Parents as Therapists for Autistic Children: A Model for Effective Parent Training

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The severity of autistic children's behavior problems, as well as their characteristic difficulties in generalizing newly-acquired skills across settings, underline the importance of maximizing the amount of intervention services available, and of providing such services in more than a single environment. For these reasons, parental participation in child treatment can contribute significantly to the rate of child progress. This paper describes a well-documented parent-training paradigm that enables parents to serve as home tutors and therapists for their own autistic children. The report includes descriptions of the training provided to home programmers, as well as detailed information on how they deliver services to parents. Training begins as the home programmer engages in relationship building with assigned parents. Subsequently, home programmer and parents jointly pursue a specified sequence of activities that includes: (1) identification of child target behaviors; (2) collection of baseline data at home; (3) development of the new instruction or treatment program, and implementation of that program in the day school or treatment setting; (4) parents' observation of the new program at school; (5) parents' guided implementation of the program at school; (6) parents' supervised use of the program in their own home; and (7) parents' ongoing data collection and program implementation at home, with regular support from the home programmer. This is a continuing cycle of home programming activities; when the child achieves a particular treatment goal, another home program is initiated. The model includes tested procedures for prompting parents' continued involvement, assessing the effectiveness and appropriateness of intervention programs delivered by parents, and for obtaining parents' evaluations of the training services received. Underlying all steps in this outline is an emphasis on individualized training for parents, as well as individualized programming for children. The model can be readily implemented in special education and day treatment settings.

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programs for autistic children, and has been shown to successfully solicit ongoing parent participation, thus increasing the total amount of treatment programming available to children.

Parent-training programs have been widely recognized as important in the treatment of child behavior problems (Berkowitz & Graziano, 1972; Johnson & Katz, 1973; O'Dell, 1974; Tavormina, 1974), but appear especially important to the treatment of autistic children. Although intensive professional intervention is required to remediate the severe behavioral excesses and deficits characteristic of autism, responsible treatment agencies concerned with least-restrictive intervention also have a mandate to help children remain at home with their own families and to increase their participation in normal community settings. However, it is well established that autistic children's therapeutic gains often fail to generalize from the treatment environment to the home unless such generalization is specifically programmed (Baer, Wolf, & Risley, 1968; Forehand & Atkeson, 1977; Wahler, 1969b), and it can be hypothesized that when such generalization does not occur, parents are less likely to continue their participation in a parent-training program and more likely to elect institutional placements for children. Thus, training parents to assume effective roles in child treatment increases children's community alternatives (cf. Kozloff, 1973; Schreibman & Koegel, 1975).

Investigations of parent training document that changes in child behavior in the presence of the parents must be accompanied by changes in parents' antecedent and consequent behaviors (Forehand, Gardner, & Roberts, 1978; Herbert & Baer, 1972; Lobitz & Johnson, 1975; Wahl, Johnson, Johansson, & Martin, 1974), and Forehand and Wells (1977) concluded that the goal of parent training may be to develop "better-than-average," rather than "normal" contingency management skills. This point of view seems particularly applicable to the parents of autistic children, who must learn to manage severe behavior problems and to teach new skills under circumstances that are often difficult.

While many researchers have reported successes in training the parents of autistic children to serve as home therapists (cf. Hanley, Perelman, & Homan, 1979; Harris & Handleman, 1980; Johnson, Whitman, & Bouloon-Noble, 1978; Kaufman, 1980; Kozloff, 1973; Merbaum, 1973; Moore & Bailey, 1973; Nordquist & Wahler, 1973; Pinkston & Herbert, 1975; Risley, 1968; Risley & Wolf, 1966; Wetzel, Baker, Roney, & Martin, 1966; Wolf, Risley, & Mees, 1964), the development of systems that support parents' long-term participation in child treatment has not been without complication. High attrition rates appear to be characteristic of at least some parent-training programs (Levitt, Friedman, Cox, & Pinkston, 1980), and while the parents of mildly or moderately-disturbed children may drop out without seriously compromising the quality of family life, the consequences of withdrawal from training may be considerably more severe for the families of autistic children.
Additionally, many parents of autistic children report long histories of unpleasant and counterproductive help-seeking efforts, and may have observed a variety of unsuccessful or inadequate treatment attempts prior to enrolling their children in behavioral programs. Such experiences may contribute to parents’ readiness to disengage from training, and to select more restrictive child placements, if they do not encounter a modicum of success early in the training sequence.

