training period, and with respect to acquisition of new skills by the preschool children and the maintenance of those skills across time.

The Individualized Curriculum Sequencing (ICS) model is both a curriculum selection and teaching strategy designed to address the training of skills with the severely handicapped to increase independent functioning in their environment (Guess et al., 1978; Holvoet et al., 1980). This model advocates arranging tasks in a functional, natural sequence that could "normally" happen during the daily school or home routine. The authors of this model contend that tasks arranged in these sequences will be acquired and generalized by children more rapidly than if each task was taught in isolation. Use of the ICS model as a parent training program represents a departure from models previously used (Shearer et al., 1970; Filler & Kasari, 1981; Mendehlson, 1978; Bricker et al., 1977; Vincent et al., 1978). These models included tasks taught in isolation; using massed trial training. The ICS model attempts to create a functional, natural setting for learning by using: (1) skill clusters, (2) concurrent task sequencing, (3) training in functional settings, (4) functional, age-appropriate materials and tasks, (5) distributed trials and (6) stimulus variation.

Skill clusters are a grouping of two to six behaviors that cut across domains (e.g., leisure, social work), and are sequenced in the natural order the behaviors would occur in the environment (Holvoet et al., 1980). Trials are sequenced in such a way that not only does the student learn the separate skill but also learns the sequence or

relationship between skills being taught. For example, a student might be taught to: (a) sign "want drink" (communication), (b) pick up the glass (motor), and (c) drink the liquid with lip closure (self-help). Another example of a skill cluster might be: following a parental cue "It's time to brush your teeth," (a) child creeps to bathroom in a 4-point position (receptive language and gross motor); (b) pulls self to a standing position at sink (gross motor); (c) verbally identifies color of toothbrush (expressive language and academic); (d) brushes teeth (self-help). In behavior clusters the preceding behavior would serve as a natural cue to the student to initiate the next response.

Concurrent task sequencing is another major component of the ICS model. Two or more skills are taught at the same time in a sequence (Holvoet et al., 1980). For example, one would train a child to work on maintaining a knee standing position while reaching and grasping objects. Concurrent task sequencing is contrasted to the more traditional serial training that involves training only 1 task at a time. For example, to teach serially, one might give the child 10 trials, in a row, on making the manual sign for "drink". Increased generalization of skills to non-training situations has been reported using concurrent task sequencing (Panyan & Hall, 1978; Schroeder & Baer, 1972).

Training in functional settings is essential to the ICS model. Tasks should be trained in a setting in which they would naturally occur. Two examples of this are: training toothbrushing in the bathroom and training identification of spoon and cup at mealtime in the kitchen. Parents could easily train their severely handicapped children at home in the natural setting.

The focus on functional, age-appropriate training has been discussed (Brown, Branston, Hamre-Nietupski, Pumpian, Certo, 1979; Guess, et al., 1978). One example of functional, age-appropriate training that could be accomplished in the home environment is training a child to vocalize "m" when requesting more food, drink, or toys. Another example is training ambulation by creeping to the bathroom or to a high-chair at mealtimes.

In both instances, the natural environment serves as a cue for the initiation of a specific response by the severely handicapped individual.

Distributed trials are an integral component of the ICS model. Trials are distributed if a trial from one task is conducted between trials from other tasks (Mulligan, Guess, Holvoet, & Brown, 1980). For example, (a) lift head to an upright position; (b) reach and grasp cracker, and (c) chew cracker using a rotary chewing pattern. Trials in a massed training format, however, would be repeated trials of one task. Recent evidence suggests that distributed trials may be a more effective method of presenting than the more conventional massed trial training with the severely handicapped population (Mulligan et al., 1980). The ICS model utilizes the distributed trial presentations as a teaching strategy.

The final aspect of the ICS model that makes it compatible with parents teaching their children at home is stimulus variation. The importance of teaching skills using a variety of trainers, materials, verbal cues and settings to facilitate generalization has been stressed by Brown et al. (1976). Training in the home setting would provide opportunities for stimulus variation. For example, both parents and siblings could serve as trainers, and different sets of materials could be available at home and school.

This study trained the parents of 16 severely handicapped preschoolers to use the ICS model and the massed trial training format in working with their child at home. Seven of the 16 families completed all phases of the study. One family dropped out of the study prior to the initial training session. The effectiveness of these two approaches to home-based training was measured in terms of parent participation during a six month parent training period, and in terms of the acquisition of new skills by the children and the maintenance of those skills across time.

## II. METHOD

### A. Subjects

Seventeen severely handicapped children and their parents participated in the study. All children were attending preschools or kindergartens for severely handicapped children. See Figure 1 for summaries of demographic information on the children and their parents who completed the study and those who did not complete the study.

### B. Setting

All training and consulting with the parents was conducted in their home at times convenient to the family. Frequently, family members other than the mother were present during sessions. In all cases, the mother of the child chose to conduct the training sessions with her child, although participation was offered to other family members. Maintenance probes, conducted after each child completed the last phase in the project, were performed by either the child's teacher or the home trainer in the child's preschool classroom.

### C. Dependent Variables

The dependent variables that were compared were child's rate of acquisition of new skills, number of days to aim, number of refusals to respond, number of times parents chose to use each of the independent variables, number of tasks maintained by each child at the end of the project, and the parent responses and opinions as measured by a parent questionnaire.

### D. Independent Variables

Two independent variables were compared in this project, the ICS and the massed trial format. Although the ICS was designed by Guess and his associates to incorporate a number of instructional components,

## INCOME STATUS

| Low | Middle | High |
|---|---|---|
| Less than $10,000 | $10,000-40,000 | $40,000 & above |
| 2 completed<br>6 did not complete | 4 completed<br>4 did not complete | 1 completed |

## RACE

| Black | White |
|---|---|
| 2 completed<br>4 did not complete | 5 completed<br>6 did not complete |

## LOCATION

| Inner City | Suburb | Small Town | Rural |
|---|---|---|---|
| 3 completed<br>5 did not complete | 2 completed<br>2 did not complete | 2 completed<br>2 did not complete | 1 did not complete |

## PROGRAM STATUS

| Preschool | Kindergarten | State School for Severely Handicapped |
|---|---|---|
| 5 completed<br>10 did not complete | 1 completed | 1 completed |

## FUNCTIONING LEVEL

| Mild | Moderate | Severe/Profound |
|---|---|---|
| 1 did not complete | 2 completed<br>2 did not complete | 5 completed<br>7 did not complete |

Figure 1. Summary of Demographic Information

all of which have independently been shown to positively affect learning, the application of the ICS in this project only incorporated skill clusters, concurrent task sequencing, and distributed trials. The application of the massed trial format simply consisted of serial training. Some instructional components, albeit claimed as a part of the ICS model, are so uniformly characteristic of current special education programming practices that they were included in both the ICS and massed trial formats. These common components were training in functional environments, using functional age-appropriate materials, and varying instructional stimuli.

When designing a program using the ICS, the home trainer assisted the parent in choosing three related tasks, all under acquisition, that were logically and functionally related. For example, if the targeted task was signing for a drink, the other two tasks might be crawling to the kitchen sink, and independent cup drinking. These three tasks then formed one skill cluster, i.e., one group of three related tasks. See Figure 2 for an example of an ICS data sheet containing skill clusters. Due to the clustering of three skills, this naturally resulted in concurrent training, which is defined as more than one task taught at a time.

Finally, when a parent was teaching a task in the ICS format, they then had the option of teaching one or more skill clusters at different times of the day, thereby distributing those trials across time. In addition, in the ICS format, parents could have other people teach the task, -- distributing trials across people.

In the massed trial format, once a task was assigned to this condition, 10 trials of the task were taught at one time during one teaching session. See Figure 3 for an example of a massed trial data sheet. Therefore, the distribution of trials in a session and how scheduled in a day were the only differences between the two conditions.

