

Portage Project Readings



The
PortageProject

PREFACE

The readings contained in this book are composed of articles which have appeared in professional journals and the paper presented at the Conference on Early Intervention for High Risk Infants and Young Children. All materials were written by members of the Portage Project Staff and pertain to the Portage Model for Early Education. The articles are listed in chronological order. A table of contents entry for each reading contains the year of publication, the title, the authors name and the original source of publication. For any additional information on the Portage Project please contact:

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Association for Childhood Education International
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Washington, D.C. 20016

Deficience Mentale/Mental Retardation
Canadian Association for the Mentally Retarded
Kinsmen NIMR Building, York University Campus
4700 Keele Street, Downsview, (Toronto)
Ontario, Canada M3J1P3

Exceptional Children
Official Journal of the Council for Exceptional Children
Jefferson Plaza Suite 900
1411 South Jefferson Davis Highway
Arlington, Virginia 22202

Journal of Learning Disabilities
P.E. Lane, Editor
101 East Ontario Street
Chicago, Illinois 60611

The President's Committee on Mental Retardation
Washington, D.C. 20201

TADS
Technical Assistance Development System
500 NCNB Plaza
Chapel Hill, North Carolina 27514

"Bureau" Memorandum
Wisconsin Department of Public Instruction
126 Langdon Street
Madison, Wisconsin 53702



Portage Project Readings

- 1972 **The Portage Project: A Model for Early Childhood Education**
Exceptional Children, November 1972.
 Marsha S. Shearer
 David E. Shearer
- 1974 **A Comparison of Paraprofessional and Professional Success with Preschool Children**
Journal of Learning Disabilities, April 1974.
 Neal E. Schortinghuis
 Alma Frohman
- 1974 **The Portage Project**
 Paper presented at the Conference on Early Intervention for High Risk Infants and Young Children, sponsored by the President's Committee on Mental Retardation and the Association for Childhood Education International, Chapel Hill, North Carolina, May 5-8, 1974.
 David E. Shearer
 Marsha S. Shearer
- 1974 **Parent Intervention in the Education of the Preschool Handicapped Child**
Deficience Mentale/Mental Retardation, Vol. 24 No. 3, published by the Canadian Association for the Mentally Retarded, July 1974.
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 Ellen D. Boyd
- 1975 **A Home Based Parent Training Model**
Training Parents to Teach—Four Models, First Chance For Children, Vol. 3, TADS, Chapel Hill, North Carolina.
 Marsha S. Shearer
- 1975 **Portage Project Evaluation**
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- 1976 **A Home Approach To Serving Children with Exceptional Needs**
"Bureau" Memorandum, Wisconsin Department of Public Instruction, Volume 17, Number 2, Winter 1975-1976, (in press).
 Jean M. Hilliard
 Marsha S. Shearer

THE PORTAGE PROJECT: A MODEL FOR EARLY CHILDHOOD EDUCATION

Marsha S. Shearer

David E. Shearer

Abstract: This article describes an intervention program serving 75 preschool multiply handicapped children living in a rural area. Ages of the children ranged from birth to 6 years. All instruction took place in the child's home. Individualized curriculum was prescribed and demonstrated by a home teacher who visited each parent and child 1 day per week for 1^{1/2} hours. During the week, the parents taught the prescribed curriculum and recorded the child's resultant behavior on a daily basis. The results of the project indicate that handicapped children can progress above their expected developmental rate and that parents can initiate, observe, and accurately record this change.

Marsha S. Shearer is Staff Training Coordinator and David E. Shearer is Project Director, The Portage Project, Cooperative Educational Service Agency No. 12, Portage, Wisconsin. The project reported herein was funded by the Education of the Handicapped Act, PL. 91-230, Title VI, ESEA, Part C.

The growth of programs for preschool children has been paralleled by an increased involvement of parents in the education of their children. During recent years there has been a concerted effort by Federal funding sources, such as the Office of Child Development and the Bureau for the Education of the Handicapped, to fund programs that involve the parents of the children being served. This parental involvement could occur at various levels of program development. For instance, including parents on an advisory council, having parents work as classroom aides, and counseling parents could be methods of involving parents in a program.

The Portage Project, a home teaching program, is an attempt to directly involve parents in the education of their children by teaching parents what to teach, what to reinforce, and how to observe and record behavior.

There are several advantages in teaching parents in their homes to be effective agents of behavioral change. First, learning is occurring in the parent and child's natural environment; therefore, the problem of transferring to the home what has been learned in a classroom or clinic does not occur. Second, there is direct and constant access to behavior as it occurs naturally. Third, the maintenance of desired behavior will likely be enhanced if the behaviors have been learned in the natural environment. Fourth, the training of parents, who already are natural reinforcing agents, will provide them with the skills necessary to deal with new behaviors when they occur.

Children Served

The Portage Project presently serves 75 handicapped children from birth to 6 years of age. The children live within the Cooperative Educational Service Agency No. 12 area in south-central rural Wisconsin.

The project serves children who have been previously diagnosed as having behavioral problems or as being emotionally disturbed, mentally retarded, physically handicapped, vision impaired, hearing impaired, culturally deprived, or handicapped in the area of speech or language. The project also serves children with any combination of these disabilities.

Referral Sources

The children are referred to the project by local physicians, social workers, county health nurses, public schools, local guidance clinics, and speech therapists. Public service announcements on local radio stations and newspaper articles describing the project have brought additional referrals, many from parents themselves.

Of the 150 parents contacted regarding the project, only 6 (approximately 1 percent) refused to enroll their child. Of the 150 children referred, 30 were found not to need an early intervention program. Four of the 75 parents and children enrolled in the project withdrew after the home visits began. Of these 4, 2 children were in families who moved from the area, 1 child was placed in a state hospital, and 1 parent was dissatisfied with the project.

Rationale For The Home Teaching Model

During the planning phase, as children were being identified, it was evident that a classroom situation could not be provided. The intermediate agency serves 23 school districts and covers a geographical area of 3,600 square miles. To transport these preschool handicapped children to one central location would not have been either practical or possible. Even when several children had been identified within a smaller area, i.e. one school district, their handicaps and/or their chronological ages varied so greatly that it was not to the children's advantage to place them in a group.

The project's administrative staff decided that, due to these problems, a home teaching model would be the most feasible delivery system to provide educational services. An educator—a home teacher—was provided to each child and his family 1 day per week for 1 1/2 hours for a period of 9 1/2 months. This schedule of home visits was met 92 percent of the time, which takes into account cancellations due to inclement weather, illness, family vacations, and hospitalizations. During the 6 days the home teacher was not present, the parents served as the child's teachers by implementing prescribed curriculum and recording the child's progress.

Assessment Of The Children

After a child had been referred to the project, a home teacher assessed the child to determine if he needed an early intervention program. The project does not serve children functioning at or near their chronological age in the developmental areas. However, the project has never refused service because a child had too many handicaps or had handicaps of too great a degree.

The assessment instruments used have included the *Developmental Skill Age Inventory*, experimental edition (Alpern & Boll, 1969), the *Stanford-Binet Intelligence Scale*, Form L-M (Terman & Merrill, 1960), the *Cattell Infant Scale* (Cattell, 1940), the *Peabody Picture Vocabulary Test* (Dunn, 1965), and the *Slossen Intelligence Test for Children and Adults* (Slossen, 1963).

The developmental scales and intelligence tests were administered in order to provide objective data concerning gains in mental age and IQ; however, the teaching staff was not concerned with labels or IQ scores. The concern was the behavior of the individual child. Knowing that a child is a mongoloid or has an IQ of 50 or is brain damaged does not tell a teacher what the child can already do, what next to teach, nor how to teach it. Each child was provided with an individualized curriculum based on his present behavior, not his disability label.

Staff

Four certified special education teachers and three paraprofessionals were hired and trained to serve as home teachers. Certified personnel served an average of 12 children; the paraprofessionals had an assigned caseload of 10 children. Preservice training included instruction in child development, assessment techniques, precision teaching, and behavior modification (Shearer, 1971). Pre- and posttests were given after each instructional period to evaluate the instruction itself. Inservice meetings for the entire staff were held 1 day per week and home visits were not scheduled on that day. These sessions provided the individual staff member with needed reinforcement and help with specific problems encountered during the week.

During a specific 2 hour staffing period, each home teacher presented problems causing concern. The group reacted by making suggestions and finally by establishing a prescriptive goal which the home teacher implemented the following week. Data on this prescription was collected, and at the next inservice meeting the home teacher reported either success or failure. If the goal was not achieved, the staff modified the reinforcer, changed the

reinforcement schedule, or divided the goal into smaller segments.

The paraprofessional home teachers met with the staff training coordinator one additional half day per week to review the previous week's data and to help in planning prescriptions for the coming week.

The home teacher accompanied the parent and child on clinic appointments and suggestions were sought from outside professionals at this time and throughout the year as problems arose.

Curriculum Planning

To facilitate planning for individual children, the project staff devised an Early Childhood Curriculum Guide (Shearer, Billingsley, Frohman, Hilliard, Johnson, & Shearer, 1970). The guide is in two parts: (a) a Developmental Sequence Checklist, which lists sequential behaviors from birth to 5 years of age in five developmental areas—cognitive, language, self help, motor, and socialization; (b) a set of Curriculum Cards to match each of the 450 behaviors stated on the Checklist, using behavioral objectives to describe the skill and suggesting materials and curriculum ideas to teach each of these 450 behaviors.

The Checklist is used to pinpoint the behaviors the child already exhibits in the five developmental areas. This is considered initial baseline behavior. Based on this data, the home teacher can then prescribe the next behavior on the Checklist, often dividing this behavior, which is called a long term goal, into smaller segments. Thus, the child is assigned a goal he will achieve within 1 week regardless of the severity of the handicap.

As the parents experienced success and gained confidence in their ability to teach their child and record his behavior, the initial one or two prescriptions per week were increased to three or four prescriptions. These activities were in several areas of development. For instance, the parents might have been working on buttoning, reducing tantrums, and counting objects all within the same week.

The parents were encouraged to contribute to the planning and implementation of the curriculum and these suggestions were absorbed into the prescriptions during the home visit. The parents were shown how to record their child's behavior on the prescribed curriculum tasks, and as the parents taught their child during the week, they recorded the behavior as it increased, decreased, or remained the same.

Recording behaviors was new and somewhat threatening to some of the parents, so the home teachers initiated just one prescription during the first week. The home teachers showed the parents how to record and the parents practiced during the home visit. This initial goal was chosen so that it would be helpful to the family (i.e., the child will put on coat without help) and be at a

level that the home teacher believed would be achieved within 1 week. This helped guarantee the parent and child immediate success.

Thirty percent of the parents did not record during the first month. Praise and sometimes more tangible reinforcers were used in some situations to initiate recording behavior. However, once the parent began recording, tangible reinforcers were no longer necessary; seeing the behavior of the child change became a reinforcer in itself. The overall rate of daily recording by the 75 families in the project was 92 percent.

Home Training Process

The home teacher entered each child's home with the average of three to four prescriptions per week and any materials needed to carry out these activities. First the home teacher took postbaseline data on the previous week's activities. Based on this data, the home teacher altered these prescriptions or introduced new activities. Baseline data was then collected on each new task. Such collection is important since it is necessary to first discover how close the child is to achieving the prescription. For instance, a prescription might have been for hopping on one foot in place without support, 5 times per trial, 3 trials per day. If baseline data had indicated that success on this activity was not likely to be achieved in 1 week, the home teacher would have changed the prescription, gone back to a prerequisite skill, and prescribed hopping on one foot in place with support, 5 times per trial, 3 trials per day.

As baseline data was collected on each new prescription, the task was demonstrated to the parent as the home teacher worked with the child. The home teacher then observed the parent working with the child on the prescription. Often the home teacher supplied the parent with additional teaching information, such as, "How about increasing the amount of praise and see if he will perform better," or "You are giving too many clues to Johnny. Look, you are holding your hand in front of the colored block you have asked Johnny to give you. Place your hand between the two blocks." The parent is expected to stay with the child and the home teacher during the session because this visit is designed to teach the parents how to teach, how to record, and how to reinforce the prescribed behavior for the coming week.

An activity chart for each prescription was left with the parent (see Figure 1). This chart described in behavioral terms what goal was to be accomplished, how often the skill was to be practiced, what behavior was to be reinforced, and how it was to be reinforced. The directions were specific and the parents had the activity chart to refer to during the week. The parent was instructed to record on the activity chart the child's behavior each day on each prescription. Recording proved to be reinforcing

FIGURE 1. Sample activity chart.

ACTIVITY CHART

CREDIT: _____ yes _____ no

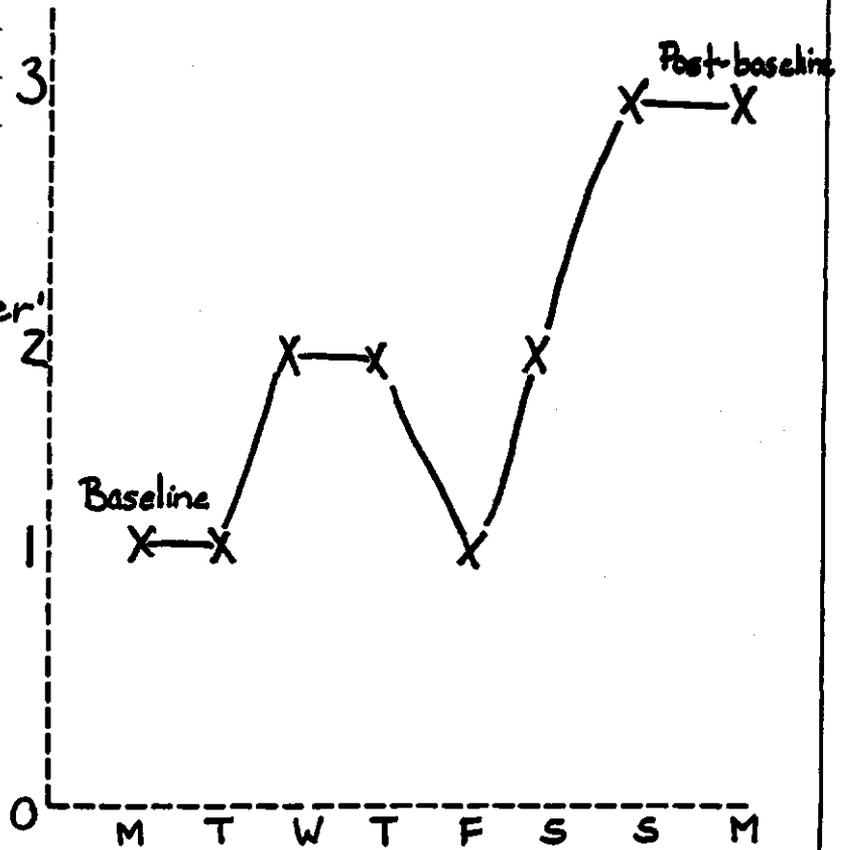
Child's Name Brenda

Home Teacher's Name Jean

Week of 9/13/71

BEHAVIOR: Brenda will say the sound 'wa' as in 'water' with aid 3 trials, 3 times a day

NUMBER OF: times Brenda says 'wa'



DIRECTIONS:

Sit Brenda in front of you. Make the 'wa' sound several times and have Brenda watch you as you do this. Then use the mirror and encourage Brenda to watch you by looking into the mirror. Use your fingers to gently guide Brenda's mouth into position and ask her to repeat 'wa' after you and encourage her to look at herself in the mirror as she does this. Praise Brenda for each attempt and as Brenda begins to consistently repeat the 'wa' sound reduce the pressure on the mouth. Continue praising success.



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Record first 3 trials each day and Practice 3 times each day.

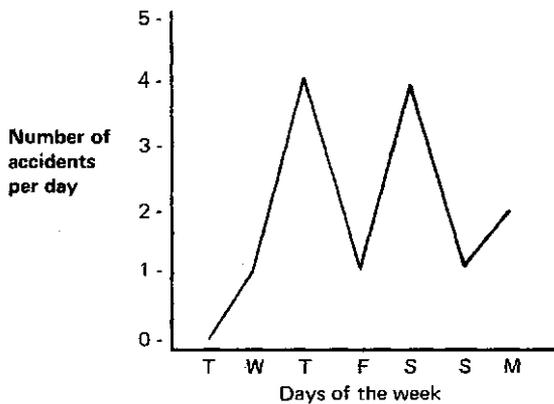


FIGURE 2. Baseline data on the frequency of Donovan's toileting accidents.

to the parents because they could see the daily changes in their child's rate of appropriate responses. When the home teacher returned the following week, he recorded postbaseline data on the previous week's activities. This helped the home teacher validate the accuracy of the parents' recording.

Examples Of Behavioral Change

The presentation of typical behavioral changes that have occurred may further aid in describing the techniques and processes of the Portage Project.