Finally, in the absence of skillful programming, children’s behavioral repertoires may contribute to parents’ withdrawal from training. At the outset of treatment, many autistic youth do not enjoy adult attention, physical contact or praise, have not learned to express affection or liking for others, and frequently exhibit extreme disruptive behaviors. These behavioral characteristics may serve to punish parents’ initial intervention attempts (McClannahan & Krantz, 1981).

The presenting behaviors and treatment needs of autistic children and the special problems encountered by their parents suggest the importance of a parent-training paradigm that can maintain parent involvement over extended periods of time. Thus, the parent-training model described in subsequent sections places special emphasis on the delivery of individualized training services accompanied by high levels of social support; design of child programs that maximize parents’ early (and continued) success experiences; and ongoing prompt systems that encourage parents’ sustained participation in child intervention.

PARTICIPANTS AND SETTING

The parent-training model reported here was developed over a 6-year period at the Princeton Child Development Institute, a private, non-profit program for autistic children. The Institute offers a day education and treatment program, as well as a Teaching-Family Model group home for autistic youth. During the past 6 years, 27 children and their families have been served by the day program. Twenty-four target children were male and 3 were female, and they ranged in age from 3 to 16 years. The program serves children whose developmental delays and behavior problems coincide with accepted diagnostic indicators of autism. All children are diagnosed by an outside agency, and while most receive diagnoses of autism, a few receive such diagnostic labels as childhood schizophrenia or childhood psychosis.

The results of formal assessment are similar to the results reported for other autistic populations. Thus, the Vineland Social Maturity Scale, administered at the time of each child’s admission and using children’s own parents as respondents, produced Age Equivalent Scores ranging from 1.8 years to 8.1 years, with a mean of 3.9 years. The Peabody Picture Vocabulary Test (PPVT) is also routinely administered to children at the time of their enrollment in the program. Eleven of the 27 children were not testable on the PPVT at the time of its first administration, because they were unable to achieve basal scores of six consec-
utive correct responses. For the 16 children who were testable, Mental Age Scores ranged from 2.2 to 8.8, with a mean of 3.9 years.

Children attend the day program for 5 and one-half hours per day, five days per week, and although their academic and treatment schedules are highly individualized, each child has 11 half-hour sessions per school day. At the outset of intervention, children's daily schedules usually include several one-to-one sessions. But as they acquire new skills and learn to control problem behaviors, they are placed in small classes of two to five children, designed as analogs to public school classrooms.

The teachers and therapists in the school program have undergraduate, and in some cases, graduate degrees, primarily in the fields of special education and psychology; most had no prior experience in working with autistic children before they joined the program. The staff-child ratio is maintained at approximately 1 to 1.5.

DESCRIPTION OF THE PARENT-TRAINING MODEL

Each of the subsequent sections presents a component of the parent-training model. Descriptions of the procedures used to train home programmers and descriptions of the procedures these individuals employ to train parents are preceded by brief reviews of the relevant literature and followed by presentation and discussion of results.

Developing Parent/Home Programmer Relationships

Bernal (1971) made early mention of distinctive attitudinal differences between behavioral and more traditional family treatment approaches. Noting a tendency of child treatment providers to advocate for children at the expense of their families, she proposed that successful parent training depends upon both child and parent advocacy.