Name Molly

Name of task Sign for drink

| BEFORES | CORRECT MOVEMENT | AFTERS |
|---|---|---|
| a) Place cup of juice in front of Molly but out of reach<br>b) Stand by sink w/cup & say "come here"<br>c) Hand cup to Molly | a) Signs for drink in count of 5<br>b) Crawls to sink in count of 10<br>c) Holds cup w/2 hands | Correct: Social praise<br>Incorrect: a) Show Molly correct sign<br>b) Help Molly crawl to sink<br>c) Put your hands over her hands and help her hold cup w/2 hands |

How to count:

\+ = Same as correct movement
\- = a) Attempts to make a sign
b) Crawls part of the way
c) Picks up cup with 1 hand and drops it
0 = Does not attempt any movement, refuses, cries

Start Date

8/1/83

| Date | Aug 5 | Aug 6 | Aug 7 | Aug 8 | Aug 9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. a) Signs for drink | X | X | X | X | X | | | | | |
| b) Crawls to sink | X | X | X | X | X | | | | | |
| c) Picks up cup w/2 hands | X | X | X | X | X | | | | | |
| 2. a) Signs for drink | X | X | X | X | X | | | | | |
| b) Crawls to sink | X | X | X | X | X | | | | | |
| c) Picks up cup w/2 hands | X | X | X | X | X | | | | | |
| 3. a) Signs for drink | X | X | X | X | X | | | | | |
| b) Crawls to sink | X | X | X | X | X | | | | | |
| c) Picks up cup w/2 hands | X | X | X | X | X | | | | | |
| 4. a) Signs for drink | X | X | X | X | X | | | | | |
| b) Crawls to sink | X | X | X | X | X | | | | | |
| c) Picks up cup w/2 hands | X | X | X | X | X | | | | | |
| 5. a) Signs for drink | X | X | X | X | X | | | | | |
| b) Crawls to sink | X | X | X | X | X | | | | | |
| c) Picks up cup w/2 hands | X | X | X | X | X | | | | | |
| Total minutes and seconds | | | | | | | | | | |

FIGURE 2 ICS DATA SHEET

Name Molly

Name of task Spoon eating

| BEFORES | CORRECT MOVEMENT | AFTERS |
|---|---|---|
| Say to Molly "Pick up spoon" | Picks up spoon | Correct: Social praise e.g. say "great job, you picked up your spoon." Incorrect: Place your hand over her hand and help her pick up spoon. |

How to count:

+ = Picks up spoon in count of 5
- = Touches the spoon but does not pick it up
0 = Does not attempt to pick up spoon, cries

Start Date

9/3/83

| Date | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Picks up spoon | | | | | | | | | | | | | | | | |
| 2. Picks up spoon | | | | | | | | | | | | | | | | |
| 3. Picks up spoon | | | | | | | | | | | | | | | | |
| 4. Picks up spoon | | | | | | | | | | | | | | | | |
| 5. Picks up spoon | | | | | | | | | | | | | | | | |
| 6. Picks up spoon | | | | | | | | | | | | | | | | |
| 7. Picks up spoon | | | | | | | | | | | | | | | | |
| 8. Picks up spoon | | | | | | | | | | | | | | | | |
| 9. Picks up spoon | | | | | | | | | | | | | | | | |
| 10. Picks up spoon | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Total minutes and seconds | | | | | | | | | | | | | | | | |

FIGURE 3 MASSED TRIAL DATA SHEET

E. Procedures

1. Initial Contact. Initial contact with the parents was made by the home trainer either by phone or in person. During this initial conversation, the trainer briefly described the type of involvement needed from the parent in the training project: participation in the initial training session, weekly home visits by the home trainer, daily training sessions with their child, and the proposed length of their involvement.

2. Initial Training Session. Once the parents had decided to participate in the parent training project, an initial training session was conducted by the home trainer in the family's home. Each parent was given a parent training manual to use during the training session and to keep for future reference. The content of the training session followed the format of the parent training manual (See Appendix A, Parent Training Manual). The session included the following: a description of the ICS model and the massed trial format, a verbal description and demonstration of the behavior management techniques to be utilized by the parents during the daily training sessions with their child, a verbal description of the data collection techniques, and a list of specific parent and home trainer expectations during the course of the project. (See Appendix A, Parent Training Manual for the content that was taught). At the close of the training session, the parents and the home trainer chose four tasks that the parents would be teaching their child at home during the next four to five months. Parents were asked to choose skills that, a) they wanted to teach to their child at home, b) were not being taught at school, c) were functional for the child and would increase their independent functioning in their environment, and, d) were such that 10 trials could be delivered each day. The next visit was scheduled at this time during which the baseline procedure would be set up and the first day of baseline would be conducted.

3. Baseline Sessions. If the task was to be taught in the ICS format, the home trainer and the parent decided on two additional

tasks that would be taught with the target behavior during the first baseline session. Then, an ICS sequence containing the three tasks was constructed by the home trainer. The home trainer designed the baseline procedure for all three tasks within the sequence and demonstrated the procedure to the parent. The home trainer arranged the tasks in the sequence to approximate a naturally-occurring series of events such that each sequence served to cue the next response as much as possible (e.g., roll to side, come up to bear weight on forearm, reach for toy, manipulate toy for 15 seconds). If the task was to be taught in a massed trial format, the trainer simply demonstrated the one task to the parent. The home trainer also completed a data sheet (See Figures 2 and 3), and observed the parent conducting two to three trials of the baseline procedure giving corrective feedback. The parent was then always observed conducting the ten additional trials for the first baseline session with corrective feedback given as necessary. The next visit was scheduled, usually one week later. During the interim, the parent was to conduct two additional days of baseline.

4. Teaching Sessions. The home trainer plotted the baseline data on an equal interval graph (See Figure 4). If the child had not scored any more than three correct during the 3 days of baseline on any of the tasks in the baseline, then a teaching procedure was designed by the home trainer. If the child had scored more than three correct on any of the tasks in the baseline, another task was chosen and the baseline procedure was conducted again on the new tasks.

Teaching procedures were designed by considering each child's general level of functioning and handicaps, the prerequisites the child displayed for each task, and by gauging the sophistication level of the teaching procedure to the parents capabilities. For example, if the task to be taught was eating with a spoon, the trainer would present the child with a spoon and bowl of food and ask the child to "go ahead and eat". The trainer then observed the child's response. If the child could do everything but get the food

Subject(s): BRANDAN

Setting: HOME

**Behavior Management**
**RAW DATA SHEET**

Author: LACY

Title: NAMES 10 COLORS

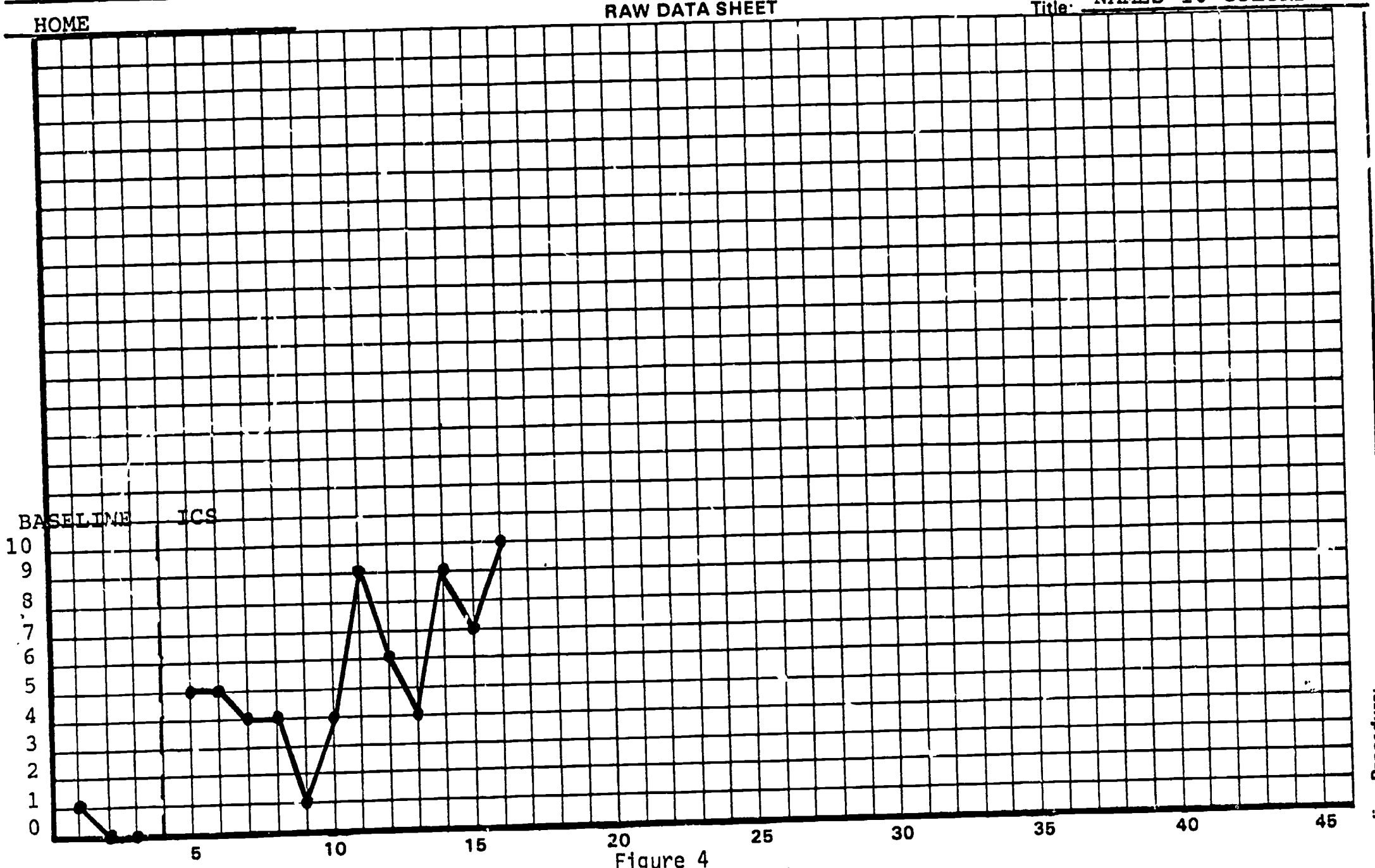



Figure 4

Recording Procedure: _____

Rate or Percent: _____

Units Recorded: _____

Units Possible: _____

Reliability:

Units: _____

Percent: _____

Behavior - Definition: _____

onto the spoon, then scooping was what was targeted. Then the befores for the movement would be having the spoon and bowl placed in front of the child and the parent saying "go ahead and eat". To teach scooping, the parent would be taught to physically assist the child to scoop each bite. For a child who could not maintain a grasp on the spoon, this would be targeted. For a child who could accomplish the entire task, but did so in a sloppy fashion, the parent would be taught to verbally prompt neatness.