Donovan

Donovan was 4 years old when referred to the project by the county health nurse. He was born with club feet and was strabismic. Donovan had been hospitalized several times for surgery on his eyes and legs, and in between hospitalizations his mother had begun the toilet training process. After each hospital stay, the training regressed. There had never been consistent success in

toilet training, and even though the last surgery had occurred 8 months prior, toilet training had not been reinstated.

During the first phase of the toilet training procedure, Donovan's mother was instructed to check him every hour and to record on a chart when he went (time), where he went (pants or toilet), and what he did (bowel movement or urination). This information revealed that Donovan did not defecate or urinate for 3 hour stretches, that he had one bowel movement a day at about the same time each day, and that he averaged two accidents per day but with great fluctuation.

Donovan's chart (Figure 2) indicates that he was already having some toileting success, and in fact, the first time his mother recorded, Donovan had a perfect day. The home teacher hypothesized that if Donovan recorded his own behavior, his rate of success would increase. Figure 3 describes Donovan's rate of progress over the next 2 weeks using self recording.

During the time these data were collected, Donovan was receiving praise and, in addition, was recording his own successful behavior by pasting a Snoopy sticker on his toileting chart for each success in the bathroom. Accidents were ignored (except for parental charting), and Donovan had to change his own clothing and do whatever cleanup was necessary.

As the third week of recording ended, Donovan was having an average of 1 accident per day, and this was a bowel movement. The home teacher and parent altered the frequency of the reinforcer, and the reinforcer itself changed. The payoff for success was now a happy face sticker which Donovan applied to the bathroom door only if he had a successful day, i.e., no accidents. Figure 4 describes Donovan's change in behavior.

After several more days of success, the stickers were faded out. Donovan's behavior continued to remain consistent. Fading occurred as Donovan noticed that the

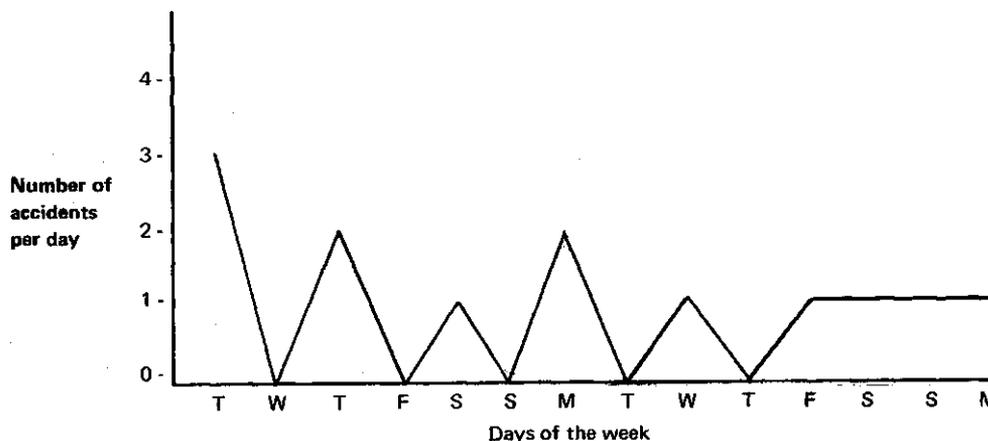


FIGURE 3. Frequency of Donovan's toileting accidents when he was given praise and Snoopy sticker for each success and when accidents were ignored.

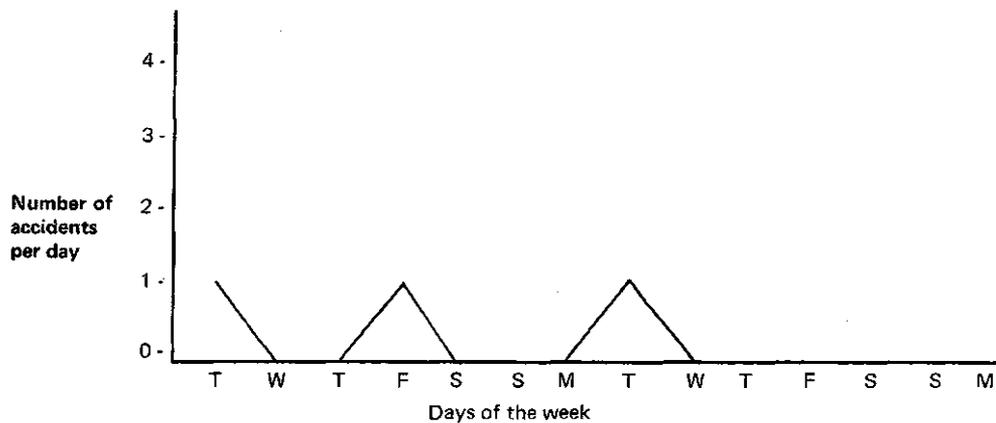


FIGURE 4. Frequency of Donovan's toileting accidents when he was given praise and a happy face sticker was applied to the bathroom door for a perfect day.

supply of stickers was running low and he suggested that he did not need to have one every day.

Penny

Penny was 13 months old when she was enrolled in the project. She was born with Moebius Syndrome, a congenital anomaly which resulted in bilateral facial paralysis, strabismus, and gross motor retardation. Socialization skills were also below normal as measured by the *Alpern-Boll Developmental Skills Age Inventory* and the *Sequential Checklist*. Penny did not engage in typical imitative behaviors common to her peers. Because imitation is thought to be a necessary prerequisite needed to learn new behaviors, the home teacher prescribed a series of activities to teach Penny a new behavior through shaping and rewarding closer approximations to the final behavioral goal, i.e., clapping hands in imitation.

Since this was a behavior that was not in Penny's present repertoire, it was necessary to provide maximum physical assistance, i.e., her mother took Penny's hands, clapped them together, and said "pat-a-cake" with each movement. Penny was given a fruit loop and praise after each successful trial. Because Penny was receiving help to accomplish the task, success for both Penny and her mother was built into the activity. As the first week progressed, her mother applied less pressure to Penny's hands.

Beginning with the second week, the prescription was for clapping hands in imitation without physical help. A food reward was still given immediately if Penny imitated her mother. If Penny did not perform, her mother provided help, but no food reward was given.

The final prescription was the completion of the long term goal—clapping hands in imitation without help or food reward. Penny continued to perform successfully

even though no food reward was provided (see Figure 5). The social reward (attention and praise) was a sufficient reinforcer for Penny to continue to perform the new behavior.

Evaluation

Evaluation was an ongoing process. The parent recorded her child's performance on the prescription daily. The home teacher evaluated weekly by comparing baseline and post baseline data, and a complete evaluation was undertaken twice a year using the IQ tests and developmental scales described earlier.

The weekly assessment of the child's behavior was also an assessment of the home teacher's ability to prescribe appropriate curriculum. If the child had not succeeded on a task within a given length of time, then it was not assumed to be the child's fault. The failure was likely to be the home teacher's, perhaps because the appropriate task had not been prescribed for the child or the parents had not been given adequate directions. Unlike most teachers, the home teacher knows this within a week, and the prescription can be modified.

If the parent had not been able to work effectively with the child during the week, the home teacher might need to modify the prescriptions (perhaps there were too many) or give the parent additional reinforcement.

A log was kept on each child listing each behavior prescribed, the date the curriculum was initiated, the date the behavior was achieved, and the developmental area the behavior is assumed under, i.e., self help, language, cognitive, socialization, or motor. This log provided information concerning the specific behaviors each child had learned, the date he learned them, and the duration of each prescription. In addition, data concerning the percentage of success on tasks was also available.

Results

The average IQ of the children in the project was 75 as determined by the *Cattell Infant Test* and the *Stanford-Binet Intelligence Test*. Therefore, it would be expected that on the average, the normal rate of growth would be 75 percent of that of the child with normal intelligence. Using mental ages, one would expect that the average gain would be about 6 months in an 8 month period of time. The average child in the project gained 13 months in an 8 month period; he gained 60 percent more than his counterpart with a normal intelligence.

Children who, because of age, remained in the project after 1 year were retested in September, and these test results were compared to the scores achieved the previous June. Although it would be expected that some regression would occur, there was no significant difference in the scores. This may indicate that the parents continued to work with and reinforce behaviors even though the home teacher was no longer making visits.

An average of 128 prescriptions were written per child. The children were successful on 91 percent of the prescriptions written by professional and paraprofessional staff.

An experimental study was conducted involving randomly selected children from the Portage Project and randomly selected children attending local classroom programs for culturally and economically disadvantaged preschool children. The *Stanford-Binet Intelligence Scale*, the *Cattell Infant Scale*, and the *Alpern-Boll Developmental Skills Age Inventory* were given as pre- and post-



A home teacher is shown recording baseline data while the parent observes her child's performance.

tests to both groups. In addition, the *Gesell Developmental Schedule* was given as a posttest to both groups. Multiple analysis of covariance was used to control for IQ, practice effect, and age. The greater gains made by the Portage Project children in the areas of mental age, IQ, language, academic development, and socialization were statistically significant, as compared to the group receiving classroom instruction (Peniston, 1972).

Using the children as their own control, test results and behavioral gains were compared and measured. The mean gain in IQ scores on the *Alpern-Boll Developmental Skills Age Inventory* was 13.5 and was statistically significant beyond the .01 level. The mean gain in IQ scores on the *Stanford-Binet* was 18.3 and was statistically significant beyond the .01 level.

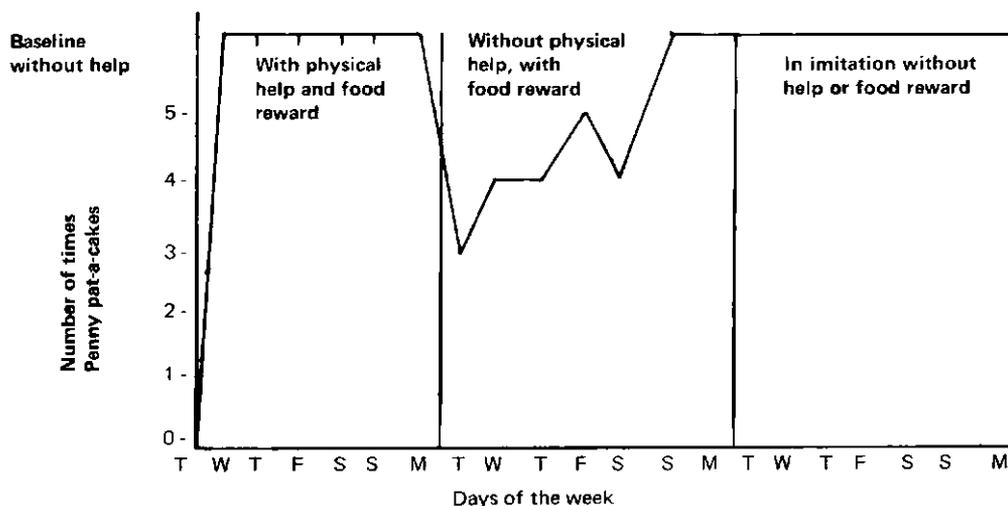


FIGURE 5. Frequency of Penny's imitative behavior.

A Catalyst For Parent Involvement

There is a growing concern for more parental involvement in education and in the provision of good educational services to handicapped children in rural areas. This model indicates that parents can effectively teach their children and that their children can, indeed, learn. All parents have the major responsibility for decision making, rearing, and teaching their children. Parents of handicapped children often have this responsibility for a much longer period of time and are in greater need of parenting skills and knowledge concerning methods of teaching and child development.

Educators have been guilty of relieving the parents of the responsibility of education. Yet, a child's poor classroom performance is often blamed on the "inadequate parent syndrome." Parents of handicapped children need guidance, but more importantly, they need the experience, satisfaction, and the pleasure of working with their children and seeing them succeed as a result of their own efforts. Most parents of handicapped children want to be able to be at least partially responsible for the progress of their child and do not want to be told that the teaching can only be done by somebody else. Home based programs involving individualized instruction through precision teaching is the catalyst which can provide this service to parents and their children.

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A Comparison of Paraprofessional and Professional Success with Preschool Children

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Alma Frohman, M.S.

In this study 21 children and their parents were served by paraprofessionals and 16 children were served by professionals in the Portage Project—a home approach to the early education of handicapped children in a rural area. The Portage Project, using a precision teaching model, offered an opportunity to compare gains made by children when they were served by a paraprofessional or a professional. The results indicate that in this project, paraprofessionals were as effective in teaching specific behaviors as professionals.

Paraprofessionals have become an increasingly important part of the educational team. In 1966 the National Education Association conducted a survey which determined that 80,000 teacher aides were in use in the United States. The 1970 figure was 200,000, according to the Center for Urban Education, with a predicted figure of 1 1/2 million by 1977.

The literature is replete with papers discussing paraprofessional training (Banick 1966, Brotherson & Johnson 1971), paraprofessional roles (Noar 1967, Esbensen 1966), and descriptions of programs utilizing paraprofessionals (Noall 1964, Frankson 1966). Very little research has been undertaken to compare gains made by children when they are taught by paraprofessionals or professionals. Gartner & Riessman (1969) did cite some studies where teachers attributed demonstrable pupil performance gains in reading readiness and number readiness to the introduction of paraprofessionals in the classroom. The review of the literature failed to produce any study where paraprofessionals and professionals were directly compared in teaching specific skills.

This study was designed and implemented to determine if, after a careful preservice and a continued inservice, paraprofessionals could be used as home teachers.

The Portage Project, a home approach to the early education of handicapped children in a rural area, was an intervention program serving 73 preschool children. The Portage Guide to Early Education is a developmentally formulated curriculum to be used with children, either handicapped or normal, between the mental ages

of birth to five years. These materials were developed and utilized by the Portage Project staff (1973) over a period of four years.

The Portage Guide to Early Education comes in two parts: (1) a Checklist of Behaviors, and (2) a Card File containing curriculum ideas. An individualized curriculum was prescribed and demonstrated by a home teacher who visited each parent and child one day per week for one-and-a-half-hours. During the week, the parents taught the prescribed curriculum and daily recorded the child's resultant behavior (Shearer & Shearer 1972). Each child's prescribed curriculum was unique and dependent upon an assessment of his present behavior and emerging skills planned by the paraprofessional or professional who was working with the parent and the child. This type of data-based precision teaching program offers an opportunity to evaluate the resultant growth of children whether the home teacher is a paraprofessional or a professional.

Before working with parents and children in the home, both paraprofessionals and professionals attended a one-week intensive workshop developed by the Portage Project. The workshop is described in detail by Shearer (1971). The purpose of this preservice was: (1) orientation to the project and its goals, (2) teaching assessment techniques, and (3) teaching precision teaching and behavior modification techniques.

The paraprofessionals employed by the Portage Project met the certification requirements for "assistant monitors-special education." These requirements are three years of college or three years of experience with children in structured group situations. All the Portage Project's paraprofessionals were high school graduates. All had three years of experience with children i.e., Boy Scouts and none had more than one year of college.

The home teachers had an average weekly case-load of 14 children. During one-half day per week, the staff met as a whole for inservice training.

The only distinction made between a paraprofessional and a professional was that the paraprofessionals met individually an additional one-half day a week with the Portage Project's Training Coordinator to help write and

review prescriptions for each child in the paraprofessional's case-load and discuss any problem that might have arisen.

Study Design

The subjects were 37 handicapped children who were enrolled in the Portage Project in September, 1972. The 37 children comprised the total population entering the project for the first time for the school year 1971-72. The three professionals and four paraprofessionals were assigned children on a geographical basis without regard to the nature or degree of handicapping conditions. Twenty-one children were served by paraprofessionals and 16 by professionals.

For the 37 children, age range was 24-87 months, with a mean age of 47.8 months. For those served by paraprofessionals, age range was 24-87 months, mean age 46.7. For those served by professionals, age range was 31-72 months, mean age 49.9 months; IQ range was 30-135. The IQ range of those served by paraprofessionals was 37-103.

Instrumentation. The Stanford-Binet, the Cattell Infant Test, and the Alpern-Boll Developmental Skills Age Inventory were administered to the subjects in September. Following approximately eight months of involvement in the project, all the children were retested. Both the pretest and posttest were administered by the home teacher. Although the home teachers were aware a study was being conducted, they did not know that professional/paraprofessional comparisons were going to be made.

Procedures

The gains made in months on the communication and academic subtests of the Alpern-Boll Developmental Profile were used and the two dependent variables investigated. A previous investigation (Peniston 1972) had shown that gains made in these two areas were significant when compared to a control group.

Analysis of variance was used to compare gains made in months on the communication and achievement scale of the Alpern-Boll Developmental Profile between paraprofessional and professional treatment groups.