Although early descriptions of parent training typically avoided reference to the development of therapeutic relationships, perhaps due to the association of such terminology with inferred hypothetical states, there is increasing recognition of the importance of specifying those behaviors of the trainer that may function as prompts for or reinforcers of parental participation. Thus, some training materials supply suggested answers to questions frequently asked by parents (cf. Baker, Brightman, Heifetz, & Murphy, 1976), others include materials related to the management of problems that are frequently encountered in the course of parent training (Miller, 1975; Patterson, Reid, Jones, & Conger, 1975), and still others emphasize the necessity for adequate follow-up support from the trainer (Wahler, Afton, & Fox, 1979). Since the parents of autistic children must often overcome punishment or extinction contingencies manipulated by the child in order to achieve desired child behavior change, it appears especially important
to provide home programmers with training repertoires that will result in high levels of ongoing reinforcement for parents.

Training procedures. Workshops are provided annually to prepare teachers and therapists in the school program to become home programmers. Since these individuals participate in an ongoing staff development program and have daily contact with autistic children, their entry-level skills are typically well developed, and they are able to acquire home programming skills quite rapidly. Upon completion of the workshop, each teacher or therapist is assigned from 1 to 4 families that will be the recipients of his/her home programming services.

Workshop instruction includes didactic presentations accompanied by transparencies; videotaped and in vivo modelling of target skills; dissemination of written training materials; and multiple opportunities for behavioral rehearsal, accompanied by feedback from workshop presenters/trainers.

Initial workshop sessions are designed to teach new home programmers both nonverbal and verbal repertoires that will facilitate continued positive interactions with parents. The nonverbal behaviors of the home programmer that are viewed as important to the development of good relationships with parents include those "counseling components" described by Willner and Braukmann (undated), such as body orientation, voice tone, eye contact, head nodding and facial expression. Home programmers are also trained in specific interaction components ("teaching interactions") that appear essential to the delivery of good instruction and feedback (Kirigin, Ayala, Braukmann, Brown, Minkin, Phillips, Fixsen, & Wolf, 1975; Phillips, Phillips, Fixsen, & Wolf, 1974). Trainees also receive instruction in how to manage some commonly-encountered problem situations and problematic interaction styles that may detract from the delivery of training services, such as high-rate statements that assign blame to self or others for the child’s problems; frequent "yes, but . . .," or dissenting statements; repeatedly imputing "deep-rooted" problems or underlying hypothetical states that are presumed to account for child behavior; challenging the home programmer’s credentials; chronic reports of household "crises" that prevent discussion of child programming; controlling the scheduling or content of training services; agreeing with training plans, but failing to follow through; repeatedly changing the topic of conversation to a subject unrelated to child treatment; requesting unnecessarily restrictive intervention procedures, or reporting a serious personal or family problem that requires referral.

Home programmers’ acquisition of these nonverbal and verbal skills is assessed via pre and post-workshop videotapes. When workshop training was last delivered, the 15 teachers and therapists who participated were pre- and post-videotaped as they role played a scene related to management of one of the problem situations described above. In each of these scenes, a confederate played the role of parent, using a standard script. Scenes were scored by naive observers, who recorded the presence or absence of teaching interaction components and
counseling components, as well as the presence or absence of verbal content that was trained during the workshop.

Results and Discussion. Figure 1 displays teachers’ and therapists’ pre and post-workshop videotaped performances. A mean of 19% of teaching interaction components were scored as present prior to training, while a mean of 66% of teaching interaction components were scored as present following training. Non-verbal behavior (counseling components) showed a smaller change from pre to post-workshop videotapes (a mean of 79% of components present before the workshop vs. a mean of 89% of components present after the workshop), probably due to many participants’ high baseline performances on such dimensions as pleasant voice tone and facial expression, head nodding and eye contact. Trainees’ use of workshop content in managing difficult situations or styles increased from a mean of 29% of components scored as present before the workshop, to a mean of 93% of components scored as present following the workshop. Mean levels of interobserver agreement were 83% for teaching interaction components, 94 for counseling components and 80 for presence/absence of specific verbal content related to the management of difficult situations. Observation protocols and scoring procedures are described in greater detail in McGee, MacDuff, Krantz, and McClannahan (1980).