Once the home trainer had designed the teaching procedure, it was demonstrated to the parent. The home trainer then observed the parent conducting two to three trials of the teaching procedure and provided corrective feedback immediately on their teaching. Once a parent demonstrated to the home trainer the ability to conduct a teaching trial with their child, with no errors in teaching, the parent conducted the first day of teaching (10 trials) while the home trainer observed and again gave corrective feedback. The parent was asked to conduct a minimum of four teaching sessions within the next seven days. The home trainer scheduled the next visit at a convenient time for the parent within approximately five to seven days.

5. Weekly Home Visit Sessions. On the next home visit, the home trainer observed the parent conducting a teaching session. Following this, the home trainer plotted the data that had been collected by the parent during the previous week on an equal interval graph. The home trainer showed the data to the parent and discussed the data and the parent's impressions on how they thought their child was doing on this task. If little or no progress had been made during the previous week of training, then the home trainer reevaluated the procedures and changed them accordingly. For example, if the child's targeted task was to pick up a spoon, and during the past week the child had not attempted to pick up the spoon a single time, a physical prompt to the child's wrist was added to the befores section on the data sheet. If a change was made in any part of the teaching procedure, the home trainer would write up a new

data sheet to incorporate the changes, demonstrate the changes to the parent, observe the parent conducting two to five trials with the new procedure and give corrective feedback as necessary. Once the parent had demonstrated the ability to conduct a trial with no errors in their teaching, the home trainer then observed the parent conducting a teaching session. Following each home visit, the home trainer wrote in a weekly log a brief synopsis of the home visit (See Figure 5).

## III. EXPERIMENTAL DESIGN

A modified Equivalent Time Samples Design was employed(Campbell and Stanley, 1963), alternating the introduction of two independent variables within 12 subjects. Within this design, a series of A-B designs(Hersen and Barlow, 1976) were employed for each child and parent participating in the project. This "design within a design" (See Figure 6) enabled the authors to control extraneous variables more effectively. It also insured that each task attempted was clearly within the acquisition stage of learning.

Two independent variables were investigated: the Individualized Curriculum Sequencing(ICS) model and the massed trial training(MTT) approach. Each parent was trained to collect three days of baseline data(A) and then teach a task to their handicapped preschooler, again collecting daily data(B). A task was taught until a task-specific aim was reached or until a month's time had passed. If the median of the baseline(A) was a count of 3 corrects or less, the parent began teaching the task(B)using one of the independent variables. If the median of the baseline was greater than 3, a new task was selected, baseline data were collected, and the task was taught using the same independent variable. The independent variables were then alternated among three additional tasks that were taught successively. After four tasks were taught, each parent was asked to teach additional tasks, using the independent variable of their choice(PC). Figure 6 shows the "design within a design".

| | |
|---|---|
| 9/13/83 | Conducted training session with Barbara & Gene. Next visit 9/19/83 to pick 4 tasks. |
| 9/19/83 | Picked 4 tasks.<br><br>(1) Cause and effect (toy play). ICS<br>(2) Eye contact (communication). M<br>(3) Side lying. ICS<br>(4) Grasping. M<br><br>Lynette will work with Ron on designing a switch. Next visit 9/26/83 to start baseline. |
| 10/5/83 | Nancy took switch to parents. Conducted first day of baseline. Lynette to schedule first teaching session next week. |
| 10/12/83 | Contacted Betty. Molly has been ill. I will call on Friday 10/14/83 to schedule visit for next week. Betty has finished 3 days of baseline. |
| 10/14/83 | Called Barbara, Molly was feeling a little better. Scheduled visit 10/20/83. |
| 10/20/83 | Started teaching today. (See program plan). Scheduled next visit 10/25/83. |
| 11/22/83 | Cancelled visit. Molly is still ill and Betty has not run the program since I was there last week. Scheduled next visit 11/29/83. |
| 11/29/83 | Picked up access device. Will make adaptation so we can put it on Molly's tray and she will be able to operate it independently. Set up new task 11/30/83. |

Figure 5. Home Trainer's Weekly Log

| Subjects | Number of tasks taught | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7..... |
| #1-8 | ICS/A-B | MTT/A-B | ICS/A-B | MTT/A-B | PC/A-B | PC/A-B | PC/A-B |
| #9-16 | MTT/A-B | ICS/A-B | MTT/A-B | ICS/A-B | PC/A-B | PC/A-B | PC/A-B |

Figure 6. Design within a Design

The project staff checked this design with Dr. Owen White(the measurement consultant for the project), who advised us to proceed and cautioned us about the difficulty of interpreting baselines with "zero" data points.

The project staff experienced a great deal of difficulty in keeping parents actively involved in the project. This is documented in the Problems Encountered section of this document. For this reason, some parents taught more or less than four tasks. Figure 7 specifies the extent of parent participation. Seventeen parents and their children participated to some extent in the project. One parent dropped out of the study prior to the initial training.

| Number of parents | Number of tasks taught | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | | | | | | x | |
| 3 | | | | | x | | |
| 4 | | | | x | | | |
| 8 | x | | | | | | |

Figure 7. Parent Participation

The dependent variables employed were: (1) the number of times a task-specific aim was reached; (2) the add-subtract gain score(the median of the last three days of treatment[B] minus the median of a three-day baseline[A]) for each task attempted; this can also be referred to as the rate of acquisition for each task attempted, as measured on an equal interval chart; (3) for each task-specific aim that was reached, the number of days required to reach the aim; (4) the number of times parents chose to use each of the independent variables; (5) the number of tasks maintained by each child at the end of the project; and (6) the parent responses and opinion as measured by a parent questionnaire.

Many of the baselines not only contained "zero" data points, but had "zero" medians. Even though Owen White cautioned the project staff about interpreting these data points and medians, there seemed to be no alternative except selecting new tasks. Because of the amount of time required for parent training and the need for continuity of training, the project staff decided to have parents teach tasks that had "zero" data points or a "zero" median during the baseline and include these tasks in the data analysis.

The daily data collected by the parents were frequencies, that is, the number of steps of a task or sequence performed correctly in a specific period of time. These data were plotted on Standard Celeration and equal interval charts. The former allows the display of frequencies and is a relatively new method of data collection and analysis. The latter permits the display of daily counts and is the more conventional method of data collection and analysis. The project staff had planned to analyze the data from two points of view: (1) "counts" displayed on an equal interval chart and (2) frequencies displayed on the Standard Celeration Chart. During the ninth month of the one-year project period, the project staff discovered that the frequencies plotted on the Standard Celeration Chart could not be interpreted. This was the result of two factors: (1) the time periods of data collection(counting periods) varied from day to day, and (2) there were many "zero" data points and "zero" medians. Neither the project director (a recognized expert in the use of the Standard Celeration Chart) nor Owen White had anticipated this difficulty.