Results And Conclusions

The summary of the results of the analysis of variance for communication skills is shown in Table 1. The dif-

ferences between paraprofessionals and professionals were not significant, $F=2.660$, $df=1.35$, $p = .112$. The paraprofessionals did, however, have a higher mean gain in months (15.312, $SD = 8.69$) than did the professionals (10.286, $SD = 9.71$) in teaching communication skills.

The summary of the results of the analysis of variance for academic skills is shown in Table II. The difference between paraprofessionals and professionals was significant at the .05 level, $F=4.713$, $df = 1.35$, $p = .037$. The means in month gain of paraprofessionals (17.730, $SD = 8.06$) and professionals (11.007, $SD = 8.72$) in the academic area would tend to indicate that paraprofessionals had more success in teaching handicapped preschool children than did the professionals, if all other variables were equal.

It would appear from this comparison that paraprofessionals can be used as home teachers, after intensive in-service training in a data-based precision teaching program. The paraprofessionals participated in a training program developed by the Portage Project and worked one-half day each week with a home teaching specialist. The rest of the week the paraprofessionals worked with parents and their handicapped children independently, and the data indicate success.—*Cooperative Educational Service Agency if 12, P.O. Box 564, Portage, Wisconsin 53901.*

Table I. Analysis of variance of paraprofessional and professional groups: communication skills.

Source of Variation	df	Sum of Squares	Mean Square
Between	1	229.5	229.5
Within	35	3019.7	80.3
Corrected Total	36	3249.2	
$F(1.35) = 2.66, p > .05$			

Table II. Analysis of variance of paraprofessional and professional groups: academic skills.

Source of Variation	df	Sum of Squares	Mean Square
Between	1	336.1	336.1
Within	35	2495.7	71.3
Corrected Total	36	2831.7	
$F(1.35) = 4.71, p < .05$			

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THE PORTAGE PROJECT¹

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THE PORTAGE PROJECT

Introduction and Overview

The Portage Project was originally funded in 1969 by the Education of the Handicapped Act, P.L. 91-230, Title VI, Part C to develop, implement and demonstrate a model program serving young handicapped children in a rural area.

The Portage Project operates administratively through a regional educational agency (Cooperative Educational Service Agency #12) serving twenty-three school districts in south-central rural Wisconsin. The Project currently serves one hundred and fifty children between the ages of birth to six, or up to such time as a child's readiness for a school program is demonstrated. The children have been identified as being handicapped in one or more developmental areas. Any preschool child, with any type or degree of handicapping condition residing within the 3,600 square mile area served by the agency, qualifies for the early intervention project.

There is no classroom program. All instruction takes place in each child's home and the teaching is done by the parents. A home teacher is assigned to each child and family. These educators, who may be trained professionals or trained paraprofessionals, visit each of their fifteen families one day per week for one and one-half hours. An individualized curriculum is prescribed weekly based on the assessment of each child's present behaviors in the areas of language, self-help, cognitive, motor, and socialization skills. Utilizing the parents as the teacher, the Portage Project follows the precision teaching model (Lindsley, 1968):

- 1) At least three *behaviors are targeted* for learning each week. The behaviors and criteria are chosen with the goal that the child (thus the parent) will achieve success in one week.
- 2) *Baseline data is recorded* by the home teacher on each new task prior to instruction as an additional check on readiness.
- 3) The parents implement the *actual teaching process itself* during the week which includes reinforcing desired behaviors and reducing or extinguishing those behaviors that interfere with learning appropriate skills.
- 4) The home teacher *records post-baseline data* one week later to determine if the prescribed behaviors taught by the parents have in fact been learned by the child.

The degree of success on the prescriptions provides

weekly feedback to the home teacher. Thus, the home teacher has current objective data on which to plan modifications in weekly curriculum goals. This in turn increases the likelihood of the parent and the child succeeding on the prescriptions for the coming week.

Thus, the Portage Project is a home teaching program attempting to directly involve parents in the education of their children by teaching parents what to teach, how to teach, what to reinforce, and how to observe and record behavior.

Rationale for the Home Based Program

As children were being identified it was clear that classroom programs could not be provided due to the cost and responsibility of transporting very young handicapped children great distances. In addition, even when several children were identified within a smaller geographical area, i.e., one school district, the variance in chronological ages, functioning levels and handicapping conditions precluded establishing classroom programs. In addition, classroom programs would severely limit parent involvement due to the geographical and psychological distances between home and school. Thus, a major program decision was made: All instruction would take place in the parent and child's natural environment—the home.

Having now experienced this rather unique delivery system, the staff of the Portage Project believes there are inherent *educational* advantages utilizing the home based precision teaching model—in addition to the practical aspect of not having to transport children and provide a center (thus reducing program cost by more than half).

- 1) *Learning is occurring in the parent and child's natural environment*, therefore, the typical problem of transferring back into the home what has been learned in a classroom or clinic does not exist.
- 2) There is *direct and constant access to behavior as it occurs naturally*. This is more likely to result in curriculum goals that will be functional for the child within his own unique environment. In fact, the differences in cultures, life styles and value systems held by the parents are incorporated into curriculum planning, since the parents are the final determiner of what and how their child will be taught.

- 3) It is more likely that *learned behaviors will generalize and be maintained* if the behaviors have been learned in the child's home environment and taught by the child's natural reinforcing agent—his parents.
- 4) If instruction occurs in the home there is *more opportunity for full family participation in the teaching process*. Father, sibling and extended family involvement becomes a realistic and obtainable goal.
- 5) There is *access to the full range of behaviors*, many of which could not be targeted for modification within a classroom, such as temper tantrums which only occur in the home or the child who crawls in bed with mom and dad each night.
- 6) It is hypothesized that *the training of parents, who already are natural reinforcing agents, will provide them with the skills necessary to deal with new behaviors when they occur*.
- 7) Finally, since the home teacher is working on a one to one basis with the parents and child, *individualization of instructional goals for both is an operational reality*.

Referral Sources

Information concerning the availability of the Project is disseminated to community resources throughout the district. The home teachers are responsible for personally contacting professionals within their assigned geographical area for the purpose of continually seeking new referrals.

County health nurses, social workers, physicians, local guidance clinics and school personnel within the twenty-three school districts have been major sources of referral. Nearby diagnostic and evaluation centers also refer children to the Project. Public service announcements on local radio stations and newspaper articles describing the project have brought additional referrals, many from parents themselves.

Brochures describing the Project have been left in doctors', dentists' and chiropractors' offices. Many beauty shops and grocery stores have bulletin boards on which is a Project brochure. Medical diagnosis is not a prerequisite for child referral, thus referrals are welcome from anyone. Since there was not a complete or accurate listing of preschool handicapped children residing within the area at the time of Project initiation, referrals from every possible source were sought.

Identification and Screening

Each child is screened for Project eligibility by the home teacher who serves the geographical area in which the family resides.

The home teacher contacts the parents and makes an appointment to come to the home to explain the Project and to meet and screen the child. *Project eligibility is partially determined by the child's functioning level in five developmental areas: self-help, motor, socialization, cognitive, and language*. If there is a significant lag between chronological age and functioning level in any of the areas, the child qualifies for the program. Children with observable disabilities—medical, physical or behavioral automatically qualify for service. Additional factors are also considered. A six month old child who is functioning normally will be considered for service if there are siblings attending special education classes, if the parents have attended special education classes or if there are other reasons for considering the child as high risk. Additionally, the Project has never refused service because a child had too many handicaps or had handicaps of too great a degree.

The screening instrument, the Alpern-Boll Developmental Profile (Alpern-Boll, 1972) as well as additional testing is administered in the home in the presence of the parents utilizing their knowledge of the child. If the child qualifies for service, and the parents agree to be in the program, the child's name is then referred to the multi-disciplinary team from the school district in which the child resides. If the team agrees that the child has exceptional educational needs and that the Portage Project can best meet these needs, then that school district contracts with the agency to serve the child through the Portage Project. (For the past two years, local school districts and the Wisconsin Department of Public Instruction, Division for Handicapped Children have assumed financial responsibility for direct services.)

Assessment and Curriculum Planning

The Alpern-Boll Developmental Profile is administered to all the children. This is also the screening instrument referred to earlier. This instrument is administered as a parent questionnaire together with direct observation of the child's behavior, when possible. Intelligence tests have also been administered for the purpose of further documenting individual and group gains to assess program effectiveness. It is anticipated that these will no longer be used. The staff believes that the only purpose for testing should be to program curriculum more ef-

FIGURE 1

Example of one sheet from the Checklist—Portage Guide to Early Education

cognitive

Age Level	Card	Behavior	Entry Behavior	Date Achieved	Comments
	55	Counts to 10 objects in imitation		2/4/76	
	56	Builds a bridge with 3 blocks in imitation	✓		
	57	Matches sequence or pattern of blocks or beads	✓		
	58	Copies series of connected V strokes WWWW	✓		
	59	Adds leg and/or arm to incomplete man	✓		also adds facial features
	60	Completes 6 piece puzzle without trial and error		2/4/76	
	61	Names objects as same and different			can point - not name yet
	62	Draws a square in imitation		3/11/76	
	63	Names three colors on request	✓		name red, blue, yellow
	64	Names three shapes: □, △, ○			△ not consistent
4-5	65	Picks up specified number of objects on request (1-5)			no concepts yet
	66	Names five textures			
	67	Copies triangle on request			
	68	Recalls 4 objects seen in a picture	✓		ok
	69	Names time of day associated with activities			
	70	Repeats familiar rhymes			
	71	Tells whether object is heavier or lighter (less than one pound)			
	72	Tells what's missing when one object is removed from a group of three			
	73	Names eight colors			
	74	Names penny, nickel and dime			names penny
	75	Matches symbols (letters and numbers)			
	76	Tells color of named objects			
	77	Retells five main facts from story heard 3 times			
	78	Draws a man (head, trunk, 4 limbs)	✓		see cognitive 59
	79	Sings five lines of song			
	80	Builds pyramid of 10 blocks in imitation			
	81	Names long and short			

Age Level	Card	Behavior	Entry Behavior	Date Achieved	Comments
	82	Places objects behind, beside, next to		/ /	
	83	Matches equal sets to sample of 1 to 10 objects		/ /	
	84	Names or points to missing part of pictured object		/ /	
	85	Counts by rote 1 to 20		/ /	
	86	Names first, middle and last position		/ /	
5-6	87	Counts up to 20 items and tells how many		/ /	
	88	Names 10 numerals		/ /	
	89	Names left and right on self		/ /	
	90	Says letters of alphabet in order		/ /	
	91	Prints own first name		/ /	
	92	Names five letters of alphabet		/ /	
	93	Arranges objects in sequence of width and length		/ /	
	94	Names capital letters of alphabet		/ /	
	95	Puts numerals 1 to 10 in proper sequence		/ /	
	96	Names position of objects first, second, third		/ /	
	97	Names lower case letters of alphabet		/ /	
	98	Matches captial to lower case letters		/ /	
	99	Points to named numerals 1 to 25		/ /	
	100	Copies diamond shape		/ /	
	101	Completes simple maze		/ /	
	102	Names days of week in order		/ /	
	103	Can add and subtract combinations to three		/ /	
	104	Tells month and day of birthday		/ /	
	105	Sight reads 10 printed words		/ /	
	106	Predicts what happens next		/ /	
	107	Points to half and whole objects		/ /	
	108	Counts by rote 1 to 100		/ /	

fectively for children. Thus, tests will be selected and administered solely for this purpose. Stress will continue to be given to informal assessment which includes observation and recording of how a child accomplishes a task, or why he fails to accomplish it. Behavioral checklists will continue to be administered to aid in determining each child's present behavioral skills.

To facilitate planning for individual children, the Project staff has devised the *Portage Guide to Early Education* (Shearer, Billingsley, Frohman, Milliard, Johnson, and Shearer, 1972). The guide is in two parts: a) a *Developmental Sequence Checklist*, which lists sequential behaviors from birth to five years of age in five developmental areas—cognitive, language, self-help, motor, and socialization (See Figure 1); b) a *set of Curriculum Cards* to match each of the 450 behaviors stated on the Checklists, using behavioral objectives to describe the skill and suggesting materials and curriculum ideas to teach each of these 450 behaviors (See Figure 2).

The Checklist is used to pinpoint the behaviors the child already exhibits in the five developmental areas. The behaviors on the Checklist that indicate emerging skills (those unlearned behaviors immediately following learning behaviors) are those that the home teacher may wish to target for learning. The numbered behavior can then be referred to in the deck of cards which state the goal in behavioral terms and suggest materials and methods for teaching the skill. These materials can only serve as a guide for the home teacher. Fully 50% of behaviors actually prescribed for children are not to be found in the Checklist; but they may well be a behavior leading to a long term goal which may be listed in the Checklist. Prescriptions are written with the goal that the parent and child will succeed on each prescribed task within one week. Thus the behaviors listed on the Checklist should often be thought of as long term goals which need to be divided into smaller behavioral segments. These can then be chained together to achieve the long term goal. Thus the child determines the curriculum, not the Checklist.

Following both formal and informal assessment, the home teacher often suggests three or four behaviors that are emerging and could be prescribed. The parents are given the choice as to which behavior they would like to target first.

The chosen goal, stated as a behavioral objective, together with directions, is then written on an activity chart by the home teacher and presented during the next home visit. As parents experience success and gain confidence in their ability to teach their child and record his

behavior, prescriptions are gradually increased to three and four per week. These activities are often in several areas of development. For instance, the parents might be working on reducing tantrums, buttoning and counting objects all within the same week.

The Home Teaching Process

The home teacher writes up an activity chart incorporating the parents selection of targeted behavior (See Figures 3 and 4). Again the most important point is for the home teacher to break tasks down and prescribe only those that can be achieved within one week. This provides the parents with rapid reinforcement since what is learned by the child is a direct result of parental teaching. The directions are written so that the parents will have no difficulty understanding them, should they need them to refer to during the week. Recording is always uncomplicated and usually involves recording frequency counts, especially in the beginning.

First the home teacher introduces the activity to the child and records baseline data—the frequency of correct responses prior to instruction. This data is recorded on the activity chart. The home teacher then follows the directions he/she has written on the chart and begins the teaching process. The home teacher thus is modeling teaching techniques for the parents, showing them what to do and how to do it. After several opportunities, the parent takes over and works with the child modeling for the home teacher. The home teacher then is able to offer suggestions and reinforcement which increases the likelihood that the parents will record during the week.

Every attempt is made to utilize materials available in the home, however, there are times when materials are brought in and left for the parents to use.

Throughout the visit the home teacher stresses the importance of working with the child during the week. The home teacher leaves his/her home and office phone number with the parents and encourages them to call if any question or problem arises during the week. When the home teacher returns the following week, postbaseline data is collected on the previous week's activities. This helps the home teacher validate the accuracy of the parent's recording, provides the teacher with feedback concerning the degree of success achieved by the child and the child's readiness for the next sequential step.

AGE 3-4**TITLE: Copies series of connected V strokes VVVVVVV****WHAT TO DO:**

1. Draw a series of V strokes. Encourage the child to trace over the letter first with his finger and later with a crayon or pencil. Help by guiding his hand.
2. Have him draw with you making one line at a time.
3. Make a row of connected V strokes. Then have the child draw more rows as you give him verbal directions "up, down, up, down."
4. Have child make a row of V strokes on paper. When he finishes make it into a picture of mountains, grass, trees, etc. for him.



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cognitive 61**AGE 3-4****TITLE: Names objects as same and different****WHAT TO DO:**

1. Put 3 sets of two identical items in a box, (two forks, two blocks, two combs).
Ask child to find two things that are the same in the box.
2. Repeat above activity using pictures or textures.
3. Use assortment of paired items telling the child they are the same. Mix them up and tell the child they are different. Present pairs of same and different items to child and have him tell you if they are the same or different.
4. Help the child by giving him clues of the first sound of the word. Say, "These are the s-s-s." Let child finish word.
5. If child has difficult, initially ask him, "Are they same or different?" Gradually fade this and just ask "Tell me about these."