FIGURE 1. Mean percent of components demonstrated by home programmers before (pre) and after (post) the training workshop (n = 15).
Although workshop participants’ scores suggested that they were approaching “criterion” performances on use of counseling components and on managing difficult situations, they clearly needed additional training on the use of teaching interactions, i.e., on how to deliver instruction and feedback. Experience suggests that it would be unusual for trainees to master this set of skills in a single workshop session. However, since teaching interactions represent a “core” set of parent-training skills, it is important to provide sufficient training to enable participants to achieve mastery. Thus, training on these important skills is routinely included in several workshop sessions.

Selection of Child Target Behaviors

As yet, little attention has been focused on the process of selecting child target behaviors. However, current ethical standards, as well as legal precedent, underscore the importance of securing parent involvement in determining children’s intervention needs and treatment goals, and of obtaining their informed and noncoerced consent.

Salzinger, Feldman and Portnoy (1970) noted that parents often fail to report significant child problems because the family has achieved some adaptation to these difficult behaviors. Thus, it becomes especially important to provide home programmers with techniques for obtaining parents’ participation in behavioral interviews (cf. Holland, 1970).

Eyberg and Johnson (1974), in assessing the outcome of behavior modification programs with families, arranged treated problems on a continuum of “easy to hard,” and concluded that treatment order yielded no significant differences in program effectiveness. It would be particularly helpful if similar data were available for a variety of populations, since experience with the development of home treatment programs for autistic children suggests that the order in which child target behaviors are treated is a relevant variable. To the extent that this variable interacts with parents’ early success or failure experiences, it may determine their continued participation in parent training.

Training procedures. The second workshop offered to home programmers employs the same training techniques described earlier; the goal of the workshop is to teach trainees to enlist parent participation in the identification of child target behaviors and treatment goals. Trainees receive interview agendas that serve as prompts for obtaining parents’ input about the skills they are anxious to have their child acquire, as well as the problem behaviors they want to help the child learn to control. During the workshop, participants engage in behavioral rehearsals and receive feedback on using the agenda, which is designed to engage parents in tasks such as identifying target behaviors; reviewing recent examples of these behaviors; providing anecdotal reports of the onset, frequency, duration and intensity of such responses; and recalling possible antecedent and consequent stimuli.
This parent-training model assumes that, in many instances, parents’ success in teaching their autistic child to follow simple instructions will contribute to their later success in teaching other skills. Thus, home programmers are taught to encourage parents to select direction following as an early treatment goal. Next, dangerous or highly-disruptive behaviors are targeted for parent management, in order to assure the child’s safety and to contribute to his/her ability to remain in family and community settings.

Home programmers also learn to prioritize subsequent treatment goals. Variables that are weighed in establishing the priorities of future home programs include: (1) parental concern about the behavior; (2) the estimated probability of rapid child behavior change as a result of home intervention; (3) the importance of maintaining a stronger emphasis on skill acquisition than on behavior reduction programs at home; (4) the parents’ abilities to manipulate the antecedents and consequences of particular behaviors; (5) the occurrence of the behavior across both home and school settings, so that the program can be implemented at school before it is introduced at home; (6) the convenience and probable reliability of behavioral measurement; and (7) the home programmer’s ability to effectively model the instruction or treatment procedure for the parents.

When parents and home programmer have arrived at consensus regarding the selection of child target behaviors, the home programmer needs skills that help to assure parents’ informed and noncoerced consent. Thus, the second workshop provides instruction in how to describe parents’ rights and responsibilities; how to explain consent forms; and how to obtain parent consent for defining target behaviors and initiating data-collection procedures.