2 Oct 83

DAY MO YR 4 8 12 16

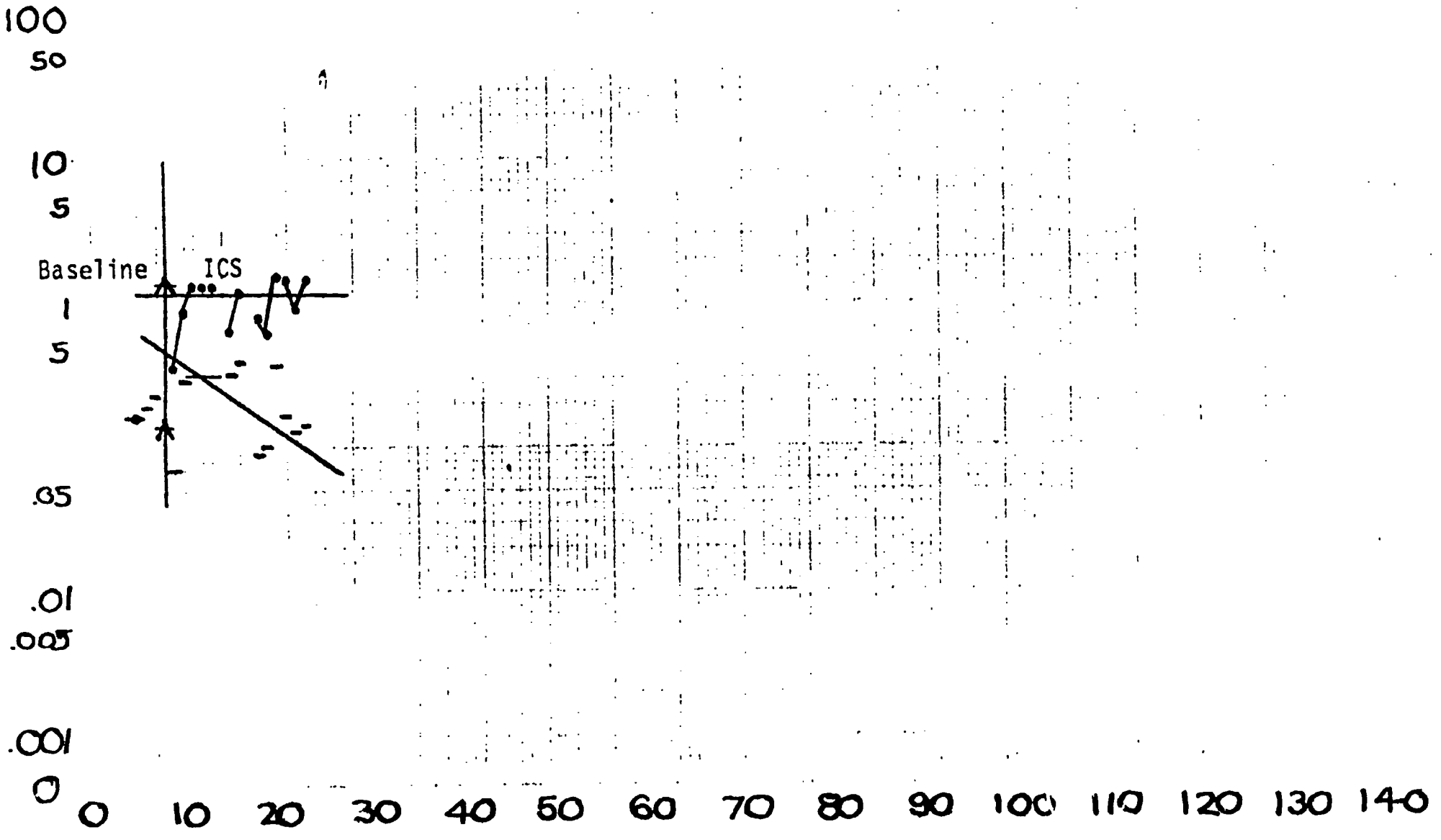



Figure 8

Names Colors

As a result of the discovery surrounding the "zero" frequencies and the variable counting periods, the project staff decided to proceed with the more conventional data analysis, using the daily "counts"(scores), the equal interval chart and non-parametric statistics.

In order to minimize uncontrolled trends in task difficulty or in type of task taught per condition, the four tasks first chosen were randomly numbered one through four, which then became the order in which they were taught. The order of conditions alternated monthly.

As parents entered the project, they were randomly assigned to one of two groups, with one group beginning their teaching using the massed trial and the other the ICS parents.

## IV. RESULTS AND DISCUSSION

All project data were displayed on equal interval and Standard Celeration Charts. For reasons discussed in the previous section, only the daily "counts" displayed on equal charts were analyzed, Data for one child learning one task are displayed in Figures 4 and 8. This task was taught using the ICS model. Aim was reached in thirteen days with a gain score of 5.

When comparing the data for all eleven children, it was found that the task-specific aim was reached 11 of 21 times using the massed trial training approach(MTT) and 9 of 19 times using the ICS model. Using the median test and Fisher's Exact Probability(Siegel, 1956; Flanagan, 1980) resulted in p=.24 and retention of the null hypothesis. The median number of days required to reach aim was 11 using MTT and 10 using ICS. Again, using the median test and Fisher's Exact Probability resulted in p=.33 and retention of the null hypothesis.

The gain scores for all eleven children were also compared across the two independent variables. The median gain scores for ICS and MTT

were similar. Again, using the median test and Fisher's Exact Probability resulted in p=.21 and retention of the null hypothesis.

The gain scores were compared for seven children who were all taught four tasks, two using ICS and two MTT. The median gain scores for ICS and MTT were again similar. The Wilcoxon Matched-pairs Signed-ranks Test resulted in T=37.0 and retention of the null hypothesis.

Seven parents reached the parent choice part of the design. As a group, the parents chose ICS three times and MTT seven times, indicating a slight parent preference for massed trial training.

Maintenance probes were conducted by the home trainer or the classroom teacher in the student's classroom after each child finished the last phase of the project. The maintenance probes were conducted on only tasks that students met aim. Maintenance probes were conducted on fifteen tasks. Nine of those tasks were in the MTT condition and six were in the ICS condition. The data would indicate that tasks taught in the MTT condition are more likely to be maintained in new settings. Another possible interpretation from the data is that on all tasks in which aim was met, the students demonstrated the maintenance of those skills in a new setting, regardless, in which condition (ICS or MTT) it was taught.

Mulligan, Lacy, and Guess (1982) looked at the effects of massed, distributed, and spaced trial sequencing on refusals to respond with eleven severely handicapped students. Mulligan et al. (1982) found that students living in their natural homes demonstrated fewer refusals to respond during the distributed condition. The authors hypothesized that children living in a home-like environment respond more positively to variation in schedules than those individuals residing in institutions. The results from this study do not concur with Mulligan et al. (1982) findings. The student's refusals to respond appeared to be child specific. In other words, with specific students, there was a trend of zeros for that student across all programs in both massed and ICS condition. Some students scored zeros in each of these programs and some students never scored a zero.

Eleven parents were given a questionnaire by the home trainer. The questionnaire was designed to gather more information about their child's diagnosis, previous child and parent training, and the parents opinions about certain aspects of the parent training, the ICS and the massed teaching procedures. The questions and data from the questionnaire are compiled in the next few pages of the report.

1. When did you find out your child was handicapped and who informed you of your child's handicap?

   All families were informed of their child's handicap by a physician.

   8 children were diagnosed between birth and 1 month.
   2 children were diagnosed between 3-6 months of age.
   1 child was diagnosed at 10 months.

2. When did you start receiving services for your child?

   5 children between 6 weeks - 6 months.
   3 children between 6 months - 1 year.
   1 child between 1 - 2 years.
   2 children over 2 years.

3. Have you ever had parent training prior to this project? If so please describe the parent training.

   5 parents reported they were involved in a home-based parent training program 1-2 times per week.
   2 parents reported they were involved in a center-based parent training program 1-2 times per week.
   4 parents reported no previous parent training.

4. Please describe the type of time you spent with your child before you became involved with this parent training project? (For example, what activities (dressing, playing, feeding) and approximate amount of time each day.)

   Dressing, feeding and playing - worked on some program each day.
   About the same amount of work and involvement.
   Caring for basic needs. Sitting and working at feeding time.
   Feeding, dressing, playing - normal activities like with the other children.
   Work on counting, ABC's, language, practical words, colors - off and on all day. Read stories.
   Parent Infant Program - all day. 12 hours - exercises. W/tube feeding time. Cut down exercises to weekend.
   6-8 hours. Feeding, bathing, play, travel time, therapy, Range of Motion, vestibular stimulation, tactile stimulation.

Feeding, dressing - worked on these at home - 8 hours.
Daily routine - 8 hours per day. Did not work on anything specific.
From teachers and occupational therapist.
Husband 1 hour. 7 AM - 8:30 - constant supervision.

5. What were some of your expectations and concerns at the beginning of this parent training project?

Wanted to supplement school program. Wanted home trainer to assist parent with decisions that needed to be made about school program.
How much child will do - where he will go? Not sure what to expect.
Enthusiasm - might see some progress. Will I have time to do it - no progress seen became tedious.
Pick up on tasks - learn them. Time was not a concern.
Better understanding regarding following directions. Knowing how to write and say numbers. Spend more time with him to grasp tasks.
Accomplish tasks. No concerns.
Expected to teach child tasks. No concerns.
Did not think child would learn much.
For child to do more self-help skills.
Not much. Things I could do to share at home.
Didn't have any. More hope than expectation. That child would learn.

6. Was the project more or less work than you thought it might be or was the work about what you expected it to be?

2 parents reported they had no expectations.
4 parents reported it was about what they had expected.
2 parents reported it was less than they expected.
2 parents reported it was more than they expected.
1 parent reported the ICS took more time.

7. After the home trainer showed you how to run the teaching session with your child did you feel as if you knew how to do it by yourself the next day? If not, what could the home trainer have done to help you understand how to teach your child better?

9 parents reported Yes, they did understand.
2 parents reported they had some trouble with a few tasks and more practice would have helped.

8. Did you enjoy the time you spent with your child during the teaching sessions? If you did or did not, why?

8 reported - Yes.
1 reported - No.
1 reported - No, not all of them, depending on task -- child was so obstinate and fought with Mom.
1 reported ICS was more enjoyable than massed.

9. Do you feel the time spent with your child was worthwhile?

10 responded Yes.
1 responded No - other than the parent's enjoyment.

10. What changes or progress do you feel your child has made in the following areas during the past year:

Motor
10 reported some type of progress e.g.
crawls, moves all over house now.
sits up.
walking faster.
rolling over now.
1 reported no improvement.

Communication
10 reported some type of progress e.g.
improved receptive language.
vocalizing more.
increase vocabulary.
goes to sink when she wants water.
1 reported no improvement.