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FIGURE 3
Example of complete activity chart

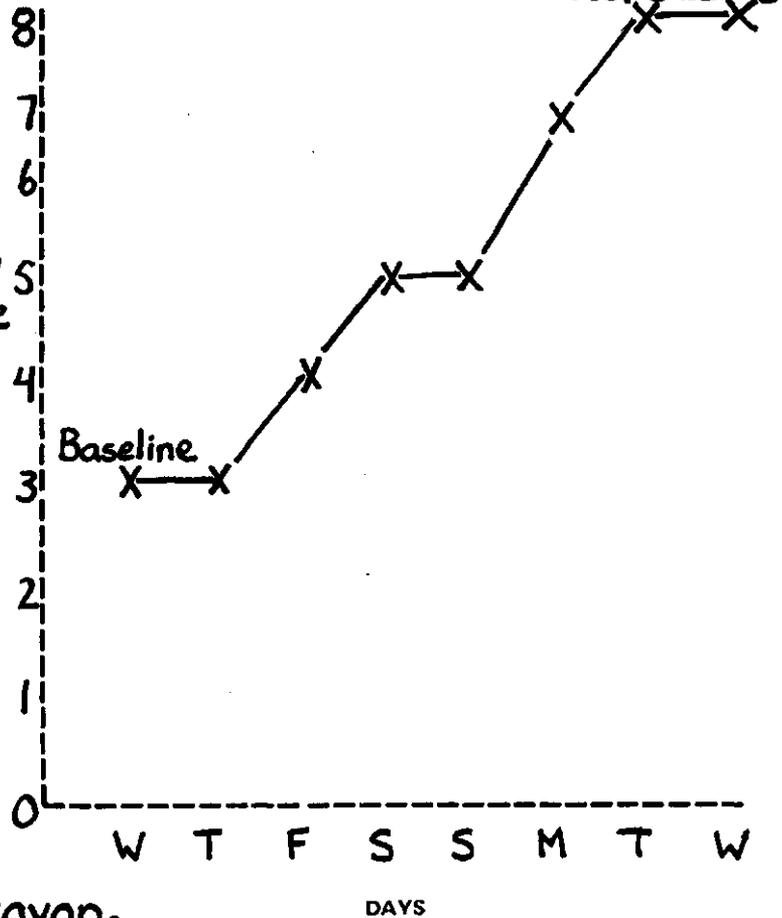
ACTIVITY CHART

Child's Name Lonny
 Home Teacher's Name Susan
 Week of December 10

CREDIT: yes no
 Post Baseline

BEHAVIOR: Lonny will grasp a large crayon and while holding it correctly will trace over a horizontal line. 8 trials/day

NUMBER OF: times Lonny traces over line holding crayon correctly



DIRECTIONS:

Use a large sheet of paper and with a crayon, make a line across the paper. Tell Lonny to watch you — using a crayon of another color trace over the line in one continuous movement. Then give Lonny the crayon and tell him it's his turn. Praise him as he traces and clap your hands when he finishes. If he has difficulty put your hand over his to guide him — praise, but only clap and record success if he traces over the line without your help.



FIGURE 4

Example of complete activity chart

ACTIVITY CHART

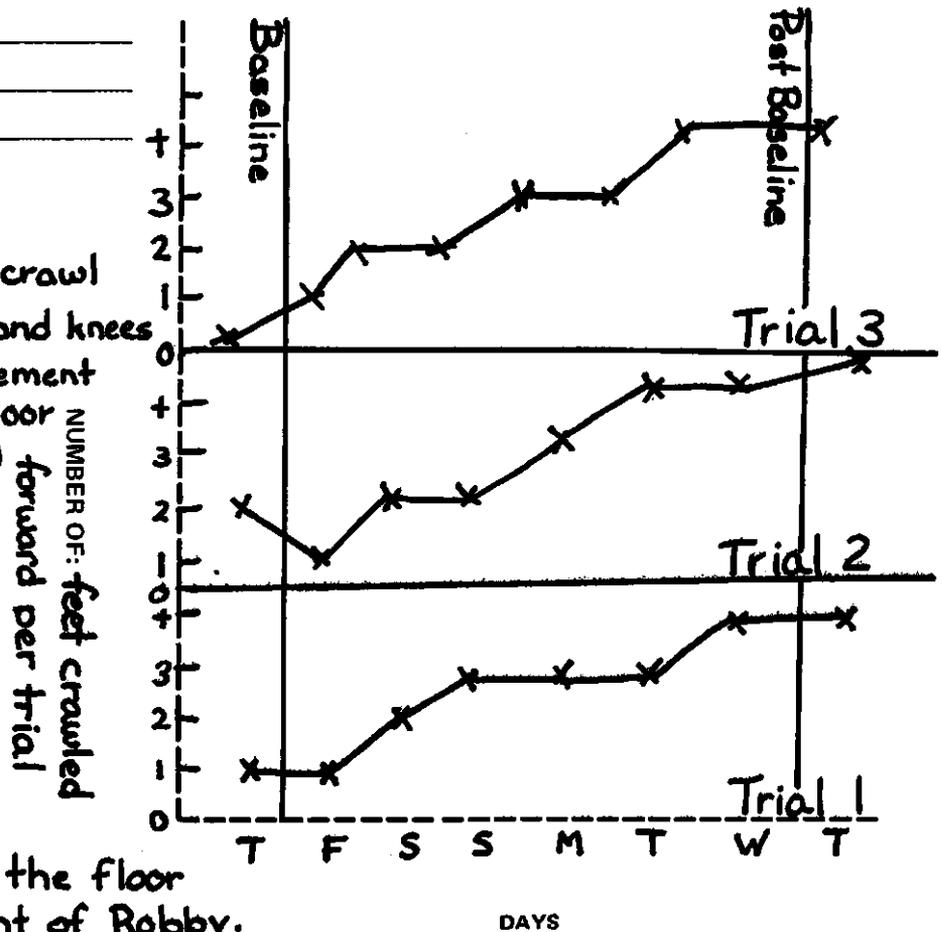
CREDIT: _____ yes _____ no

Child's Name Robby

Home Teacher's Name Kathy

Week of March 10

BEHAVIOR: Robby will crawl forward on hands and knees using left-right movement with stomach off floor (towel for support)



DIRECTIONS:

Place a goodie on the floor about 1 foot in front of Robby. Help position him by putting his hands in front of him. Then take the beach towel and place it under his stomach and pull up holding on to the ends of the towel until he's on his hands and knees. Encourage him to move towards the goodie. Praise each movement forward and as he gains in skill, increase the distance between Robby and the treat. Reward with treat when he reaches it. Practice 6x each day but just record number of feet crawled forward on the first 3 trials.



Based on this data, the home teacher alters the previous prescriptions or introduces new activities beginning with taking baseline data. And so the cycle is repeated. At the completion of each home visit, the parents write an evaluation of the week's progress, which often serves as an additional source of information for curriculum planning and modification.

This is the sequence of the home visit process. However, in reality, in the beginning, intermediate and/or additional steps are sometimes necessary to the parent teaching process. Parents are not the same, thus it is as important to individualize the teaching process for them as it is for their child.

Parents have successfully participated in the Project who are themselves retarded (activity charts are not used, however the parents still recorded utilizing adaptations in the charting system.)

Babysitters and other caretakers have taught children and the children's gains have been significant. Parents who, prior to Project involvement, said they had given up trying to teach their child anything have, in fact, taught their child a great deal. (Readers are referred to a parent monograph to be published by Technical Assistance Development System, University of North Carolina for a detailed description of the Project's Parent Training Program.)

Staff Training

The Project staff consists of special educators, speech clinicians, psychologists and paraprofessionals. However, *all* staff members are first home teachers. That is their behaviorally defined role—regardless of professional background or additional responsibilities. Professional and paraprofessional home teachers have precisely the same roles and responsibilities including case finding, assessment, curriculum planning and data keeping. A study was conducted comparing gains made by children served by paraprofessional and professional home teachers. Interestingly, the data indicates that paraprofessionals did slightly better—though the amount of gain was not statistically significant (Schortinghuis and Frohman, in press). New staff are provided with indepth preservice training conducted by experienced home teachers (Shearer, 1970). This training usually takes two weeks and is individualized for each new staff member depending on their entry knowledge. Approximately half of the training occurs by observing an experienced home teacher in all project components—particularly assessment, the home teaching process and curriculum planning.

One half day is set aside each week for inservice training. Specific problems encountered during the week are discussed. The entire staff is then able to serve as a valuable resource to each other. The home teacher selects the suggestion that will be carried out the following week, and this is recorded. Two weeks later the home teacher reports back to the group and, if necessary, additional modifications are made until success is achieved. Weekly staff meetings, for the purpose of problem solving, is particularly vital when this delivery system is utilized. The home teachers are "on the road" each day and do not have a teacher down the hall or a principal to provide immediate help as problems arise. Thus weekly meetings provide the home teachers with suggestions for curriculum modification that can be utilized the following week. As one home teacher said, "Frustration never lasts longer than Friday."

Data Collection

The *activity charts* that have been left with the parents are collected at the end of each week. These charts together with a *progress report* are turned in weekly. The progress report lists the prescribed behaviors from the previous week and the home teacher records whether the child has attained criteria needed before success can be recorded. Prescriptions for the coming week are also recorded on the weekly progress report. A *behavioral log* is kept for each child (See Figure 5). All activities and the date they were prescribed are written on the log. Each success and the date the prescription was achieved is recorded according to developmental area. This log provides an ongoing record of every behavior prescribed, each success achieved and the duration of each prescription. Additionally this log also provides a percentage of success achieved by parent, child and home teacher. The continual input of data allows supervisory personnel and each home teacher to spot problems quickly, thus providing a continual feedback system for program monitoring and modification (ABT Associates, Inc., 1972).

Use of Community Resources

The Portage Project is an educational model. The only reason for being in the home is to teach the parents to teach the child. Yet, often, the parents present other problems to the home teacher for solution. The teachers' expertise is in *teaching* not social work, counselling, psychology, psychiatry, etc., but it is their responsibility to be aware of community resources that can serve these

FIGURE 5

Example from behavioral log kept on each enrolled child

BEHAVIOR EVALUATION

Period 9/3/73-10/16/73

Child Jim

Teacher Jean

Specific Goal	Date	Date Accomplished					
attends to tasks - 10 minutes	9/3					10/2	
places O + □ in formboard with help	9/3	9/10		9/10			
places O + □ in formboard no trial+error	9/10	9/17		9/17			
strings 5 beads in 2 minutes - no aid	9/10			9/17			
stands on 1 foot 5 seconds with support	9/10			9/17			
stands on 1 foot 5 seconds no support	9/17			10/2			
names 7 action pictures in imitation	9/17		9/24				9/24
names 7 action pictures no model	9/24		10/2				
names pictures using 3 word phrase	9/24						
puts on pants - no aid	10/2				10/9		
hops on 1 foot in place with support	10/2			10/9			
unbuttons 4 buttons - pushed 1/2 way thru hole	10/2			10/16	10/16		
unbuttons 4 buttons - no aid	10/9			10/16			
traces letters M+N with finger	10/9	10/16					
draws letters M+N by connecting dots	10/9	10/16					
draws □ by connecting 4 dots	10/16	10/23		10/23			
Total							
		Cognitive	Communicative	Motor	Self-Help	Socialization	Parent/Child



other needs. It then must be the parent's decision to contact or not to contact the suggested sources. The option and decision must be left with the parents.

Approximately 60% of the children served are seen periodically at outpatient or diagnostic evaluation centers. *The home teacher accompanies the parent and child on these clinic visits* to illicit suggestions for curriculum from clinic staff and with the parent, to inform the staff of the progress of the child. Two additional spin-offs of this involvement have included: 1) an increase in referrals from the hospitals and clinics, and 2) perhaps more important, parents and children were no longer waiting for hours to be seen for a few minutes.

The Portage Project staff does not employ a nutritionist, a social worker, an occupational therapist, a nurse, a psychiatrist or a physical therapist. Although all of these people could have been hired while the Project was federally funded, the cost of such personnel would have drastically increased cost thus reducing the likelihood of program continuation with state and local monies. Additionally, model replication in other rural areas would be severely limited due to cost. It is believed that the utilization of existing community resources can best serve the staff, the parents, and the children's needs in a cost effective manner.

Project Evaluation Results

The average IQ of the children in the Project was 75 as determined by the Cattell Infant Test and the Stanford-Binet Intelligence Test. Therefore, it would be expected that on the average, the normal rate of growth would be 75 percent of that of the child with normal intelligence. Using mental ages, one would expect that the average gain would be about six months in an eight month period of time. The average child in the Project gained 15 months in an 8 month period of time.

Approximately sixty percent of the parents have been able to fully plan curriculum and write up activity charts without teacher assistance. This occurs as parents demonstrate readiness to take more of an active role in planning. Access to the curriculum guide and any other planning aids are made available and any help needed in writing up activity charts is given during the home visit. Gradually the home teachers visit less frequently as the parents assume responsibilities in the planning as well as the teaching phase of the program.

A significant number of parents have reported that they are using the teaching techniques learned from the home teacher to change behaviors of other family mem-

bers, in addition to the targeted child.

Children who, because of age, remained in the Project after one year were retested in September, and these test results were compared to the scores achieved the previous June. Although it would be expected that some regression would occur, there was no significant difference in the scores. This may indicate that the parents continued to work with and reinforce behaviors even though the home teacher was no longer making visits.

An average of 128 prescriptions were written per child. The children were successful on 91 percent of the prescriptions written by professional and paraprofessional staff.

An experimental study was conducted involving randomly selected children attending local classroom programs for culturally and economically disadvantaged preschool children. The Stanford-Binet Intelligence Scale, the Cattell Infant Scale, and the Alpern-Boll Developmental Skills Age Inventory were given as pre and post-tests to both groups. In addition, the Gessell Developmental Schedule was given as a post-test to both groups. Multiple analysis of covariance was used to control for IQ, practice effect, and age. The greater gains made by the Portage Project children in the areas of mental age, IQ, language, academic and socialization skills were statistically significant, as compared to the group receiving classroom instruction (Peniston, 1972).

Using the children as their own control, test results and behavioral gains were compared and measured. The mean gain in IQ scores on the Alpern-Boll Developmental Skills Age Inventory was 13.5 and was statistically significant beyond the .01 level. The mean gain in IQ scores on the Stanford-Binet was 18.3 and was statistically significant beyond the .01 level (Shearer and Shearer, 1972).

Five years ago, 55 children and their families were provided service through federal funding. This year, 150 children are being served with state and local monies.

Cost of Program Services

School districts contract on a per pupil basis with the Cooperative Educational Service Agency #12. Presently, the gross cost charged by the Agency to the school districts is \$622 per year per child. The State Department of Public Instruction reimburses each school district 70% of teachers' salaries. Thus, local districts pay about 50% of total Project cost—approximately \$300 per year per child. It is anticipated that the cost will continue to reduce as more children are served by the Project.

The Portage Model

The Portage Model incorporates the major components of the original Portage Project. These include:

- 1) an educational program which takes place in each enrolled child's home implemented by home teachers who visit each family weekly
- 2) assessment using the Alpern-Boll Developmental Profile and the Portage Guide to Early Education if appropriate, plus any other assessment instruments necessary to plan curriculum
- 3) implementation of the precision teaching model
- 4) curriculum planning with the expectation that children will achieve each prescribed goal weekly
- 5) weekly staff meeting for the purpose of problem solving and curriculum modification

Replications

Funding from the Bureau for the Education of the Handicapped, O.E. to the Portage Project has provided training and technical assistance to various additional demonstration sites throughout the nation for replicating the Portage Model. The sites were selected based on a variety of administrative and staffing patterns and funding sources including Head Start, public schools, state institutions, and private faculties. Children served in the replications included the handicapped, the non-handicapped and those classified as high-risk. Rural and urban sites are included.

A contract between the Portage Project and the replication agency details the commitments of both programs to provide quality service to children. Primarily the Portage Project provides training to the replication site which includes a site visit to the agency for one week of training in the various components of the Portage Model. Frequently, staff from the replication site visit the Portage Project and go on home visits to see the Project model in operation. At least two additional follow-up visits to each replication site are scheduled to observe the program in operation and to help plan for the coming year. The replication site agrees to share pre and post data with the Portage Project in order that Outreach efforts and their results can be reported to BEH and disseminated widely. Each contract specifies that after one year of training and technical assistance, the replication site will be fully operational.

These demonstration replications will themselves serve as models in their regional area. It is planned that staff from these replication sites will provide training and technical assistance to additional programs in their region who wish to initiate the Portage Model.

It is hoped that with continued BEH funding for model implementation many children, presently not receiving services will receive quality programming to meet their special and exceptional educational needs—and, as vital, to increase training for parents—the child's first and potentially his best teacher.

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Parent Intervention in the Education of the Preschool Handicapped Child

by Richard D. Boyd, Psychologist and Ellen D. Boyd, Teacher on the Portage Project, Portage, Wisconsin

Growing awareness of the importance of the preschool years in a child's development has stimulated the search for new and more effective early intervention programs for the handicapped. One such model, developed and refined over the past five years, is the Portage Project, a program of parent intervention in the education of the preschool handicapped child.

The Portage Project presently serves approximately 150 children in a 3,600 square mile rural area of south-central Wisconsin. Children are accepted into the program who exhibit significantly delayed development in the areas of motor, self-help, social, language, or cognitive behavior, and who are between the ages of birth and six years. The program provides a home teacher who visits approximately fifteen children weekly and who teaches the parent how to teach the child; the parent then works with the child throughout the week.