In order to evaluate the effects of the second workshop session, pre- and posttraining videotapes are again used to assess trainees’ skills. Pre-workshop assessment typically indicates a need for training on how to obtain noncoerced consent. This role-played scene utilizes a confederate who plays the role of parent, and in the course of this scripted interaction, the confederate inquires whether he/she “has” to sign the consent form. Videotaped scenes are again scored for the presence or absence of specific verbal content, including: (1) description and explanation of the consent form; (2) request for parents to read the consent form in the presence of the home programmer; (3) prompts for parents to ask questions about the consent form; and (4) provision of noncoercive invitations for parents to sign the consent form.

Results and discussion. The 15 teachers and therapists who participated in the second workshop achieved a mean of 54% of verbal content areas scored as present on the pre-workshop videotapes, and a mean of 87% on post-workshop video scenes of an initial interview in which parental consent is discussed. Mean interobserver agreement on these data was 76%, using naïve observers who scored randomized pre- and post-workshop tapes. (Additional information on measurement procedures is presented in McGee, Krantz, & McClannahan, in preparation). These data indicate that, as a result of the second workshop, trainees
did acquire skills enabling them to conduct appropriate and accurate discussions of consent, and to invite parents' consent for the identification of child treatment goals and the initiation of data collection on child behavior.

Following the second workshop session, home programmers are encouraged to schedule initial meetings with assigned families. The purpose of these early contacts is threefold: to develop positive, supportive and comfortable relationships with parents; to identify child target behaviors; and to conduct discussions and provide information that lead to informed and noncoerced consent.

Collection of Baseline Data

A variety of procedures have been used to obtain objective information about children's behavior at home, including direct observation by trained observers (Reid, 1978; Wahl et al., 1974) and home audiotapes (Bernal, 1971). Although these strategies may yield highly-reliable data, their cost, complexity and potential for reactivity (Johnson & Bolstad, 1973) sometimes limit their routine use in parent-training programs.

Perhaps the strongest advantage of involving parents in ongoing data collection at home is the possibility that, over a period of time these activities will contribute to their development of child treatment skills (Hall, Axelrod, Tyler, Grief, Jones, & Robertson, 1972), since the data provide continuing feedback on the effectiveness of home-implemented programs. Additionally, although the costs of early training services may be substantial, these may later be balanced by parents' ongoing participation in measurement, especially with regard to measurement of children's performance in environments other than the treatment setting, and observations of response generalization from school to home. Further, since parent recording sometimes produces reactive change in the behavior being monitored, it can be anticipated that, at least occasionally, parents' collection of baseline data will eliminate the need for intervention.

Since it is frequently reported that the reliability of parent-collected data is low (Herbert & Baer, 1972; Weathers & Liberman, 1975), it is important to plan for the therapist or home programmer to obtain interobserver agreement (Embry & Herbert-Jackson, 1977; Pinkston, Love, & Henderson, 1976). Such reliability checks can be accomplished both in home and school settings, providing the occasion for additional training and feedback vis-à-vis the parents' observation and measurement skills. This procedure notwithstanding, the authors concur with many other researchers on the importance of multiple outcome measures of parent training effectiveness (cf. Embry, Schilmoeller, Kelley, & O'Malley, 1975; Eyberg & Johnson, 1974; Gordon, 1975; Gordon, Lerner, & O'Keefe, 1978; Patterson et al., 1975); thus, many additional evaluation strategies are discussed in later sections.

Training procedures. A third workshop for teachers and therapists addresses the development of response definitions and data-collection procedures to be used
by parents. Trainees again receive agendas that serve as prompts during behavioral rehearsals that set multiple occasions for them to practice giving thorough but nontechnical explanations of the importance of data-based programming and the usefulness of baseline data.

Home programmers are also provided with some “rules of thumb” for introducing home data collection. For example, since parents' first experiences with data collection should be as straightforward and convenient as possible, discrete trial (per opportunity) measures or frequency measures will often be the procedures of choice. In addition, both parent satisfaction and measurement accuracy can be enhanced by scheduling data collection activities for a convenient (and relatively brief) time during the day, when other family activities and responsibilities are least likely to intervene.