Socialization
9 reported some type of progress e.g.
adapts to new situations better.
more aware of other people and children.
plays with other kids better.
1 responded not applicable.
1 responded about the same.

Academics/Self-Help
6 out of 11 families responded in this area.
5 reported some type of progress e.g.
chewing much better.
feeding self.
schedule toilet trained.
learned cause-effect.
1 reported no progress.

11. Do you see any change in the type or amount of time you are spending with your child following the parent training project? If so, what are some of those changes.

5 responded Yes - some examples of the changes:
helps in communication with the classroom teacher.
sitting down and working at structured times.
Increased awareness of my child's progress by daily repetition and data collection.
5 responded No.

12. Would you try to use any of the teaching techniques you have learned with your child after this project is completed or would you go back

to how you were spending time with your child before you were involved in this project? If you used some of the techniques you learned -- what would those be?

9 responded Yes - some of the techniques listed were:
cup drinking.
feeding techniques.
use massed and ICS dependent on activity.
cues.
2 responded No.

13. Would you consider participating in home training sessions with your child again? If so, how often and what type:

Telephone calls from teacher
Visits by teacher
Visits to school
Visits by a home trainer not the teacher
Set up teaching sessions by yourself

If not why?

Visits to school. Visits by teacher 2 times per week.
By teacher, OT - one every 2 months.
Home visits by teacher. Observing at school. Using something at home that works and I can see some progress with my child.
Visits.
Closer and more often with teacher - regular basis. Plus home trainer - 2 weeks.
Continue same type - weekly visits collecting data.
Once every 2 weeks - home trainer. More structure.
Visits. Telephone calls from teacher.
Home visits are important. Kids are different at home than at school.
Teacher come to home - not over telephone.
It would depend if we could work out schedule. Fine the way it was.

14. If there was a particular skill you wanted to teach your child or a behavior you wanted to stop, which of the following methods would you use:

Teach my child myself. Call the classroom teacher for advice.
Teach my child myself.
Call the classroom teacher for advice. Request regular home visits.
Teach my child myself. Ask other family members for advice.
Call the classroom teacher for advice. Request regular home visits.
Teach my child myself. Ask other family members for advice.
Call the classroom teacher for advice.
Request regular home visits.
Teach my child myself. Request regular home visits.

Teach my child myself. Ask other family members for advice.
Call the classroom teacher for advice. Request regular home visits.
Call the classroom teacher for advice - simple things.
Request regular home visits - ongoing guidance.
Call the classroom teacher for advice. Request regular home visits.
Call the classroom teacher for advice.

15. What do you see as your job with your child?

Total care. Total medical care. Teaching everything I can.
Educate him.
Become independent. Provide care and love.
Try to get child to learn things in any area.
Main educator.
Taking care of physical feeding exercises.
Reach greatest potential - many aspects as possible - Mom - TLC.
Hard work. Patience.
To help make him the best he can be - grow to his fullest.
In general - adopting him - even tho we were told he could not do anything. Try to get him to do as much as possible. Love him, make him happy - not to force him to do things he can't do.
Being his Mother, but with greater awareness.

Please circle the number on the 5 point scale that best fits the statement about the ICS or Massed Training approaches:

MASSED

| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| 1. This method of training fit very well into our daily home schedule. | 5 | 3 | 1 | 2 | 0 |
| 2. My child enjoyed working on his/her task when we were using this method. | 6 | 1 | 2 | 2 | 0 |
| 3. I enjoyed teaching my child at home using this method. | 5 | 2 | 1 | 2 | 1 |
| 4. I understood this method of teaching. | 8 | 3 | 0 | 0 | 0 |
| 5. I would use this method to teach any type of task to my child. | 3 | 3 | 3 | 2 | 0 |

| ICS | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| 1. This method of training fit very well into our daily home schedule. | 5 | 3 | 2 | 1 | 0 |
| 2. My child enjoyed working on his/her task when we were using this method. | 4 | 6 | 2 | 0 | 0 |
| 3. I enjoyed teaching my child at home using this method. | 4 | 3 | 3 | 1 | 0 |
| 4. I understood this method of teaching. | 7 | 4 | 0 | 0 | 0 |
| 5. I would use this method to teach any type of task to my child. | 5 | 5 | 2 | 0 | 0 |

To what extent did any parts of the project listed below positively help in your participation in the project:

| | Helped A Lot | Helped A Little | Made No Difference | Did Not Help |
|---|---|---|---|---|
| 1. Taking data | 8 | 2 | 0 | 0 |
| 2. Written program plans/data sheets | 9 | 1 | 0 | 0 |
| 3. Weekly visits | 10 | 0 | 0 | 0 |
| 4. Ability to call someone | 7 | 1 | 2 | 0 |
| 5. Variety of teaching methods to use (ICS or Massed) | 7 | 2 | 1 | 0 |
| 6. Materials provided by grant | 8 | 2 | 0 | 0 |

In summary, the data collected and analyzed in this research project suggest the following conclusions: (1) even though it is a time-consuming task that requires a great deal of follow-up, parents of severely handicapped preschoolers can be trained to successfully teach their children specific tasks at home; (2) there were no differential effects of the ICS model and the massed trial training approach in terms of aims met, days required to reach aim and rate of acquisition(gain score); (3) when given a choice, parents showed a slight preference for MTT; (4) when aim was met on a task, that skill was maintained in a new

setting; (5) ten out of eleven parents would elect to be involved in additional intensive parent training using either method of instruction (ICS or MIT).

The results of this research project suggest that both ICS and MTT can be used with parents of severely handicapped preschoolers. The results also suggest that, while these parents can be trained to teach their children specific tasks at home, additional studies should be undertaken to determine specific methods to keep these parents continually involved in this teaching.

In terms of further research, if Standard Celeration Chart use is desired for data analysis, several suggestions result from this Project. The results suggest that daily counting periods should ALWAYS remain the same. The results also suggest that baselines of at least 6-7 days be used and that more than half of the data points in these baselines be greater than zero. These suggestions will result in the availability of frequencies plotted on the Standard Celeration Chart for analysis. This will add sensitivity to the data collection and analysis.

## V. PROBLEMS ENCOUNTERED DURING THE COURSE OF THE STUDY

### A. Families Who Dropped Out

Seventeen parents, at some point in the project agreed to participate. Sixteen families went through the initial parent training session, chose four tasks to work on with their child, and implemented baseline and teaching procedures on at least one task. Of these sixteen, nine families dropped out for various personal reasons. Four families who dropped out indicated that the time commitment required by the project was too great.

One family, a foster family, had to drop out when the was moved to another placement. The data from two families were not used as it was clear that the data were unreliable and did not accurately reflect the childrens performance.

And, finally, due to scheduling problems, three families were not able to complete all phases by the end of the project year. Seven families then were able to complete all phases of the project.

### B. Scheduling Home Visits

From the outset it was evident that one problem was being able to make and keep regularly scheduled visits with the families. This problem, most likely, should be expected to occur when working with families.

## VI. SUGGESTIONS FOR ALLEVIATING PROBLEMS

### A. Project Composition

In order to provide the direct services and training to the parents in this project, certain skills and capabilities were necessary. The people serving as the home trainers all had their masters in special education with at least five years of experience with multi-handicapped children. In addition, they all had experience in training parents of handicapped children.

Such experience in educating both the child and his/her parents was seen as a prerequisite for serving as a parent trainer. Secondly, the home trainers needed to be available to make home visits at the parents convenience, which included early morning, evenings, and weekends. Again, having scheduling flexibility was seen as critical both in meeting the projects goals and in best meeting the needs of the parents.

## VII. DISSEMINATION ACTIVITIES

Project staff presented methods and data from the Parent Training Projects at two national conferences (Association for Behavior Analysis, May, 1984, Nashville, Tennessee, and National Precision Teaching Conference, April, 1984, Park City, Utah) and one state conference

(Annual Meeting of the Missouri Association for Retarded Citizens). The final report will be available for dissemination to any interested persons from the UMKC-UAF in Kansas City, Missouri. Several requests for copies of the final analysis of these data were requested from persons who attended the conferences previously listed.

## REFERENCES


Bricker, D., Casuso, V., Pearson, E., Mendoza, B., & Praeto, M. (1977). Family involvement. Miami, Fla.: Debbie School Institute, Mailman Center for Child Development, University of Miami.

Brown, L., Branston, M., Hamre-Nietupski, S., Pumpian, I., Certo, N., & Gruenewald, L. (1979). A strategy for developing chronological age appropriate and functional curricular content for severely handicapped adolescents and young adults. Journal of Special Education, 13, 81-90.

Campbell, D., and Stanley, J. (1963). Experimental and quasi-experimental designs for research. Chicago: Rand McNally.

Filler, J., & Kasari, C. (1981). Acquisition, maintenance, and generalization of parent-taught skills with two severely handicapped infants. Journal of the Association for the Severely Handicapped, 6, 30-38.

Flanagan, B. (1980). Fisher's exact probability and Precision Teaching: uses, limits and an efficient method of calculation. Journal of Pecision Teaching, 1, 21-29.