Originally intended to serve children in classrooms, the Portage Project switched to a home-based delivery system because of the geographical, financial, and transportation difficulties in busing young handicapped children. However, there are many advantages to serving preschool youngsters in the home with the parent being the primary agent of behavior change: 1) learning is occurring in the natural environment, thus mitigating the transfer of learning problems and also providing constant access to behavior as it occurs in functional situations, 2) by working with the parent who then teaches the child, the parent learns more effective parenting and teaching behaviors which, hopefully, will generalize to new learning situations and to other siblings, 3) each child is provided with an individualized curriculum designed to meet his unique learning style and needs, 4) serving children in the home not only eliminates the physical distance between home and school, but also attenuates the psychological distance sometimes established between home and school.

The Portage Model

Children are referred to the Portage Project from a variety of sources, including public health nurses, physicians, local school personnel, social workers,

relatives, and parents. Once a child has been referred, a home teacher arranges to make a screening visit, during which she describes the program to the parents and administers the Alpern-Boll Developmental Profile. This instrument is easily administered and assesses a child's functioning in five developmental areas: physical, self-help, social, language, and academic. Items on the Developmental Profile can be scored through parent interview or they can be presented directly to the child. Test data provides a functional age level in each of the five areas, indicating strengths or weaknesses. Additionally, the results help determine a child's eligibility for the Project and serve as a basis for curriculum planning.

With this formal assessment as well as the home teacher's informal observations, reference is made to the *Portage Guide to Early Education* to develop an appropriate curriculum for the child. The Portage Guide comes in two parts, a set of over 420 curriculum cards and a checklist of sequential skills. The checklist is completed after the initial screening visit, detailing in each of the five developmental areas behaviors already within the child's repertoire, as well as identifying emerging skills. This information serves as the starting point for curriculum planning and the development of the initial prescriptions for the child. Use is made of the curriculum cards to suggest activities and materials to use in teaching the behaviors listed on the checklist. Although the curriculum guide may be used as an aid in planning appropriate tasks, the home teachers are encouraged to make any necessary variations to insure an individualized program for each child. For example, a behavior listed on the checklist may have to be broken into several subtasks so that the prescriptions will be small enough for the parent and child to succeed within a one week period of time.

The Home Teaching Process

The home teacher visits each child's home for one and one-half hours per week. During this time she teaches the parent how to teach the child a particular skill. Prepared to work on three to five different activities in any or all developmental areas, the home teacher first takes

baseline data to determine how well the child can perform a certain task initially. This information will be compared at the end of the week with the child's performance after working on the skill with the parent each day. If, at this time, the child achieves at least eighty per cent success on the task, the date of acquisition is noted on the checklist. A record is also kept on the date a task was introduced as well as acquired, so that a complete record of the child's progress is available at all times.

The parent observes child and home teacher working on a desired behavior and then the parent works with the child on the task under the guidance of the home teacher who may give suggestions on presentation or reinforcement of the task.

At the end of each session, the home teacher gives the parent three or four "prescriptions" or minutely detailed instructions (in writing) as to how to help the child learn a particular task. Parents are usually instructed to work with the child at least once a day on prescribed behaviors. Materials which the home teacher may have brought with her to facilitate learning are left in the home, although an effort is made to utilize objects already within the home for learning. The parent is also given an activity chart on which to record the number of successes and failures achieved on skills during the week. This chart is checked by the home teacher on each visit. Recording daily behavior on a task can help the parent see immediately that the child is learning, or can pinpoint particularly difficult areas for the child and also helps the home teacher evaluate the effectiveness of a prescribed task. If the child has not successfully acquired the targeted behavior in one week, the task must be broken down further to a level at which the child *can* succeed in a week, then proceeding to a sequentially more difficult aspect of the desired behavior.

Weekly Staff Meetings

An essential ingredient of the Portage Project is the weekly staff meeting. Held on Friday afternoons, the staff meeting affords each of the home teachers an opportunity to share problems and successes with the other home teachers, thus gaining new insight into children and the ways in which they acquire behavior. The suggestions and encouragement received are valuable reinforcement for home teachers who are alone on the road the remainder of the week. Additionally, the staff meeting gives the home teachers a chance to ask another home teacher or resource person to accompany her on a home visit to make firsthand observations of a challenging problem. Thus, a home teacher may request that a speech

therapist go on a home visit in order to suggest activities that would be appropriate in the area of speech or language development; a psychologist might be asked for suggestions in child management.

The Importance of Parent Involvement

One of the most significant aspects of the Portage Project is its emphasis on parent involvement, since there are indications that when the parent works with the child on learned behaviors, more noticeable and rapid improvement takes place. Related to this is the ease in establishing rapport with the parent, who may feel more comfortable in her own home; the home teacher has the opportunity to observe interaction between the parent and child and may intervene in cases where parental negativism is apparent in disciplining or working with the child.

More practical advantages are also noted; the child practices every day and is reinforced daily for his progress, a positive aspect of any learning situation.

Parent involvement is emphasized because when the focus is placed upon this factor, learning is apt to be longer lasting and more significant in terms of number and type of behaviors acquired. If a child improves in a classroom situation, but then returns to a home environment in which successes are not reinforced or no attempt made to help the child stabilize his learning; if poor learning models are provided or the child is punished for involuntary behavior; in short, if the home setting is such that any gains made in the classroom are cancelled by parental attitudes or lack of concern, then a classroom has reduced efficacy, and the child may require special help throughout his school years. If, however the home teacher can produce carry-over to all learning situations encountered by the child by helping the parent help the child, success is more readily attainable.

In giving the parent success in teaching the child to acquire a desired behavior, the home teacher is giving the parent a sense of self-worth and pride that will doubtless have an effect on the overall parent-child relationship and will serve to foster continued positive relationships between parent and child in every aspect of life. Through a home training program, the parent can become what he or she has the potential for: being the child's best teacher, a natural consequence of the parent knowing the child better than anyone else, and in most cases, spending more time with him than anyone else. Too often, however, this is not achieved because the parent simply does not know how to help the child. A home training program can provide this knowledge and establish learning on a

long-term basis, rather than merely eliminating a few inappropriate behaviors for a short period of time.

Project Results

The Portage Project has experienced unusual success during its five years of operation. Originally funded from a Federal Grant (Title VI-C) for the first three years, the program has been supported the past two years through the local school districts. Additionally, the United States Government's Bureau for the Education of the Handicapped has supported the Project's efforts to disseminate the Portage Model to approximately ten other agencies to demonstrate that the model is viable irrespective of urban/rural areas, administrative structure, or type of child served. More important, however, is the effective-

ness of the program with the children served. In one study, the children served demonstrated a thirteen month gain in mental age during an eight months period of time, and this was when the group had an average I.Q. of 75. Furthermore, the number of children in the project has grown from 40 in 1969-70 to approximately 150, with a significant number of these children having been referred by their own parents, thus demonstrating the positive community support for the program.

Although the statistical results are important for evaluative purposes, the most meaningful and rewarding evidence occurs in the home where the home teacher can observe weekly the child's progress and the parents' growth as an effective teacher of their child. From anxious, sometimes bewildered parents, have emerged assured, independent parents fully capable of teaching and coping with their handicapped child.

A HOME BASED PARENT TRAINING MODEL

By
Marsha S. Shearer

The basic operational premises of the Portage Project, as they relate to parents are:

- 1) Parents care about their children and want them to attain their maximum potential, however great or limited that potential may be
- 2) Parents can, with instruction, modeling, and reinforcement, learn to be more effective teachers of their own children
- 3) The socio-economic and educational or intellectual levels of the parents do not determine either their willingness to teach their children or the extent of gains the children will attain as a result of parental instruction
- 4) The precision teaching method is the preferred learning model since feedback is provided daily to parents and weekly to staff, thereby reinforcing both when goals are met. Moreover, the method provides a continual data base for curriculum modification thus maximizing the likelihood of success for parents and children

Overview And Rationale Of The Home Based Program

The Portage Project operates administratively through a regional educational agency serving twenty-three districts in south-central rural Wisconsin. The Project presently serves 140 children, birth to school age, who have been identified as being handicapped in one or more developmental areas. Any preschool child, with any type or severity of handicap residing within the 3,600 square mile area served by the agency, qualifies for the early intervention project.

In the Portage Project there is no classroom program. Instead of having children come into a center, we use "home teachers" to visit in every child's home where they instruct the child's parents how to teach their own child. So our model is completely home based, rather than center based and parents with the help of home teachers do all the teaching of their own children.

Three practical factors influenced our decision to have an exclusively home-based program. The first was that we were dealing with such a large geographical area that the cost and responsibility of transporting very young handicapped children great distances was prohibitive.

Second, even when several children were identified within a smaller geographical area, such as one school district, the variance in chronological ages, functioning levels, and handicapping conditions precluded the possibility of establishing classroom programs. Finally, classroom programs would have severely limited parent involvement because of the geographical and psychological distances between home and school. On the basis of these factors we decided that all instruction would take place in the parent and child's natural environment—the home.

To implement this program, a home teacher is assigned to each child and family. This educator, who may be a trained professional or a trained paraprofessional, visits each of the assigned fifteen families one day per week for one and a half hours. Individual curriculum is prescribed weekly based on an assessment of each child's present behavior in the areas of language, self-help, cognitive, motor, and social skills. Utilizing the parents as teachers, the Portage Project follows the precision teaching model which is comprised of these elements:

At least three behavioral goals are selected for the child to learn each week. The goals and criteria for accomplishing them are chosen so that the child, and thus the parent, will achieve success within a one week period of time.

Baseline data is recorded by the home teacher on each new task prior to instruction to the parent as an additional check on the readiness of the child to proceed with other learning activities.

The parents implement the actual teaching process itself, including reinforcement of desired behavior and reduction or extinction of behavior that interferes with learning appropriate skills.

The home teacher records post-baseline data one week after the baseline is taken to determine if the prescribed skills have, in fact, been learned.

The purpose of the weekly home visit is to instruct the parents what to teach, how to teach, what to reinforce, and how to observe and record behavior. The home teacher instructs the parents (or siblings or parent substitute) during the home visit. Then, the parents or substitute teach the child and record his progress daily throughout the following week.

Parent Participation In The Intake And Assessment Process

After a child has been referred to the Project, (parents can and often do refer their own children) a home teacher contacts the parents and makes an appointment to visit the home to explain the project and meet and screen the child.

It is at this time that parents are told that they will teach their own child and that they will learn how to teach him by observing the instruction given by the home teacher. The following are examples of a few typical reactions of parents and resultant responses of the home teachers at this point.

- Parent: "Oh, I've tried teaching Mary, like how to walk, but she can't even crawl yet." Teacher: "Maybe teaching Mary how to crawl, if she's ready, would be a good place for us to begin."
- Parent: "We're not trained teachers; we can't do anything as important as that." Teacher: "You've been teaching Jim all along. Just look at all the things he can do. He makes sounds, he's beginning to feed himself, he matches objects, he points to body parts. You've taught him a lot!"
- Parents: "We've given up trying to accomplish anything. He just drives us crazy. You teach him and leave us out of it." Teacher: "I can't. I need you and so does Chris. While I'm here, I'll show you what to do and how to do it. I'm not going to ask you to try anything without showing you first that it's going to work. So let's give it a try together."
- Parent: "Oh, I don't have time to teach Todd." Teacher: "You do spend some time with Todd each day don't you? Okay, all I'm asking is that you spend that time working on these activities. I promise they won't take more than a half hour a day. And yell any time if you think it's too much."
- Parent: "I have no patience. I don't think I can do it." Teacher: "Sure you can, I'll give you all the help you need. Give the program a try for a month or so. If you don't think we're getting anywhere, you're free to withdraw at any time. But give it a try first."
- Parent: "I work all day, don't get home till 6:00 and by then I'm exhausted. I fix dinner for Dawn then she goes to bed. There's just no time for me to work with her." Teacher: "I'll be happy to work with Dawn's babysitter and I'll call you each week to keep you posted so you'll know how she's doing and what to work on during the weekend."

In this model there are certain practical advantages—not having to transport children or provide a center facility—that reduce the cost of the program by more than half. But even more importantly, there are inherent advantages that the Portage Project staff has experienced in the home-based, precision teaching model. These advantages are based on involving the child's first, and potentially his best teachers—his parents. The educational assets that we found are:

- The parent teaches the child in their natural environment. Therefore, they do not have the problem of transferring learning into the home as they would if the child were in a center-based program.
- This model is totally dependent on parent involvement for success. Since one and a half hours one day per week is not a sufficient amount of time for a child to learn developmental skills from the home teacher, parents must be taught to teach their own child between home visits. Thus, training parents is more than an adjunct—it is absolutely mandatory.
- Another major advantage in using the home-based precision teaching model is that the home teacher and the parents have direct access to the child's behavior as it occurs naturally. This situation engenders realistic curriculum goals that will be functional for the child within his unique environment. In fact, the differences in cultures, life styles, and value systems of parents are incorporated into curriculum planning, since the parents determine what and how their child will be taught.
- It is more likely that the skills that the child learns will generalize to other areas and be maintained if the skills have been learned in the child's home environment and taught by the child's natural reinforcer—his parents.
- Father, sibling, and extended family involvement becomes a realistic and obtainable goal. When instruction occurs in the home there is more opportunity for full family participation in the teaching process.
- There is access to the full range of the child's behavior, such as temper tantrums which only occur in the home or hearing from the parents that their child is crawling into bed with them each night. Much of this behavior could not be targeted for modification within a classroom. Finally, since the home teacher is working on a one to one basis with the parents and child, individualization of instructional goals for both is reality rather than an idealized goal.

But the most frequent reaction to our approach to parents is, "We've never gotten any practical help till now. Every time I take her in for an evaluation, we're told nothing. Oh, they tell us Penny will never walk and that she might be blind. But no one has ever told us what we can do to help."

After five years of working with nearly four hundred parents, we have found that the most frequent question asked during the initial visit is, "What can I do with my child; how can I help him learn?" Parents are accustomed to hearing what their child isn't doing, so it isn't surprising that they stress the negative too. And this brings us to the assessment process.

The child is screened during this first visit to determine project eligibility. All screening is done in the home, with parental consent and their help by contributing their knowledge of the child. The screening instrument (Alpern and Boll, 1972) which is also used as one of the pre-post measures, is administered as a parental questionnaire together with direct observation of the child's behavior, when possible. In fact, it couldn't be accomplished without them. We have found that the results are likely to be more reliable than if testing were done without the benefit of parent involvement because parents know their children best. Also, since the assessment instruments are administered on the parent's and child's "home ground", results are likely to be more accurate than if the assessment were attempted in a strange environment.

The assessment of the child also becomes the first step in parent training. During this process questions are asked by the home teacher concerning the child's present behavior in five different areas of growth and development. Many parents voice surprise at how much they know about their child in some areas and how little they know about their child in others. Parents make general remarks like: "I must have seen Johnny go up and down steps hundred of times, but I just haven't noticed if he does it with two feet on the same step or if he walks down like I do." If the parent is unsure of the answer to any question, the home teacher tests the child directly.

Many parents verbalize that they don't know if their child can cut with a scissors or ride a trike because they haven't given him the opportunity. Often, just asking the parents the questions gives them the clue to try. One parent called the office two days after initial assessment to report that not only could Suzie now cut paper following a straight line she also took advantage of her new-found skill and gave the family dog a haircut! (Fortunately, the mother was laughing.)

In addition to the Alpern-Boll, the Portage Checklist is also completed (Shearer, Billingsley, Frohman, et al 1972). A complete description of this instrument along with descriptions of other project components can be found elsewhere (Shearer and Shearer, 1972; Frohman and Schortinghuis, in press). This instrument lists a series of behavioral sequences from birth to age five encompassing self-help, motor, language, socialization and cognitive skills. This checklist aids the parent and teacher in breaking developmental tasks into smaller steps and then assessing whether the child exhibits the behavior on entry into the program. What the child can already do determines what he's ready to learn next. The results of the assessment are discussed with the parents. All of the parents' questions regarding the assessment are answered honestly and in understandable language without psycho-educational jargon. When we discuss the assessment with the parent, we emphasize what the child can do. This is because the curriculum the parent will be asked to carry out will be based on what he is ready to learn next. The process itself sometimes makes parents aware of the accomplishments of their children. One father said, "You know, up to this point, all I've really noticed are all the things Ronnie can't do. Guess he's accomplished a few things after all."

After the assessment is completed the home teaching process begins. Based on the information in the assessment, the home teacher often points out three or four behavioral goals that are emerging. The parents are given the choice as to which behavioral goal they would like to target first.

Parent Participation In The Delivery Of Services—The Home Visit Process

The home teacher writes up an activity chart incorporating the parents' selection of behavioral goals (see figures I and II). The most important point here is for the home teacher to break tasks down and prescribe only those which are most likely to be achieved within one week and can be achieved with high degree of probability. When success on these tasks is achieved the parents are immediately reinforced because what was learned by the child was a direct result of parental teaching. The directions are written in simple, clear language so that the parents can refer to them during the week. The parents are asked to keep simple records on the activity chart. At first recording is uncomplicated and usually involves frequency counts.