A key element in this workshop is teaching home programmers to support parents’ early efforts, by: (1) constructing “packages” of all the materials (e.g., pencils, data sheets, copies of response definitions, counters) that a particular family will need, in order to successfully obtain the data; (2) scheduling the regular return of the parents’ data sheets to the home programmer; (3) identifying a mechanism for parents to use in submitting the data sheets regularly (e.g., sending them to school with the bus driver, or in the child’s lunchbox; pinning an envelope on the child’s coat, etc.); (4) regularly graphing the data submitted by parents, so that it can be readily discussed and summarized in each parent/home programmer interaction; and (5) providing frequent positive feedback on parents’ efforts to engage in behavioral measurement.

Since the home programmer must soon begin to provide “hands on” training in data collection, it is pivotal that by now, he or she will be approaching mastery of this important set of training skills. Thus, the teaching interactions mentioned earlier (adapted from Kirigin et al., 1975) are again rehearsed. Specifically, the home programmer learns to deliver instruction and feedback to parents using the following interaction format: (1) begin with, and continue to deliver, frequent behavior-specific praise; (2) give clear descriptions of ineffective data-collection or child-management procedures; (3) provide rationales for changing the ineffective behavior; (4) offer specific descriptions and/or demonstrations of an effective data-collection or child-management procedure; (5) provide rationales for adopting the new behavior; (6) request parents’ acknowledgements frequently; (7) assist parents in practicing the new skill; (8) provide behavior-specific feedback on their rehearsal of the new skills, assuring that the balance of such feedback is positive rather than corrective; (9) express support and continued interest in parents’ home instruction and treatment activities; and (10) thank the parents and express appreciation for their efforts. As in previous workshop sessions, trainees are also encouraged to monitor their nonverbal behavior (i.e., counseling components) as they practice these “hands on” training skills.

Results and discussion. Pre- and post-workshop videotapes were used, as previously, to assess trainees’ skills in explaining the importance of data-based
programming to a “parent” (confederate) who made scripted responses during role playing. Independent observers scored the tapes for the presence of specific verbal content, including: (1) an explanation of why data collection is important; (2) a description of how data are used in planning and/or revising child instruction and treatment programs; (3) a description of the parents’ proposed responsibilities with regard to data collection; and (4) a description of the home programmer’s responsibilities with regard to data collection. The 14 participants in this workshop achieved a mean of 42% of components scored as present prior to training, and a mean of 69% of components scored as present following training. Inter-observer agreement on these data was 83%.

Even more importantly, on these post-workshop videotapes, trainees achieved a mean of 93% of teaching interaction components scored as present, and a mean of 92% of counseling components scored as present (with interobserver agreement of 94 and 88%, respectively). These data indicated that trainees were able to provide reasonably clear and accurate explanations of the importance of data collection, and that they had acquired many of the instruction and feedback skills needed to deliver in vivo training to parents.

Following this workshop, home programmers are invited to schedule additional visits with parents (usually in the parents’ home), for the purpose of initiating home data-collection activities. During these contacts, each home programmer uses the agendas provided during the workshop, as he or she engages the parents in discussions of the importance of behavioral measurement; explains and reviews the first response definition; explains and models the parents’ first data-collection procedure; provides parents with the special “package” of materials they will need; delivers “hands on” training in observing and recording child behavior and obtains interobserver agreement with the parents; schedules the return of parents’ data sheets; and utilizes other aspects of the training described above.

Implementation of Children’s Individualized Programs at School

As soon as parents give their consent for specific target behaviors and for observation and data collection, baseline measurement of child performance begins at school. During this period, the home programmer (who usually has daily sessions with the child), consults with his/her colleagues and supervisor regarding the identification of an appropriate instruction or treatment procedure. When an appropriate program is specified and approved, the home programmer next requests parental consent for the use of this behavior change procedure, so that it can be implemented at school.