Fowler, S. A., Johnason, M. R., Whitman, T. L., & Zukotynsky, G. (1978). Teaching a parent in the home to train self-help skills and increase compliance in her profoundly retarded adult daughter. AAESPH Review, 3, 151-161.

Guess, D., Horner, D., Utley, B., Holvoet, J., Maxon, D., Tucker, D., & Warren, S. (1978). A functional curriculum sequencing model for teaching the severely handicapped. AAESPH Review, 3, 202-215.

Hayden, A. H., & McGinness, G. D. Bases for intervention. (1977). In E. Sontag (Ed.), Educational programming for the severely/profoundly handicapped. Reston, Va.: Council for Exceptional Children.

Holvoet, J., Guess, D., Mulligan, M., & Brown, F. (1980). The individualized curriculum sequencing model (11): A teaching strategy for severely handicapped students. Journal of the Association for the Severely Handicapped, 5, 337-351.

Hutchison, D. J. (1974). A model for transdisciplinary staff development. New York: United Cerebral Palsy Association.

Kissel, R. C., Johnson, M. R., & Whitman, T. L. (1980). Training a retarded client's mother and teacher through sequencing instructions to establish self-feeding. Journal of the Association for the Severely Handicapped, 5, 382-394.

Liberty, K. A. (1972). Data decision rules, Unpublished manuscript, Regional Resource Center, University of Oregon, Eugene.

Mendelsohn, M. B. (1978). Behavioral training by paraprofessionals for families of developmentally disabled persons. AAESPH Review, 3, 216-221.

Mulligan, M., Guess, D., Holvoet, J., & Brown, F. (1980). The Individualized Curriculum Sequencing model (1) Implications from research on massed, distributed or spaced trial training. Journal of the Association for the Severely Handicapped, 5, 325-336.

Mulligan, M., Lacy, L., & Guess, D. (198[illegible]. Effects of massed, distributed, and spaced trial sequencing on severely handicapped students' performance. Journal of the Association for the Severely Handicapped, 7, 48-61.

Panyan, M. C., & Hall, R. V. (1978). Effects of serial versus concurrent task sequencing on acquisition, maintenance, and generalization. Journal of Applied Behavior Analysis, 11, 67-74.

Schroeder, G. L., & Baer, D. M. (1972). Effects of concurrent and serial training on generalized vocal imitation in retarded children. Developmental Psychology, 6, 293-301.

Shearer, D., Billingsley, J., Frohman, A., Hilliard, J., Johnson, F., & Shearer, M. (1970). The Portage guide to early education: Instructions and checklist. Portage, WI: Cooperative Educational Service Agency #12.

Vincent, L. J., & Broome, K. (1977). A public school service delivery model for handicapped children between birth and five years of age. In E. Sontag (Ed.), Educational programming for the severely/profoundly handicapped. Reston, VA: Council for Exceptional Children.

Vincent, L., Dodd, N., & Henner, P. (1978). Planning and implementing a program of parent involvement. In N. Haring & D. Bricker (Eds.), Teaching the severely handicapped (Vol. 3), Columbus, OH: Special Press.

# APPENDIX A

# PARENT TRAINING

# MANUAL

The purpose of this research project is to find out from parents which way they prefer to teach their child at home. You, the parents, will be taught to use two different ways to teach your child at home. The following is a brief description of the two ways we will be comparing:

(1) Individualized Curriculm Sequencing (ICS)

When using this method to teach your child, you will be teaching 3 movements at the same time in a sequence. Each time you conduct your teaching session with your child, you will teach the movements in the same order. For example:

| Befores | Correct Movement |
|---|---|
| "Leslie, it's time to eat, roll to your chair." | Leslie rolls to chair. |
| "Leslie sit up so we can get in your chair." | Leslie rolls to her side and pushes up on her elbow. |
| Leslie sitting in her chair with the tray on, "Leslie want drink, touch cup." | Leslie touches cup. |

Each time you conduct a teaching session with Leslie using the ICS, you will be working on these movements in this order.

(2) Massed Trial

When you are using the Massed Trial teaching method with your child, you will be teaching only one movement at a time. During your teaching sessions, you will teach the same movement over and over again. For example:

| Befores | Correct Movement |
|---|---|
| Place cup in front of Mike on his tray - "Mike touch cup". | Mike touches cup. |
| Repeat same before | Mike touches cup. |
| Repeat same before | Mike touches cup. |

The major difference between the two methods of teaching are how many movements you will be teaching during the session each day. If you are using

the ICS method, you will be teaching your child at least three movements at the same time in a sequence. When you use the massed trial method, you will be teaching only one movement each day.

# PARENT EXPECTATIONS

DURING THE FIRST PART OF THE PROJECT, YOU WILL BE ASKED TO:

1. Attend the teaching session for parents.
2. Set up a time that week for a home visit.
3. Think of a task you would like to teach your child at home.

DURING THE MIDDLE OF THE PROJECT, YOU WILL BE ASKED TO:

1. Help the Home Trainer choose a way to teach the task to your child.
2. With the help of the Home Trainer, test to see how much of the task your child already can do.
3. Teach the task to your child every day.
4. Count your child's movement each time you teach.
5. Meet with the Home Trainer once a week to talk about your child's progress.
6. Call the Home Trainer if you have any questions or problems.

DURING THE LAST PART OF THE PROJECT, YOU WILL BE ASKED TO:

1. Pick several new tasks and teach them to your child--one task a month.
2. Meet with the Home Trainer to talk about your child's progress.
3. Share your ideas with the project people on what you, your child, and the Home Trainer have done.
4. Call the Home Trainer if you have any questions or problems.

# PROJECT STAFF EXPECTATIONS

DURING THE BEGINNING OF THE PROJECT, WE WILL:

1. Conduct a group teaching session for the parents on how to teach a task to their child.
2. Set up a time to meet with the parents in their home.
3. Think about tasks that each child might need to learn to do at home.

DURING THE MIDDLE PART OF THE PROJECT, THE PROJECT STAFF WILL:

1. With the parent, choose a way to teach the task to their child.
2. Help the parent test the child to see what the child can already do.
3. Meet with the parents in their home once a week to watch them teach the task to their child and to talk about any problems.
4. Be available to talk with the parent on the phone or to come to their home to discuss any questions or problems.
5. Take the counts that the parent has taken on their child's task and put them on a chart for the parent to see.

DURING THE LAST PART OF THE PROJECT, THE PROJECT STAFF WILL:

1. Help the parent pick new tasks to teach their child and help them choose a way to teach it.
2. Help the parent test their child to find out what the child can do.
3. Meet with the parent in their home once a week to watch the parent teach the task to their child and to talk about any problems.

4. Be available to talk with parents on the phone or to visit them in their home if they have any questions or problems.
5. Put the parent's counts of their child's movements on a chart and show it to the parents.
6. Ask the parents what they thought about the project.

# BEFORES

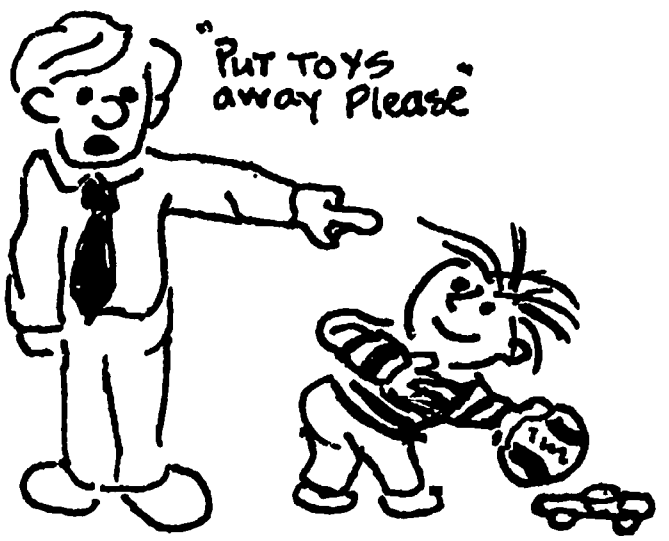
A BEFORE IS WHAT YOU DO <u>BEFORE</u> EACH CORRECT OR INCORRECT MOVEMENT.

*It can be something that you <u>say</u>:

"Jimmy, roll over."

"Mary, show me the cracker."

"Steve, put your toys away."




*It can be something that you <u>show</u>

Move a toy slowly in front of your child's eyes.

Hold up a pitcher of juice.

Show your child the sign juice so that they can imitate your sign.

*It can be something that you <u>help</u> your child do:

Move your child's arm and shoulder to help her roll over.

Put your child into a hand and knee position.

Move your child's hands together so she can finish the sign for "more".

# MOVEMENTS

A MOVEMENT IS ANYTHING THAT YOUR CHILD IS DOING THAT CAN BE COUNTED. WHEN TEACHING YOUR CHILD HOW TO DO SOMETHING NEW, YOU SHOULD CHOOSE A MOVEMENT THAT IS EASY TO COUNT AND CAN BE WORKED ON SEVERAL TIMES EACH DAY.