First the home teacher introduces the activity to the

FIGURE 1
ACTIVITY SHEET

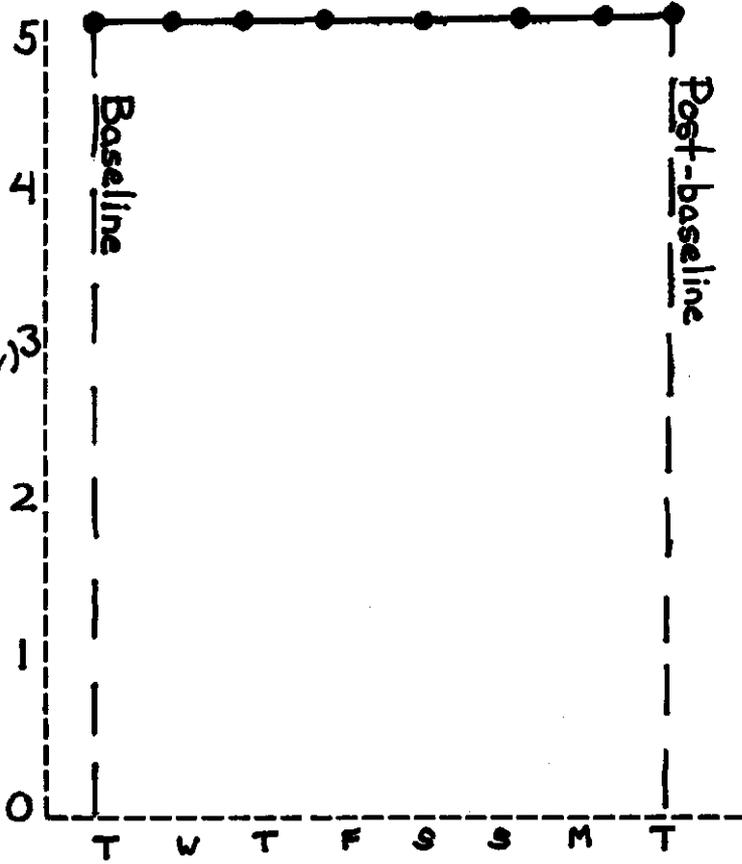
ACTIVITY CHART

CREDIT: _____ yes _____ no

Child's Name Jill
Home Teacher's Name Susan
Week of September 18

BEHAVIOR: Mom will tell Jill which of 2 objects is big and which is little (5 min./day)

NUMBER OF: Minutes Mom talks to Jill about big/little.



DIRECTIONS:

Use paired objects or pictures that are the same - except for size.
Talk with Jill pointing to and naming the objects that are big and little and encourage Jill to repeat the size word in imitation of you. Praise her each time she imitates. Use as many different examples of like pictures and objects as possible. Record the number of minutes you spend naming big and little each day.



child and records the frequency of correct responses prior to instruction. This baseline data is recorded on the activity chart. The home teacher begins the teaching process by following the written directions on the activity sheet. The home teacher is thus modeling teaching techniques for the parents—showing them what to do and how to do it. After several trials, the parents model for the home teacher. Extra activity sheets are provided so the parents can practice recording the child's behavior as they work with him while the home teacher is still there. The home teacher then is able to offer suggestions and reinforcement that will maximize the likelihood that the parents will work effectively with the child during the week and then the child will succeed with the prescribed activity.

Throughout the visit the home teacher stresses the importance of working with the child during the week. The home teacher leaves his or her home and office phone number with the parents and encourages them to call if any question or problem arises during the week. The home teacher returns the following week to collect post-baseline data on the previous week's activities. This helps the teacher validate the accuracy of the parents' recording and provides the teacher with feedback concerning the degree of success achieved by the child and his readiness to proceed to the next sequential step. Based on this data, the home teacher prepares a new activity sheet. On this new sheet the previous prescriptions are altered or new activities are introduced. Baseline data is recorded and so the cycle is repeated. At the completion of each home visit, the parent writes an evaluation of the week's progress, which often serves as an additional source of information for curriculum planning and modification.

Every attempt is made to utilize materials available in the home; however, there are times when materials are brought in and left for the parents to use. This works well because parents take care of materials. During the past five years, only two percent of these materials have been lost or broken.

This is the basic sequence of the home visit process. However in reality, sometimes modifications of the process are necessary. Parents are not the same, thus it is as important to individualize the teaching process for them as it is to do so with their child. The following are examples of how the process has been modified to accommodate individual differences among parents.

Parents Who Cannot Read or Write or Who Are Themselves Handicapped

One family had eight children, seven of whom were

in special education classes. The youngest, a preschooler, was at home and had been referred to the Project by the county nurse. The father kept all intruders away from the house with a shotgun and greeted the home teacher in this manner; however, both parents listened to an explanation of the Project. The conversation took place on the wooden porch which apparently was not able to hold the weight, and it collapsed! The home teacher was asked to come back the next week and, possibly because there was no longer a front porch, she was invited into the house where she met and screened Joey. Based on the assessment it was determined that Joey was functioning at the "trainable" level. After some discussion, the parents agreed to participate in the Project and work with the child.

There were instances when the home teacher had to teach the mother the skill before she could teach it to her son. Sometimes the learning occurred simultaneously. For example, one mother and son learned to name and discriminate between colors together, and both were equally proud of their accomplishments.

Because an activity chart would be of no use to this family, the home teacher relied heavily on demonstrating the teaching process necessary to implement each prescription, and on parent modeling. Recording was done on masking tape that was taped on the kitchen table with one piece of tape representing each day of the week. Hash marks were drawn on the tape which indicated to the mother the number of times the activity was to be practiced. The mother circled a hash mark for each correct response. Two older siblings were interested in the activities so the home teacher involved them in the teaching process too.

After one year in the project, Joey was the first child in this family of eight who was able to enter kindergarten. Testing data indicated he was functioning within the normal range.

Parents Who Do Not Work With Their Child Between Home Visits

Annie, the target child, was especially low in language skills and so the home teacher wanted to acquaint the mother (this is a single parent home) with the importance of verbalizing to the child. The first prescription was, "Mom will read a story, five minutes in length, to Annie each day." The parent could simply record on the activity chart, "yes" she did read, or "no" she didn't. When the mother still hadn't accomplished the task two weeks later, the home teacher had to think of a system to motivate the mother to read to the child.

FIGURE 2
ACTIVITY SHEET

ACTIVITY CHART

CREDIT: yes no

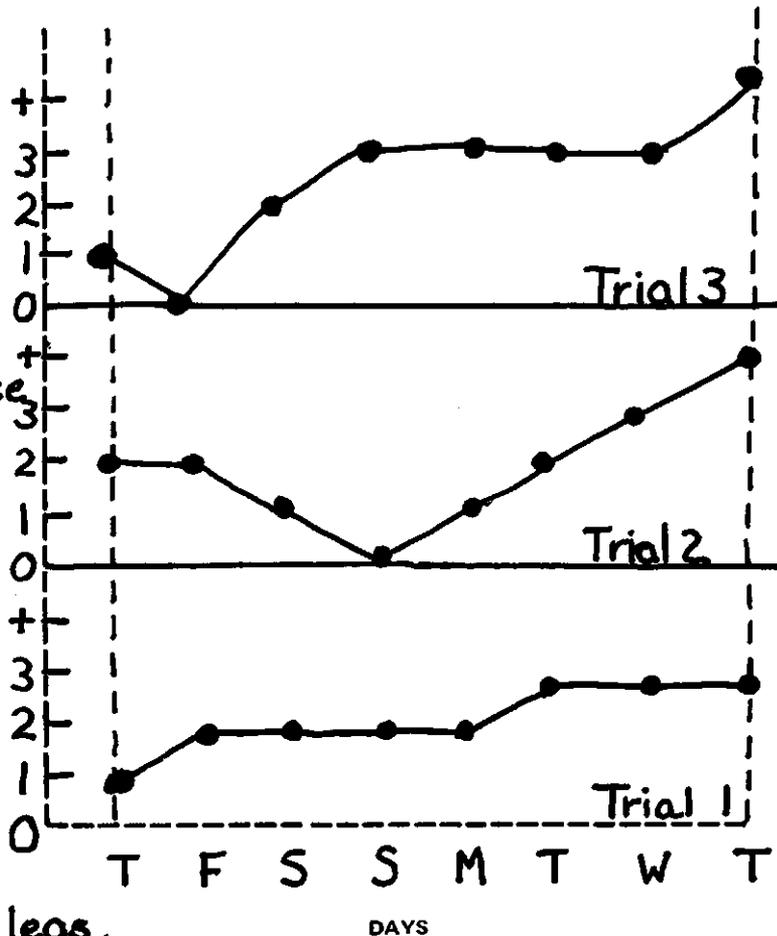
Child's Name Lonnie

Home Teacher's Name Helen

Week of December 10

BEHAVIOR: Lonnie will sit self-supporting without using hands for balance for 3 seconds.

NUMBER OF: seconds
without support
Lonnie sits



DIRECTIONS:

Sit on the floor with Lonnie between your legs.

Rather than let Lonnie rest against your stomach, place your hand against the small of her back.

Give her a special toy like the 'Busy Box' to play with. When she appears to be supporting herself, reduce the pressure on her back. Count the number of seconds she maintains that position without using her hands (putting them on your leg) without back support.

Talk to her as she sits. Practice 5 times a day, but just record the first 3 trials.



The Portage Project

The prescription was modified the following week so that the mother would read a short story to the child daily. The home teacher put each story book in an envelope which also contained a small present for the mother, such as a comb or a small vial of perfume. She hoped that the present would motivate the mother to open the envelope, although this was no guarantee she would read to the child.

The home teacher began thinking of another kind of reinforcer for the mother. She knew that the home was lacking in many modern conveniences, like running water. To get water, the mother had to walk one mile every week with a sled or a wagon, depending on the weather, to a nearby tavern which was the closest water supply.

The real payoff was to come at the next home visit. The home teacher had told the mother that if Annie could recall two facts about each of the stories that had been read to her that she, the home teacher, would get the water for the mother that week. The mother worked with the child that week and Annie could recall the facts. The best thing that happened from our point of view was that the mother was so reinforced by her child's success that she no longer needed to be coaxed into working with her child. Three weeks later, the mother said, "It's okay now. You don't have to get my water. I want to work with Annie."

Parents Who Do Not Record

Although all the parents need to do is record the total number of correct responses on the activity chart, there are so many parents that do not record during the first month that a single example would not be instructive. However gadgets like clickers, golf counters, and knitting counters are especially helpful. Even though none of the parents' data is used to add to or modify prescriptions, (baseline and post-baseline data collected by the home teacher determines that) it can serve as a major motivator for the parents because they can see small gains that might otherwise go unnoticed. Extra praise and attention from the home teacher or staying for an extra cup of coffee have been used as a reward for the parent who records. In one case the home teacher had been trying, unsuccessfully, to get the parent to record and the parent had been trying, unsuccessfully, to get the teacher to buy panty hose. They came to a mutual satisfactory trade off—recording data for panty hose.

Some "How To's" Of Working With Parents

The Project has learned several important lessons, some of them the hard way, as they relate to working with parents. A few of these suggestions are directly related to working in homes. However, most would be applicable regardless of the instructional setting.

Set Weekly Curriculum Goals

Choosing the goals and writing the prescriptions are the most difficult tasks the teacher faces, and probably the most important. In planning individualized goals for a child and the parents, it is important that the chosen goal be one that can be achieved within one week. There may be times that this goal will not be met; however, it is extremely important that successes occur frequently and quickly, especially in the beginning. When the child succeeds, the parents succeed since they are the ones who are doing the teaching.

At this point the teacher knows from the assessment that the child, among other things, is not toilet trained, doesn't feed himself, has temper tantrums, doesn't imitate sounds, can't sort primary colors and can't hop. Where to begin? Begin where he is—with what he can already do. It really does help to look at the things the child can do, rather than the things he can't. He does stay dry for one and a half hours; he can hold a spoon, dip it and get it to his mouth with help; he does make vowel sounds and some consonant sounds spontaneously; he can sort blue plastic cars from blue plastic spoons; and he does respond to praise and smiles. Now, what could be appropriate beginning objectives that are likely to be achieved within a week? Here are a few possibilities:

- The family members will take Johnny into the bathroom with them and they will model toileting behaviors.
- The mother will place Johnny on the toilet every one and a half hours for no more than five minutes. If Johnny performs appropriately, he will be given praise and a happy face sticker to put on the bathroom door.
- The mother will put Johnny in training pants during the day (not diapers).
- Johnny will sort blue plastic cars and yellow plastic spoons into two groups.

- Johnny will dip his spoon into sticky cereal (oatmeal) without help, will hold spoon without help, and will guide spoon to mouth with minimum aid (slight pressure on his elbow).
- The mother will count the number of tantrums Johnny has each day (baseline information).
- The mother will imitate any sound Johnny makes and she will count the number of times Johnny imitates her.
- Johnny will stand on one foot without support for five seconds.

The choice of activities would depend totally on our mythical Johnny. He determines the curriculum. The choice, in the beginning, should be based as much on the likelihood of success as on the importance of the skill.

Show The Parent What To Do And How To Do It

In teaching any new skill, it is important to model the behavior that is expected. For instance, in teaching a child to sort colors, a teacher wouldn't say, "Okay Johnny, sort colors." The teacher would show him what to do by doing it herself. Adults being taught new skills also learn better when given concrete examples. For instance, a parent is much more likely to deal with tantrums in a certain way if shown how to do it rather than being told how to do it. This means that the teacher may have to instigate a temper tantrum and then show the parents how to handle it. The teacher finds out what typically sets Johnny off and then creates the same situation. If the technique suggested by the home teacher doesn't work, something else is tried until a technique is found that does work. In this way a technique that will work is discovered and the parents are not frustrated by trying something that won't work. Teachers need not be afraid of trying and failing in front of the parents. The teacher is showing the parents that it is alright to make mistakes as long as the prescription is modified to achieve success. The teacher then, is modeling problem-solving behavior for the parents. The moral then is: there is always a solution.

Have The Parents Practice Teaching The Skill

The purpose of the home visit is to instruct the parents to teach the child, and one condition necessary for the parent's learning is the opportunity to practice. After the parents have seen the teacher work with the child and succeed, they need to experience the same success, since there is a major difference in seeing an activity being

taught and doing it yourself. Parents need to know they can teach effectively too in the presence of the teacher. Thus, parents will be more likely to carry out the activity when the teacher is not there. Also this provides an opportunity for the home teacher to spot problems quickly. For example, the parent might not let the child know when he is correct, or the parent might be giving too many cues or not enough. If these problems can be corrected before the teacher leaves, then the likelihood that the parents and child will succeed with the activity during the week is greatly increased.

Reinforce The Parents

Another condition necessary to learn new skills is reinforcement. Just as the child is more likely to perform actions that are reinforced, so are the parents. Let them know; tell them when they're doing it right and be patient. It is not reasonable to expect perfection from parents immediately. Sometimes the parent may have to break long-established behavior patterns of his own to be able to apply good techniques in teaching his child. For example, the parent may be used to doing things for the child that he can do for himself, ignoring "good" behaviors and attending to "bad" ones, or not talking to the child because he never responds anyway. It does take time, practice, and reinforcement to change old patterns, and parents should be praised for small improvements. Small improvements lead to big ones!

Individualize For Parents

Some parents have experienced so much failure when trying to work with their child in the past, that they do not want to try again. To change this "I give up" attitude to an "I did it!" attitude may mean that the home teacher must offer parents more tangible encouragements than praise. In one home, for example, the teacher and parent drank a beer together and socialized after the home visit if the child had accomplished the skill. (It was the home teacher's last visit of the day!)

This rather atypical example serves to show that in the beginning, praise alone may not be enough to motivate some parents. However, once parents see that they can succeed and that their child can learn as a result of their teaching, you can substitute praise for more tangible reinforcers. Success is the greatest reinforcer of all, but in some cases extraordinary measures need to be taken just to get the parents involved so they can experience success.

Involve The Parents In Planning

As the parents experience success in teaching their child, the home teacher should reduce her help and involve the parents in planning weekly goals. Thus, the parents do not become dependent on the teacher but become confident and self-reliant in planning the curriculum for their child as well as teaching it. Some parents will reach this stage six months after they begin in the program, and some after six years. The parents should be encouraged to take as much responsibility as they can, but the home teacher should always be ready to give support, reinforcement, help, and encouragement based on the parent's needs.