Assessing the effectiveness of intervention procedures at school before they are introduced at home has many advantages. In work with autistic children, it is not uncommon for a treatment procedure to be revised or redesigned several times before achieving a program that can be readily implemented. Accomplishment of such modifications at school, before the parents attempt the program
at home, spares them the necessity of adapting to each successive program change, and reduces confusion for parents who are, as yet, inexperienced in the delivery of child instruction and treatment. Ideally, the program can be implemented at school for a sufficient length of time to establish (using at least an A-B design) that the new procedure produces child behavior change, thus enabling the home programmer to select out ineffective procedures, and to deliver parent training only on procedures that were effective in the treatment setting. This strategy makes a substantial contribution to the probability of parent success when programs are implemented at home.

An additional benefit of beginning a new program at school (and/or in a group home or other treatment setting) is the possibility for obtaining multiple-baseline designs across home and other treatment settings. Numerous investigators have employed multiple-baseline designs to assess parent training effectiveness (cf. Christopherson, Arnold, Hill, & Quilitch, 1972; Hall, Christler, Cranston, & Tucker, 1970; Rekers & Lovaas, 1974; Wahler, 1969b).

**Procedures.** During this period of baseline measurement and program development and implementation at school, the initiation of record-keeping becomes especially salient, because such activities permit process measures of training services delivered to parents. Thus, home programmers are instructed in the use of “logs” that provide brief accounts of their visits with each family receiving their services. An example of such a log is displayed in Figure 2.

**Results and discussion.** Summary of the information contained in home programmers’ logs provides useful data on some of the independent variables important in parent training. Thus, at the end of the 1979–80 school year, home programmers (teachers and therapists) in the Education Program of the Princeton Child Development Institute had provided 115 individualized training sessions to 12 families (5 families were served by group home personnel). This resulted in a mean of 9.6 training sessions per family (approximately one visit per month during the regular school year). A total of 217 hours, or about 5 and one-half work weeks, were devoted to home programming; this represented an average of 18 hours of individualized training per family.

Maintenance of these logs by home programmers helps prompt them to regularly deliver needed services, and also sets the occasion for their colleagues and supervisors to acknowledge their training efforts and their professional expertise. In addition, the summary data that become available at the end of each year are useful in planning for the revision or expansion of program services.

**Parents’ Observation of Program Implementation at School**

Many studies indicate that modelling is a powerful procedure for teaching parents new child management skills (Planagan, Adams, & Forehand, 1979;
FIGURE 2. Log of home programming services.

Johnson & Brown, 1969; Nay, 1975; Risley & Wolf, 1966; Risley, 1968; Russo, 1964). Providing opportunities for parents to observe a therapist implementing a new instruction or treatment procedure at school is advantageous because of the trainer's ability to control interferences that are often present at home, thereby maximizing parents' attention and receptivity. Although some researchers (O'Dell, Mahoney, Horton, & Turner, 1979; O'Dell, Krug, O'Quin, & Kasnetz, 1980) have suggested that films and/or audiotapes may be more cost-effective training procedures, it is not yet known whether these results with the parents of normal children are relevant to training the parents of autistic youngsters.

Training procedures. When a new child treatment procedure is achieving the desired behavioral effects at school, home programmers encourage the parents to arrange school visits. During these visits, the home programmer reviews data on the child's performance at school and home; models the implementation of the new intervention procedure; cues the parents to observe important dimensions of his/her behavior; and encourages them to ask questions about the procedure. At the discretion of the home programmer, several such visits may be scheduled before the parents are invited to attempt the new procedure themselves. During these visits, parents continue to practice data collection, with the home programmer obtaining interobserver agreement with them.
Parents’ Rehearsal of New Procedures at School

By arranging for parents to have their first experiences with new procedures in a structured treatment environment, home programmers are able to assure maximum guidance and support. The school setting offers a variety of special training aids, such as one-way windows, “bug in the ear” devices, audio and video equipment, and other special types of equipment that are not normally available in homes, but which facilitate the delivery of training services (cf. Bernal, 1971; Moore & Bailey, 1973; Wahler, Winkel, Peterson, & Morrison, 1965).