These are examples of movements that are countable and easy to work with often each day:

-Picks up a spoon

-Says "cookie"

-Touches the toothbrush

-Signs ball

-Drops the block on the table when asked

-Pushes glass towards you

-Says "ah" after you said it first

These are examples of movements that are <u>not</u> easy to count:

-walks better

-plays with toys creatively

-needs a better attitude

-takes more responsibility for own actions

-is more well behaved

When you are deciding what movements to teach your child, there are a few things you should think about first. Choose a movement that your child will be able to practice several times each day. Some movements naturally occur several times during the day, like rolling to the wheelchair, using the signs for "more" and "get", and playing with toys alone. Other movements may not occur as often during the day such as putting on a shirt or brushing teeth. In order to teach movements like these, you may need to set up special times to teach these movements. Movements like kicking feet in the swimming pool, naming animals at the zoo, or putting food in the grocery cart cannot be done many times everyday, or even cannot be done every day during the week. These movements aren't the best types of tasks to try to teach your child.

Another thing to do when picking a movement is to find one that your child needs to learn in order to be able to do things by herself. Movements that will help your child care for herself or that will help let her do things around the house will be easier to teach. The task will also be easier for your child to remember how to do once you are through teaching it. Some examples of these movements are putting toys away, rolling to get someplace, holding a spoon and putting it in his mouth, following directions like "Come here", "Sit down", or "Put that away", and saying "toilet", "potty", or "bathroom" when she has to go to the bathroom.

Finally, one way to make it easier for your child to learn a movement is to make sure it is not too hard for her to learn, but not too easy either. For example, instead of trying to get your child to feed herself during dinner, you may just want her to learn to scoop food onto her spoon first. Then, when she's learned

how to do this, you can have her learn to bring the spoon up to her mouth. After

this, she may learn to hold her own glass. Another example of picking a movement not too hard but not too easy is sitting up. The first movement you might try is to get him to hold his body up while you hold his hips. The next task you might teach is to have him sit by himself using his arms to support him. If you had started out to try to teach him to sit alone, he would have failed and you would have been frustrated. If you are careful about how hard a task is, you both will succeed.

# AFTERS

AN AFTER IS WHAT YOU DO AFTER YOUR CHILD DOES A MOVEMENT. MOST OFTEN, YOU WILL DO ONE THING AFTER YOUR CHILD DOES THE CORRECT MOVEMENT AND ANOTHER THING AFTER YOUR CHILD DOES THE INCORRECT MOVEMENT.

"After the correct movement happens . . ."

Tell your child or show him that he made the correct movement and praise him for it. For example:

"Good, you touched the cracker, Charlie. Nice going!"

"Good talking softly, Karen!"

"You went in the toilet . . . good for you, Peter!"

Praise is the most "natural" and common type of reward. A reward is something you give your child after he makes the correct movement. It tends to make the correct movement happen more often.

Praise is also a powerful reward. If you practice using praise more often, you'll be surprised at how much your child learns and how he "behaves".

However, sometimes praise is not enough to help your child learn a hard-to-do task.

You may need to add another reward. For example:

| | |
|---|---|
| hugs | money |
| smiles | points |
| kisses | poker chips |
| hand shake | a toy that makes noise |
| candy | a bright colored book |
| peanuts | a washable transparency pen |
| soda pop | a puppet |
| juice | real coins |
| ice cream | counting blocks in his favorite color |
| pudding | a math or spelling electronic game, such as Speak and Spell |
| coloring | |
| playing in a game | a Kansas City Royals plastic cup |
| minutes of TV | a homemade dice game |
| gentle rough housing | a cassette tape recorder |
| tickling | a book your child picks out |

Make sure the reward you use is really a reward. In other words, use something your child likes or likes to do. It will only help him learn the task if he likes it or likes to do it.

Whenever you use a reward from the previous list, <u>always use praise</u> with it. Then as your child begins to learn the task, you can remove the added reward. Praise should be powerful enough to help your child continue making the correct movement often.

Whatever reward you decide to use, be sure to use it immediately after each correct movement your child makes. Otherwise, it may not have enough power to help your child learn the task.

When your child is first learning to perform the task correctly, reward him every time he makes the correct movement. This will help him get started learning the task. We call this "every time gets it started."

"After the incorrect movement happens . . ."

You can help your child do the correct movement. One way to do this is to say the right answer to your child. Here's an example of a say after:

You are holding up a cookie and you ask your child, "What's this?"

Your child says, "eat" (wrong answer)

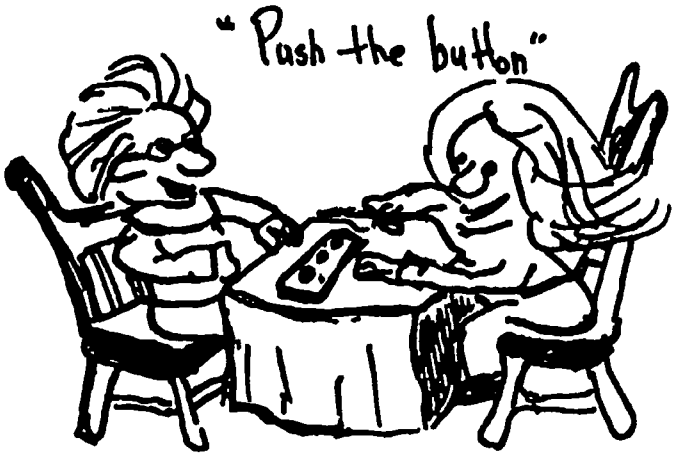
You say, "cookie".


Another way to help your child do the correct movement is to show him what to do. Here's an example of a show after:

You have a toy in front of your child and it has a button on it that will make a noise. You say, "Push the button."

Your child just looks at the toy and does not touch it.

You push the button yourself and say "Push the Button."



If your child does not do the correct movement after you have told him the correct one or shown him the correct movement, you will have to help him even more. You may need to help him do the movement. Here's an example of a <u>help after:</u>

You are holding your child's cup of juice in front of her--the cup is one that has handles--and you say "Hold the cup".

Your child continues to look at the cup.

You take your child's hand and bring it to the cup's handle, helping her to grasp the handle.

Sometimes when you are teaching your child a new movement, you may only need to do one of the above kinds of afters (<u>says</u>, <u>shows</u>, <u>helps</u>). This may be enough for your child to learn to do the correct movement by himself. It may be necessary, though, to do more than one of the above afters. Here is an example of how you could do this:

You are teaching your child to use sign language for foods that he likes.

You hold up a glass of milk and ask your child, "What's this?"

--Your child just looks at the milk--

You then <u>say</u> the right answer to your child, You <u>say</u> "Milk"

--Your child reaches for the milk but does not sign--

You then <u>say</u>, "milk" and <u>show</u> him the sign for milk

--Your child makes the wrong sign--

You then take your child's hand and <u>help</u> him to do the sign for milk.

If your child does the correct movement after you have given him an <u>after help</u>, you still should praise him for doing it right.

You are teaching your child to touch your hand if he wants to hear more music.

You play the music for a few seconds, turn it off and wait . . .

Your child just sits, not touching your hand.

You take his hand and move it to touch your hand (<u>help after</u>).

You then praise him and play the music for him.

Sometimes your child may not do the correct movement right away, but will try to do part of it. If this happens, you should praise her but still give the kind of help that you usually would. Here is how you might do this:

You are teaching your child to scoop his own food onto his spoon.

You put the spoon in his hand and say "Scoop".

Your child moves the spoon down toward his plate but does not get any food on his spoon.

You say, "Good trying to scoop!" and immediately help him to scoop the food (<u>help after</u>).

<u>"After distractions . . ."</u>

Sometimes when you are trying to teach a task, your child may start doing other things instead of doing what you want him to do. He may start crying, playing with things on the table, tighten his arms, legs, or hands, laugh or giggle, look away from you and not watch what you are doing. If your child is doing any of these types of distracting movements, (remember, anything that your child may do, or any way that your child may move, are movements) it will be hard for him to learn to do the movement that you are trying to teach.

When your child does such distracting movements, it is best to totally ignore him, by turning your head and body away from him and waiting for him to be quiet or calm. If he is grabbing materials or even grabbing at you, you should pull the materials and yourself from his reach. As soon as he is quiet, you should turn back to him and say something like, "I'm glad you are calm now, we can go back to learning." It is important that you turn away from your child <u>every</u> time that he does these distracting movements. By turning away <u>every</u> time, you will make it easier for your child to learn the correct movement. It will also teach your child that the best way for him to get your attention is to do what <u>you</u> want him to do. If you find that turning away from your child does not stop the distracting movements then you should contact the home trainer.

# COUNTING

BEFORE YOU START TO TEACH:

Before you start teaching, it's important to test your child on the task you want to teach. Often your child may know more (or less) about doing a particular task than you think. Testing your child first will allow you to find out exactly what your child needs to learn about a task. For example, you decide that you want to teach your child to feed himself. To count what he already knows, put his plate of food in front of him, with a spoon next to the plate and say "Go ahead and eat." Then, sit back and count the movements that your child can already do. He may be able to pick up the spoon already, so you won't have to teach that. He may have trouble scooping food onto the spoon, so that could be something to teach. You may find that once the food is on his spoon, that he can bring the spoon up to his mouth and put it in. By testing him first, you found out that you don't have to teach all of the task, only one step.