Evaluation Of Parent Participation

There are several ways to measure the degree of parent participation. One is to measure the progress of the children. One of the most traditional ways to do this is to compare I.Q. scores. The average I.Q. of the children in the project was seventy-five as determined by standardized intelligence tests. Therefore, it would be expected that on the average, the normal rate of growth would be seventy-five percent of that of the child with normal intelligence. One would expect that the average gain would be about six months in an eight month period of time. However, the average child in the project gained fifteen months in an eight month period. Although the home teachers did help the parents plan the curriculum, these gains in I.Q. could only have been attained through parental teaching.

Another way to evaluate the parents' effectiveness is to test the child after the summer vacation since the program does not operate during the summer months. Children who are too young to go to public school and remain in the project longer than one year are retested in September, and these test results are compared to the scores achieved the previous May. In the past there was no significant difference in the scores although some regression might have been expected. This indicates that the parents continued to work with the child and reinforce him even though the home teacher was no longer making visits.

Ninety children were served by the project last year and the frequency of parental recording over the year's period of time was ninety-two percent. An average of one hundred and twenty-eight prescriptions were written per child over a year's period of time. The children were successful on ninety-one percent of the prescriptions written. This indicates that the parents taught the children

during the week, and that, based on post-baseline data taken by the teacher, the children did indeed learn.

The success of this model also can be measured by the ability of parents to plan curriculum without assistance. Approximately sixty percent of the parents have been able to plan curriculum fully and write up activity charts without teacher assistance.

Furthermore, we have found that a significant number of parents are using the teaching techniques learned from the home teacher to change the behavior of other family members, in addition to the targeted child's.

The Project has attempted to conduct surveys about the program after the program year ended to determine if a relationship existed between amount of gains made by the children and the parents' attitudes. However, the parent's comments were so positive that no relationship could be drawn. (Peniston, E., 1972).

We think that one of the most significant informal evaluations of our project was the fact that the parents fought so hard to make sure it was funded. Two years ago (before mandatory legislation was enacted in Wisconsin) federal funds were discontinued for the direct service component of the Project. In order for the program to continue, financial support from local public school districts was necessary. Most school boards were eager for program continuation and contracted with the agency for service. Where there were exceptions, parents organized on their own and went to school board meetings requesting service. They apparently were quite influential since four districts in question did opt to purchase the program. (One father told a school board that if the district didn't buy the Project, he would move his family to a school district that would!)

Final Comments Regarding The Portage Home Based Program

This model depends upon a structured, concentrated interaction between the home teacher, the parents, and the child. It is important to be task-oriented during the home visit. There is much teaching to do, yet there is usually some time left for having a cup of coffee and socializing. During this time a parent may talk about marital, financial and other personal problems, and the home teacher can, and should, refer the parent to agencies or people who are trained to help. The teacher's expertise is in teaching—not social work, counseling, psychology, or psychiatry—but it is her responsibility to be aware of community resources that can serve these other needs. It then must be the parent's decision to

contact or not to contact the suggested sources. The option and decision must be left with the parents.

Each teacher should set up a scheduled day and time for the home visit. If there is a change, parents should be informed. Because a family may have a handicapped child or may be in need of assistance does not mean the family must forfeit their right to privacy.

The teaching staff members may see homes and family life styles very different from their own. Thus, it is vital for the teachers to realize and accept that they are in the homes to aid the parents to learn teaching skills and not to change life styles or value systems. The teacher should remember that he or she is a guest in each home and can only maintain the child-parent-teacher relationship with the parent's assent.

Many educators have, for too long, usurped the parent's role of responsibility in education. This condition may be magnified as more states lower the age for mandatory education for handicapped children by providing early intervention as soon as a problem is identified. Parents of the children being served need guidance and support from teachers but it is equally as important to realize and accept that teachers need parental support and guidance if the children are to achieve, maintain and increase behavioral competence.

The type of program which stimulates direct involvement of parents in teaching their children can provide parents with necessary skills and techniques to become more effective doing what they already do and being what they already are—the single most important individuals in their child's life—his parents and teachers.

The parent-teacher relationship is one built on mutual respect and need for what each can bring to the child. This relationship with the parents and families may well be one of the most satisfying and rewarding that a teacher will ever experience.

About The Author

Marsha S. Shearer is currently the Training Coordinator for the Portage Project, a home-based project for preschool handicapped children in Portage, Wisconsin.

Her professional interests include providing training and assistance in the areas of parent involvement and precision teaching techniques, and she has done research in developing and refining a curriculum guide for preschool children from birth to five years of age.

She holds degrees from Butler University and the University of Wisconsin and has authored an article in *Exceptional Children* about the Portage Project. She also is a co-author of *Education and Care of Moderately and Severely Retarded Children*.

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PORTAGE PROJECT EVALUATION

Neal Schortinghuis

The evaluation of the Portage Project has varied from year to year as the specific goals and objectives of the Project changed. It started with a single (pre and post) assessment of the children in the Project, and gradually changed, in depth and complexity, into an attempt to evaluate outreach efforts. This paper is a discussion of the effort of fiscal year 1974.

Evaluation Of Outreach Activities

The evaluation of an outreach effort cannot be accomplished by the investigation of a single specific variable. Outreach, by its very nature and because of its objectives, should have impact on many aspects of a target population. Clearly, a project cannot investigate all the changes that might result from an outreach effort, especially the "serandipitous" events that may occur as as result of a project's impact on the target population.

The Portage Project chose evaluation techniques that would enable its staff to investigate variables related specifically to the outreach effort. The techniques included:

- (1) training and technical assistance contracts with agencies;
- (2) year-end requests for information from replication sites;
- (3) requests for materials from replication sites;
- (4) a conference of replication site directors; and
- (5) curriculum evaluation.

The Training And Technical Assistance Contract

The Project has found that a training and technical assistance contract is imperative in setting priorities and evaluating administrative objectives. All training and technical assistance contracts include, in behavioral terms:

- (1) a statement of the participating agency's commitment to implement the whole or partial model (parts are specified);
- (2) a statement of the number of individuals to be trained;
- (3) the caseload of each home trainer;
- (4) the date and length of the training program;
- (5) the specific content of the training program (to be

decided in cooperation with the participating agency);

- (6) materials to be supplied for the training program by Portage or by the agency, e.g. a Kodak Carousel;
- (7) number of follow-up visits to the site; and
- (8) a commitment to supply the Portage Project with year-end evaluation information. (See Figure I for an example of a training and technical assistance contract.)

The contract has enabled the Portage Project to evaluate its ongoing outreach effort with the help of replication sites and to establish responsibility for modifying outreach efforts when problems occur. The contract has made it relatively easy to maintain information on the completion of contractual obligations and to compile such information so that it can be used for internal decision-making and progress reports.

Year-End Request For Information

The year-end evaluation forms completed by each replication site were designed to help in assessing the impact of the outreach effort on both the target agency and the children being served by the replication site. The request for information consists of three forms. The first form is sent to the agency administrator in an attempt to retrieve administrative information concerning the impact of the Portage Project (Figure 2). The second form, which is completed by the master teacher, is designed to retrieve information on the overall impact of of the Portage Project and on the functioning of the replication site (Figure 3). The third form, which is completed by each home trainer on each child that she has in her caseload, is designed to determine the impact on specific children (Figure 4).

All responses are coded so that specific cross-program and teacher comparisons cannot be made. The Portage Project believes that this precaution both encourages replication sites to be cooperative and increases the validity of their responses.

"Response" information was compiled for the Portage Project Progress Report. Information concerning each replication site was mailed to the appropriate project director to assist him or her in evaluating his or her program (Figure 5).

Conference Of The Replication Sites Directors

A conference was held in the summer of 1974 with the directors of all replication sites. The conference was to be a way of evaluating or discussing, with the cooperation of project directors,

- (1) the Portage Project training workshop,
- (2) components of a successful home training program,
- (3) modification of the model program to meet specific needs,
- (4) use of assessment instruments, and
- (5) curriculum modifications.

This conference resulted in a monograph summarizing the conference group's findings.

Requests For Materials From Replication Sites

After the conference, a request for materials was made to the replication sites. The request specifically asked for letters, brochures, newspaper articles, audiovisual materials, pictures, conference and workshop presentations, and taped radio spots for identification of children. The response was overwhelming: when compiled, it filled a 176 page document outlining the activities of the replication sites.

Curriculum Evaluation

One of the Project's goals was to revise the "Portage Guide to Early Education." To accomplish this, a form was mailed to agencies and individuals who were using the "Guide." This form was designed to help determine the kind of situations the "Guide" was being used in (e.g., classroom, home-base), weaknesses of the "Guide," ways in which it could be extended, and other possible modifications (e.g., a different classification system). At present, the information obtained by way of the form is being used in planning the revision (Figure 6).

The Project maintains an ongoing record of all presentations that are made (to whom and to how many), as well as a list of all visitors to the Project. The Project is planning a follow-up questionnaire for people who have been given a presentation in order to determine the impact that Portage materials had on their agency (as a result of the visit).

In summary, evaluation at the Portage Project is an ever changing system which is intended to provide answers to the questions that are asked internally as well as externally. We have found that if we answer our own questions satisfactorily, we usually have information to supply answers to questions others might ask.

The forms presented in this paper may be used by any project.

Figure I

PORTAGE PROJECT—PROJECT FORWARD
Middletown, Missouri
TRAINING & TECHNICAL ASSISTANCE AGREEMENT

OBJECTIVE	PROCEDURES	TRAINING AND TECHNICAL ASSISTANCE	EVALUATION
<p>1) Project FORWARD will, during its first 6 months of operation, attempt to replicate the Portage Project.</p>	<p>1) The Portage Project will provide training and technical assistance to Project FORWARD based on needs and requests of Project FORWARD.</p>	<p>1) A training and technical assistance agreement will be developed outlining specifically the kinds and frequency of training and technical assistance that will be provided. This agreement will also state the obligations each project has in fulfilling said agreement. The training and technical assistance will include:</p> <ul style="list-style-type: none"> a) preoperational technical assistance. b) preservice training five (5) days. c) two (2) follow-up visits—March and June. d) one (1) crisis (on call) visit at the Project Director's request. 	<p>1) Project FORWARD will at the end of 6 months be one of ten projects in the Portage Project continuation grant for 1974-75.</p>
<p>2) Project FORWARD will identify twenty (20) pre-school children who are eligible for the project by December 20, 1973.</p>	<ul style="list-style-type: none"> 2) a) Meet with community leaders, explain program. b) Public service announcements (radio, TV, and newspapers). c) Meet with community services (Public Health Nurses, doctors, schools). 		
<p>3) The Project FORWARD home training staff will receive a five (5) day preservice training program starting Monday, 1/14/74, through Friday, 1/18/74.</p>	<ul style="list-style-type: none"> 3) This training program will include: <ul style="list-style-type: none"> a) child growth and development b) assessment techniques & curriculum planning c) writing behavioral objectives d) home training procedures and parent participation e) recording and reporting processes f) knowledge and use of community resources. 	<p>3) The Portage Project will in cooperation with the Project FORWARD Director, develop the five (5) day preservice training program and will provide at least two (2) staff members to implement this training program.</p>	<p>3) Pre-post tests will be administered on each phase of the training program. The trainees will succeed on 90% of the items on the posttest.</p>

Figure 1 (continued)

OBJECTIVE	PROCEDURES	TRAINING AND TECHNICAL ASSISTANCE	EVALUATION
<p>4) Project FORWARD will provide the Portage Project with pre-post data including:</p> <ul style="list-style-type: none"> a) gains made by children b) staff performance c) parent performance to be used by, but not exclusively by, the Portage Project for dissemination purposes. 	<p>4) The Project FORWARD staff will administer pre-post tests to the children served and supply this data to the Portage Project. The staff will also conduct parent surveys measuring attitudinal changes at the Portage Project's request. Data regarding staff performance and the gains made by children served by each staff member will also be reported.</p> <p>The Alpern-Boll Developmental Profile will be administered as the pre-post evaluation. Project FORWARD is not limited to the use of this instrument exclusively.</p>	<p>4) The Portage Project will train the Project FORWARD home training staff to administer the tests to be used. (The Portage Project will submit all tests to be used to the Director for approval prior to their administration.)</p>	<p>4) All pre-post tests agreed to be administered by the Portage Project and Project FORWARD will be provided to the Portage Project by 1/14/74.</p>
<p>5) To provide ongoing training and technical assistance to the Project FORWARD director and staff.</p>	<p>5) a) The Portage Project will send at least one (1) agent to Project FORWARD for two (2) follow-up visits to:</p> <ul style="list-style-type: none"> 1) assist the home training staff in curriculum planning, parent participation and the home training process. This would include accompanying the staff into the homes. 2) acquire feedback from the project staff regarding the success of the home training model and the usefulness of the training and technical assistance provided. <p>5) b) One (1) additional visit will be provided on an on-call crisis situation at the director's request.</p>	<p>5) Same as procedures. These visits would take place in March and June and will last at least two (2) days per visit.</p>	<p>5) Two (2) follow-up visits will be made by June 30, 1974.</p>

Date: _____

Date: _____

Signature _____

Project Director
Portage Project

Signature _____

Project FORWARD Director

Figure 2

I. Project Information:

- 1. Project name _____
- 2. Project administrator _____ Percent of time with project _____
- 3. Master teacher's name _____ Percent of time with project _____
- 4. Administrative agency or agencies (within what organization is the project housed) _____
- 5. Major funding sources (e. g., OCD—Title I) _____
Of total cost of project, what percent is:
 - a. Federal funds _____ What title etc. _____
 - b. State funds _____ What—DPI, Mental Health _____
 - c. Local funds _____ What P. S.—County _____
- 6. Number of personnel employed by project _____
- 7. Number of personnel employed full-time _____
- 8. Number of personnel employed part-time _____
- 9. Number of children enrolled in project on May 1, 1974 _____
- 10. Average number of children served per week by a full-time home teacher _____
- 11. Professionals employed by project:

Name	Degree	Area	% of Time With Project	Caseload

12. Paraprofessionals employed by project:

Name	Education	% of Time With Project	Caseload

13. Per pupil cost per month of service (see instructions) _____

14. Number of children in project (May 1) who also attend a classroom project _____

Training

15. Dates of training workshops held by Portage staff (Portage Preservice Training) _____

16. Number of personnel directly trained by Portage staff _____

17. Number of hours per week a home teacher devotes to inservice training (staff meeting) _____

Dissemination

18. Has project developed a brochure? _____ yes _____ no If yes, please enclose.

19. Has project developed a slide-tape or film? _____ yes _____ no

20. Has project developed any other dissemination materials?

If so, what? _____

(Please enclose a copy.)

Figure 3

II. Group Information:

PROJECT NAME _____

1. Date project began direct service to children _____
2. Number of children your project referred to other individuals or agencies for diagnosis and evaluation _____
 - Medical _____
 - Psychiatric _____
 - Neurological _____
 - Psychological _____
3. Number of children screened (May 1, 1974) _____
4. Number of parents who refused screening (May 1, 1974) _____
5. What is the criteria for entry into the project _____

6. Number of parents who refused project although their children met entrance criteria _____
7. Number of parents who dropped out of program because:
 - a. Moved _____
 - b. Dissatisfaction _____
 - c. Unknown _____
 - d. Other _____
8. Number of children who were dropped from program because they no longer needed home intervention _____

Figure 4

III. Individual Information:

Assign each of your children a number (consecutive: 1-15) On this form **do not** use the child's name, use his assigned number.
 (No two numbers will be the same)

1. Child's number _____ Child's sex: _____ male _____ female
2. Date of birth _____ Home teacher _____
3. Project name _____
4. Date of entry into project _____
5. Date of pre-test _____
6. Date of post-test _____
7. Number of months pre to post-test (to nearest month) _____

8. Alpern-Boll results:

	Pretest	Post-test		Pretest	Post-test
Physical	_____	_____	Academic	_____	_____
Self-help	_____	_____	Communication	_____	_____
Social	_____	_____	Chronological age	_____	_____

9. Other test results

Test,	Date,	Score,	If Re-tested give date & score
_____	_____	_____	_____
_____	_____	_____	_____

Figure 4 (continued)

10. Number of home visits missed _____
 Parent request (illness in family; vacation) _____
 Parent not home _____
 Home teacher unable to make visit (weather, illness) _____
11. Number of home visits made (including initial visit) _____
12. Number of prescriptions left in home _____
13. Number of prescriptions completed successfully in one week period of time _____ (x)
14. Prime person working with child on prescription
 _____ Father _____ Mother _____ Other (please specify) _____
15. Single parent: _____ Yes _____ No
16. Head of household—occupation _____
 Spouse's occupation _____
17. Number of younger siblings in home _____ Number of older siblings in home _____
18. Is mother employed outside of home? _____ Yes _____ No

Figure 5

Middletown, Missouri

Project FORWARD

102 Opportunity Way

Middletown, Missouri 39799

Director Jane Smith

Children Served Head Start, 0-3 years

Phone 414-5628

Criteria for Entry into Project

Office of Economic Opportunity income qualification guidelines for Head Start.