DURING YOUR TEACHING:

When you are teaching your child a particular skill, in order for you to know how well your child is learning it -- and how well you are teaching -- it is important for you to be counting the movements that your child makes. This is done by counting the number of correct and incorrect movements that your child makes each day. The following is an example of how to count:

You have decided it is a good time of the day to teach your child.

Set the kitchen timer for the same amount of time each day when you start teaching.

As you are teaching the task, mark down on the data sheet each correct and incorrect movement.

Stop counting when the timer rings.

Here is an example of what to count:

(1) Sequenced

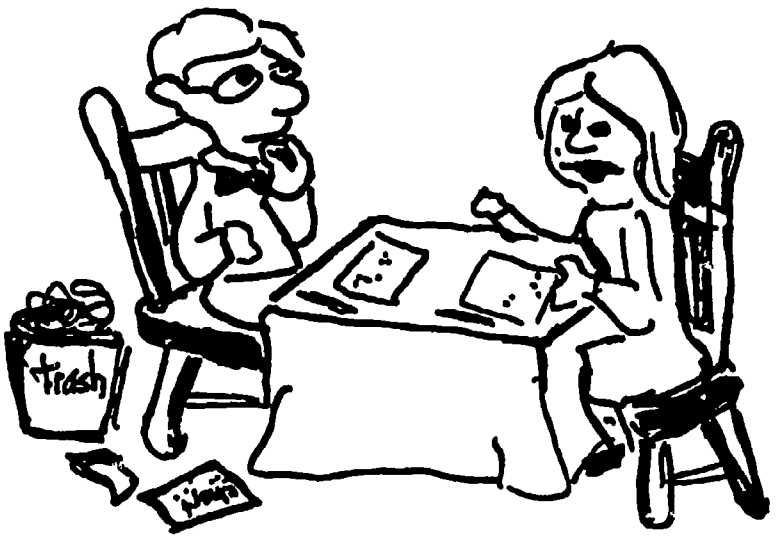
| Befores | Correct Movements | Incorrect Movements |
|---|---|---|
| Place cup and cookie in front of Sue - "Sue look at cup" | Sue looks at cup | Sue looks at cookie |
| "Sue touch cup" | Sue touches cup | Sue does not move arm at all |
| Sue places lip on cup to swallow when cup is brought to her mouth | Sue puts lips on cup and swallows juice when cup is brought to her mouth | Sue opens mouth and does not put lips on cup |

(2) Massed Trials

| Befores | Correct Movements | Incorrect Movements |
|---|---|---|
| Turn music on for a few seconds. Ask Kerry, "Want music, roll to music" | Kerry rolls toward music | Kerry rolls in the opposite direction of music. |

AFTER YOU TEACH:

Each week when the home trainer comes to see you, he or she will sit down with you and put the counts on a graph. The lines on the graph show you the learning picture of your child. The home trainer will talk to you about what the learning picture of your child means.



# TEACHING THE TASK

When teaching your child to do a new task there are a number of do's and don't's that will make your efforts more successful:

THE DO'S OF GOOD TEACHING:

1. Teach the same way every day. This means saying the same before, watching for the same correct movement, and using the same after for every movement you ask your child to do.
2. Count each movement that your child does during the teaching time.
3. Teach for the same amount of time each day.
4. If you expect your child to be excited about learning the task, then you have to be excited about teaching it.
5. If you expect your child to try "hard-to-do" tasks, she will need to know that you care about her as a person, and that you will still care regardless of how she does on the task.
6. Let your child know that it is okay to make mistakes, because they are really chances to learn the correct movement.
7. Your child will need to know that you are in charge, and that she cannot talk you out of working. You will give directions once, and you will expect her to get ready right away.
8. Your child will need to know that whatever he does will not "bug" you. You will remain calm while teaching, no matter what he "pulls".
9. Set up your materials the same way each day. Have them ready, along with your counting sheet, before you ask your child to get ready to learn the task.

## THE DON'T'S OF GOOD TEACHING:

1. Don't begin teaching your child a task if you are having a bad day, are angry with your child, or if your house is in an "uproar". Wait until you, your child, and your household have calmed down.
2. Don't change the materials, the befores, or the afters unless it has been talked over with the Home Trainer. Try to teach the same everyday.
3. Don't get angry or yell or say "no, that's wrong" during the teaching. Stay positive, and turn away when your child does distracting things.
4. Don't be too talkative to your child during the teaching. Just say things about the task and be sure to keep the same <u>befores</u> and the same <u>afters</u> each day.
5. Don't make the task appear to your child to be hard, unpleasant work. Talk about it in a positive way so that your child will know that you enjoy teaching her and that she should enjoy learning from you.

# HOME TEACHING PLAN

Student: Susie

Name of task: Scooping food onto spoon

Befores: With a full plate of food in front on her, spoon placed next to the plate; Susie has grasped the spoon

CORRECT MOVEMENT: Susie will bring the spoon down to the plate, move it so that a bite of fodd is scooped onto the spoon

Afters:

For a correct movement: Gets to bring a full spoon to her mouth and will be praised "Good job scooping!"

For an incorrect movement: With another spoon, give a show after, while you say, "Susie, scoop like this." If she doesn't scoop correctly after the show after, give her a help after, by holding her wrist and helping her to scoop. Praise her for trying to scoop.

Materials needed: Plate, spoons, food

Count: + = scoops correctly by herself

0 = needs either a show or a help after

How to test: Place a full plate of food in front of Susie with the spoon next to the plate. Say, "Time to eat." Sit back and watch Susie. Count the parts that she does right and write down what she cannot do.

How did on test: Susie can pick up the spoon, could not scoop very well, and could bring the spoon to her mouth and remove the food from the spoon. She was able to get some food (although never a bite) on her spoon 2 out of 15 scoops the first day and 2 out of 15 scoops the second day.

Steps of task:

1. Picks up spoon
2. Moves spoon to plate
3. Scoops a bite of food onto the spoon
4. Brings the spoon to her mouth
5. Takes the food off of the spoon with her lips

Aim: 13 out of 15 scoops per meal for four out of five days

When to teach: During all meals at home where she can use a spoon for her food

Special information: Susie is just starting to imitate gross motor movements. We will try to see if she can imitate you when you show her how to scoop.

Name Susie

Name of task Scooping food onto a spoon

| BEFORES | CORRECT MOVEMENT | AFTERS |
|---|---|---|
| Plate, spoon, food, Has picked up spoon | Susie will bring spoon down to plate, and scoop one bite of food onto her spoon | Correct: full spoonful of food<br>Incorrect: Show after with another sppon...if still incorrect, a help after by holding her wrist |

How to count:

+ = correct movement

0 = show or help after

Start date

September 1

| Count each scoop | DATE |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | |
| 16 | |
| 17 | |
| 18 | |
| 19 | |
| 20 | |

# HOME TEACHING PLAN

Student: Jimmy

Name of task: Continue desired activity

Befores: Play favorite music for 15 seconds. Have your hand near enough for Jimmy to touch.

CORRECT MOVEMENT: Jimmy will touch his mother's hand within 5 seconds of the music being turned off.

Afters:

For a correct movement:
Turn on the music and praise Jimmy for touching your hand.
Say something like, "Good you want music!"

For an incorrect movement:
Help Jimmy by taking his hand and placing it on yours. Immediately turn on the music and say "Great, you touched my hand. You want music."

Materials needed:

Tape recorder, small radio or stereo that you can sit next to and turn it on and off.

Count:

\+ = touched your hand by himself within 5 seconds of the music being turned off.

0 = needed a help after to touch the hand.

How to test: Play music for 15 seconds, turn it off and wait. Write down the movements that Jimmy makes for the next 10 seconds. Say and do nothing but count what he does. Do this at least 10 times during a 10 minute period, two days in a row.

How did on test: After the music stopped, he sat and did nothing with his hands. Scored 0 each testing time, both days. He stopped smiling 4/10 times on the second day.

Steps of task:

*1. Touch another person's hand to have an activity continue.

2. Hold out a container (e.g. glass) to get favorite item (e.g. juice) from another container (e.g. pitcher).

3. Make the sign for the item (juice) to get favorite item (juice) from another container (e.g. pitcher).

Aim: 9/10 movements each day for 3 days in a row

When to teach: During leisure times of the day - late afternoon, after dinner.

Special information: None

Name Jimmy

Name of task Count desired activity

| BEFORES | CORRECT MOVEMENT | AFTERS |
|---|---|---|
| Play music for 15 seconds and turn it off | Jimmy will touch his mother's hand within 5 seconds of the music being turned off | Correct: Praise and listening to the music for 15 seconds<br>Incorrect: Help after by moving his hand to touch yours |

How to count:

+ = touched his mother's hand within 5 seconds

0 = needed a help after to touch his mothers hand

Start date

November 1, 1983

Count each touch:

DATE

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15