Number of children enrolled	53
Number of personnel:	5.3
Major funding source:	OCD
Number of children referred to other agencies for diagnosis and evaluation:	
Medical	3
Psychiatric	0
Neurological	0
Psychological	0
Number of children screened:	57
Number of parents who refused screening:	0
Number of parents who refused project although their children met entrance criteria:	4
Number of parents who terminated the program:	
a. Moved	3
b. Dissatisfaction	0
c. Unknown	4
d. No longer needed program	0
Number of prescriptions left in home:	1728
Number of successful prescriptions:	1376

Figure 6

PORTAGE GUIDE CRITIQUE SHEET

AGENCY NAME: _____

ADDRESS: _____

PHONE NUMBER: _____

1. Staff utilizing the Portage Guide:

certified teachers; paraprofessionals; speech clinicians; parents; occupational or physical therapists;
nurses; other _____

2. Children served with the Portage Guide:

A. Ages: 0-3; 3-5; 5-7; 7-10; above age 10

B. Functioning level: normal; "educationally disadvantaged" i.e., Head Start; severe or profoundly handicapped;
moderately handicapped; mildly handicapped

C. Handicapping conditions: none; mentally retarded; emotionally disturbed; physically handicapped;
hearing impaired or deaf; vision impaired or blind; learning disabled;
other _____

3. Type of program:

home based; center based (classroom); home-center based (combination of home and classroom programming)

4. Did your staff use the Portage Guide to Early Education as a major source for curriculum assessment and curriculum planning?

yes; no

Comments: _____

5. Did your staff use one part of the Guide more than the other? yes; no

6. If your staff used one part more than the other, which did you find more valuable? checklist; cards

Comments: _____

7. Did your staff follow the Guide (checklist and cards) very closely with little modification? yes; no

Comments: _____

8. Did your staff make specific written modifications of the checklist or cards and would you be willing to share those with us?

yes; no

Comments: _____

9. What does your staff like best about the Portage Guide to Early Education? _____

10. What does your staff like least about the Portage Guide? _____

Specific suggestions for modification: _____

*If your suggestions are used in the next edition, you will receive full credit.

MANY THANKS FOR YOUR HELP! THANKS TO YOU. IT WILL WORK BETTER!!



THE PORTAGE PROJECT

By

Jean M. Hilliard, Direct Service Coordinator
Marsha S. Shearer, BEH Outreach Coordinator

A Home Approach To Serving Children With Exceptional Educational Needs

The Portage Project is an early intervention program administered by Cooperative Educational Service Agency 12, in cooperation with school districts within its region.* Presently, the Project serves 163 children with Exceptional Educational Needs.

Originally developed through federal funding, Title VIC, awarded by the Bureau of the Education for the Handicapped, the Project chose a home-based delivery system because of the diversity of handicapping conditions, the wide age range (0-6) of identified children and the difficulties in transporting very young handicapped children long distances to a central location. In addition to developing and implementing a demonstration program, the Project was charged with developing an active parental involvement component. These considerations resulted in the selection of the home teaching delivery system.

To implement this program, a home teacher is assigned to each child and family. Each teacher conducts an

***Adams, Baraboo, Cambria, Columbus, Elroy-Kendall-Wilton, Fall River, Lodi, Mauston, Montello, Necedah, New Lisbon, Pardeeville, Portage, Poynette, Princeton, Randolph, Rio, Wautoma, Westfield, Wild Rose, and Wonewoc, with support from the Department of Public Instruction, Division for Handicapped Children.**

instructional visit to each of the fifteen assigned families one day per week for one and one-half hours.

Individualized curriculum is prescribed weekly, based on an assessment of each child's present behavior in the areas of language, self-help, cognitive, motor, and socialization skills. Utilizing the parents as teachers, the Portage Project follows the precision teaching model which includes these elements:

1. *Pinpointing behaviors* the child is ready to learn and individualizing educational activities to meet unique learning styles. Tasks are broken into necessary sub-steps with the goal that each child will achieve each prescription within one week,
2. *Recording baseline data* on each new task as an additional check on the readiness of the child to accomplish the prescribed task,
3. *The teaching process* itself implemented by the parents, including reinforcing desired behavior and reducing or extinguishing behavior that interferes with learning. These techniques are modeled for the parents by the home teacher and the parents continue to work with the child each day throughout the week, recording progress on the prescribed activities, and

4. *Recording post-baseline data* following one week of parental instruction to determine if the prescribed skills have been accomplished.

The purpose of the weekly home visit is to instruct the parents what to teach, how to teach, what to reinforce and how to observe and record behavior.

Rationale

As the Project has developed through the years, several educational advantages have been observed in utilizing a data based, home-based model.

-The parents teach the child in their natural environment. Therefore, they do not have the problem of transferring learning into the home which might occur if the child were in a center-based program.

-This model is totally dependent on parent involvement for success. Since one and a half hours one day per week is not a sufficient amount of time for a child to learn developmental skills from the home teacher, parents must be taught to teach their own child between home visits. Thus, training parents is more than a program adjunct—it is absolutely mandatory.

-Another major advantage in using the home-based precision teaching model is that the home teacher and the parents have direct access to the child's behavior as it occurs naturally. This situation generates realistic curriculum goals that will be functional for the child within his unique environment. In fact, differences in cultures, life styles, and value systems of parents can be incorporated into curriculum planning, since the parents are the final determiner of what and how their child will be taught.

-It is more likely that the skills the child learns will generalize to other areas and be maintained if the skills have been learned in the child's home environment and taught by the child's natural reinforcer—his parents.

-Father, sibling, and extended family involvement becomes a realistic and obtainable goal. When instruction occurs in the home there is more opportunity for full family participation in the teaching process.

-There is access to the full range of the child's behavior, such as temper tantrums which only occur in the home or being informed by the parents that their child is crawling into bed with them each night. Much of this behavior could not be targeted for modification within a classroom.

-Finally, since the home teacher is working on a one-to-one basis with the parents and child, individualization of instructional goals for both is reality rather than an idealized goal.

Referral And Program Placement

When the Project receives a referral, notification is sent to the local multi-disciplinary team in the family's school district. On instruction from the local multi-disciplinary team, the Portage Project conducts initial assessment after having received written parental approval. Results are forwarded to the multi-disciplinary team which are added to their data regarding the child. This combined data aids in the multi-disciplinary team's determination as to the exceptional educational needs of the child. A member of the Portage Project staff, utilizing skills in special education and early childhood programing, may serve as a member on the local multi-disciplinary team.

If referral is made directly to the multi-disciplinary team, their designee may contact the Portage Project to conduct the initial assessment.

If the multi-disciplinary team determines that the child exhibits exceptional educational needs and recommends an individualized program with a high degree of parental involvement in the educational process, the child may be placed by that multi-disciplinary team in the CESA 12 Portage Project.

Curriculum Planning

After placement, an individualized program is planned for the child based on formal and informal assessment, medical and other educational information gathered during the initial home visit as well as the multi-disciplinary team's program recommendations.

This, together with parental observations and suggestions and the information gained from the administration of the Portage Guide to Early Education (1972), pinpointed skills are targeted for learning. Results are evaluated weekly and goals are modified and updated to insure weekly success on the prescribed tasks. Three to four activity charts are written for each child each week stating in behavioral terms, what the learner is expected to do, how to teach the skill, and what reinforcement and correction procedure is to be used. A chart for recording baseline data, daily change as recorded by the parent, and post-baseline data is also part of the activity chart (see Figure 1).

FIGURE 1

ACTIVITY CHART

CREDIT: _____ yes _____ no

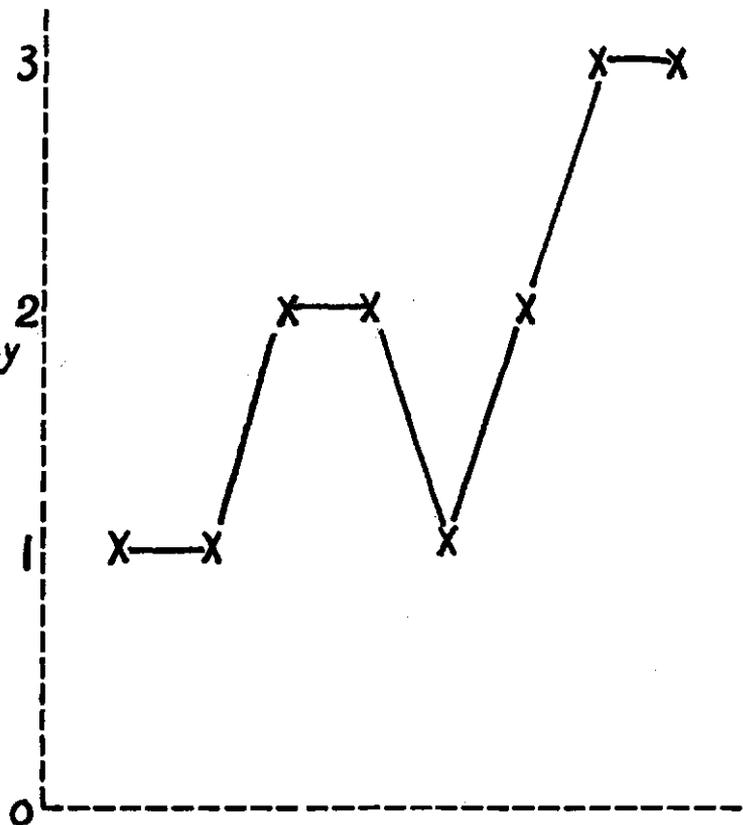
Child's Name Brenda

Home Teacher's Name Jean

Week of December 7

BEHAVIOR: Brenda will say the sound "wa" as in "water" with aid 3 trials 3 times daily

NUMBER OF: times Brenda says "wa"



DIRECTIONS:

Sit Brenda in front of you.

Make the "wa" sound several times

and have Brenda watch you as you do this. Then use the mirror and encourage Brenda to watch you by looking into the mirror.

Use your fingers to gently guide Brenda's mouth into position and ask her to repeat "wa" after you and encourage her to look at herself in the mirror as she does this. Praise Brenda for each attempt and as Brenda begins to consistently repeat the "wa" sound, reduce the pressure on the mouth. Continue praising success. Record first 3 trials. Practice 3 times each day.



The Home Teaching Process

First the home teacher introduces the activity to the child and records the frequency of correct responses prior to instruction. This baseline data is recorded on the activity chart. The home teacher begins the teaching process by following the written directions on the activity sheet. The home teacher is thus modeling teaching techniques for the parents—showing them what to do and how to do it (*Portage Guide to Home Teaching*, 1975). After several trials, the parents model for the home teacher. Extra activity sheets are provided so the parents can practice recording the child's behavior while the home teacher is still there. The home teacher then is able to offer suggestions and reinforcement that will maximize the likelihood that the parents will work effectively with the child during the week and that the child will succeed on the prescribed activities.

Throughout the visit the home teacher stresses the importance of working with the child on each prescribed task each day during the week. The home teacher leaves his or her home and office phone number with the parents and encourages them to call if any question or problem arises during the week. The home teacher returns the following week and collects post-baseline data on the previous week's activities. This information, together with parental observations helps the teacher validate the accuracy of the parents' recording. It also provides the teacher with feedback concerning the degree of success achieved by the child and his readiness to proceed to the next sequential step. Based on this data, the home teacher prepares new activity charts modifying previous prescriptions and/or introducing new activities. Baseline data is again recorded and so the cycle is repeated. At the completion of each home visit, the parents write an evaluation of the week's progress, which often serves as an additional source of information for curriculum planning and modification.

Accountability

Evaluation is an ongoing process. The parent records the child's behavior daily. The home teacher records baseline and post-baseline data weekly and more formal assessments are conducted initially and at the end of the program year.

The data from the activity chart and home teacher's weekly progress report (see Figures 2A and 2B) is transferred to a Behavioral Evaluation Log for each child (see Figure 3). Listed in the log are the specific goals prescribed for each child and the dates these were

prescribed. When a child has mastered the skill, that date is noted in the log. This provides access to information on what activities each child is working on at the present time, as well as what activities have been prescribed, the duration of these prescriptions, and the areas of development stressed for each child.

Reporting To Schools

Each teacher contacts the administrators of the school districts they serve to plan a mutually agreeable method of reporting interim progress. The teacher completes a year-end progress report listing skills accomplished and the emerging behaviors of each child to be utilized in program planning the following school year.

If, on recommendation of the local multi-disciplinary team, any change of program is recommended, the home teacher will deliver a copy of the child's progress report and will discuss with the new teacher the child's accomplishments, emerging skills, techniques of response, and reinforcement and the best methods of learning for the child. The home teacher will make one further follow-up visit to the new program in which the child is placed to help facilitate orderly transition.

Inservice Training

The home teacher serves families four and one-half days each week; the remaining half day is reserved for home teacher inservice and staffing of caseloads. This session is designed to provide continuing and ongoing training to the home teaching staff.

When a home teacher is having difficulty changing the behavior of a parent or child, she presents the problem to the group of home teachers, administrators, supervisors, and program support or resource staff. The group then makes suggestions to modify the particular behavior. The home teacher selects the most appropriate solution and writes a prescription to hopefully induce change. The prescription is noted on the staffing log and the result of that prescription is reported at the next inservice meeting utilizing the completed activity chart as a reference.

A formal staffing may occur when a resource staff member accompanies the home teacher on a home visit to either assess the child or to observe and give suggestions for curriculum planning. After the resource person visits the child, the home teacher and resource person discuss the observation and plan together the necessary program modifications. A written report of the recommendations and ensuing results is placed in the child's record.

WEEKLY PROGRESS REPORT

Date December 14

Child's Name Brenda

Home Teacher Jean

I. Child's Progress

Developmental Area	Prescribed Activity (Behavior Description)	Original Baseline	Week's Post Basal	Credit
Language	The child will make the initial sound of /w/ as in water w/aid 3 trials each day.	1/3	3/3	*
Cognitive	The child will hand 1,2,3 items on request 3 trials each.	2/9	6/9	
Motor	The child will jump w/feet together from bottom stair step (w/physical cue of pressing hands.)	2/5	5/5	*

II. Prescription for Coming Week

Developmental Area	Activity (Behavior Description)	Baseline	Reinforcement	New or Continued
Language	Speech exercises - games 1) Blow feather across table 2) Lick honey from outside of lips 3) Blow ping-pong ball up inclined plane	2/3 1/3 1/3	Piece of cereal and praise	Cont.
Motor	Tricycle riding (manual aid)	2/4	Sips of juice and praise	New



FIGURE 2A

FIGURE 2B

III. Home Visit Activities

Developmental Area	Activity (Behavior Description)	Review Prescribed or not Prescribed	Baseline	Post Basal	Credit
Language Parent-Child	Reviewed prescribed activities Worked on prescriptions Read story to Brenda	N.P.	0/1	1/1	*

IV. Teacher-Child Relationship

Brenda was very cooperative but she tired easily.
This may be due to her new medication.

V. Parent's Comments

Brenda had a good week. She worked well and liked doing her work. I'm glad we're working on speech sounds.

VI. Log Information (Dr. appointments, clinic appointments, other important information)



The Portage Project

Clinic appointment on December 18, 1973.

FIGURE 3

BEHAVIOR EVALUATION

Period 9/3/73-10/16/73

Child Jim

Teacher Jean

Specific Goal	Date	Date Accomplished						
attends to tasks - 10 min.	9/3							10/2
places O + □ in formboard w/help	9/3	9/10		9/10				
" " " " ^{no} trial+error	9/10	9/17		9/17				
strings 5 beads in 2 min. - no aid	9/10			9/17				
stands on one foot 5 sec. w/support	9/10			9/17				
" " " " no support	9/17			10/2				
names 7 action pictures in imitation	9/17		9/24					
" " " " no model	9/24		10/2					
names pictures using 3 word phrase	9/24							
puts on pants - no aid	10/2					10/9		
hops on one foot in place w/support	10/2			10/9				
unbuttons 4 buttons - ^{pushed 1/2 way} through hole	10/2			10/16	10/16			
" " " " - no aid	10/9			10/16	10/16			
traces letters M+N w/finger	10/9	10/16						
draws letters M+N by connecting dots	10/9	10/16						
draws □ by connecting 4 dots	10/16	10/23		10/23				
Total								
		Cognitive	Communicative	Motor	Self-Help	Socialization		Parent/Child



If further diagnostic or treatment programs are needed, local multi-disciplinary team and school personnel, community agencies or medical personnel may be consulted as additional resources.

Summary

The results of the Portage Project at the original demonstration site as well as at replication sites throughout the country indicate that with parental instruction, children can progress above their expected developmental rate, and that parents can become more effective doing what they already do and being what they already are: the single most important person in any child's life—his parent and teacher.

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