Training procedures. A fourth workshop for home programmers assists them in practicing the agendas that they will use as parents attempt new intervention procedures at school, and later, implement these same procedures in their own homes. Agendas provide formats for each of these training contacts, in which home programmers review the response definitions, data-collection procedures and treatment procedures; review child performance data; invite parents’ questions and input; model the procedure and prompt parents to observe the relevant dimensions of these demonstrations; provide positive and corrective feedback as parents practice implementing new programs; and obtain interobserver agreement with parents.

Enabling parents to try out new programs at school before delivering treatment services at home offers several special advantages. First, if parents encounter serious difficulties in implementing a new procedure, the child can be returned to his/her regular classroom activities, giving parents and home programmer the opportunity to discuss and review special problems and, if necessary, to role play the new procedure in the absence of the child. During such role plays, the home programmer usually takes the role of child, so that parents can have repeated, successful practice opportunities. As in other training interactions, the home programmer employs a shaping procedure, providing high levels of positive feedback on functional aspects of the parents’ performances, and corrective feedback on only one or two dysfunctional components of these performances.

A second advantage of inviting parents to attempt their first rehearsals of new procedures at school concerns the availability of other professionals. If, during these early contacts with parents, home programmers encounter new, unusual, or extremely difficult training problems, they can arrange rapid consultation with colleagues and supervisors, thus maximizing the pleasantness and effectiveness of the training interaction.

A final benefit accruing to parents’ school visits is that they set occasions for “training of trainers.” Thus, the trainers of home programmers may utilize parents’ school visits to provide ongoing instruction and feedback vis-à-vis the home programmers’ parent-training skills.
Parents' Implementation of Programs at Home

A substantial number of studies indicate that generalization of parents' treatment skills from school to home is facilitated when a therapist or trainer directly supervises their initial use of intervention procedures in their home (Hawkins, Peterson, Schweid, & Bijou, 1966; Johnson, Whitman, & Bouloon-Noble, 1978; Nordquist & Wahler, 1973; O'Leary, O'Leary, & Becker, 1967; Risley, 1968).

Wahler's (1969a) report that parent training increases the reinforcement value of parents is especially relevant to programs for autistic children since, at the beginning of intervention, children have often not yet learned to value adult attention and social reinforcement.

Other positive side effects of teaching parents to deliver home instruction and treatment include generalization of treatment effects from treated to untreated target behaviors (Wahler, 1975), as well as generalization of treatment effects from target child to untreated siblings (Arnold, Levine, & Patterson, 1975; Lavingueur, Peterson, Sheese, & Peterson, 1973; Resick, Forehand, & McWhorter, 1976).

Training procedures. The majority of parent training services provided by home programmers takes place in the parents' own homes. In order to maximize training time and minimize interruptions, it is important that, during early visits, home programmers establish guidelines for these interactions, such as requesting that parents quickly terminate phone calls, excuse themselves from visitors and eliminate distracting stimuli such as radio or television (Patterson et al., 1975).

If the instruction or treatment procedure being introduced at home requires any special supplies (e.g., tokens, picture cards, toys, worksheets), the home programmer will add these to the "package" described earlier, in order to assure that parents have all the materials needed to successfully implement the program. Also during these early visits, home programmers typically assist parents in broadening the reinforcer menus available to the target child; adjusting home schedules for instruction or treatment sessions; identifying rooms or areas within the home that will be most conducive to child instruction; and in making decisions relevant to environmental design (e.g., What types of furniture are best suited to the teaching or treatment activity? Where should the child sit or stand in relation to the parent who will conduct the session? Where should the spouse sit when obtaining interobserver agreement?). Throughout these initial contacts, and in all of the home visits that follow, the home programmer employs teaching interactions and counseling components, and uses the agendas provided in workshop sessions to structure the delivery of ongoing parent training services.

The sequence of home programming activities described above represents a continuing cycle. When data on the child's performance indicate that a treatment goal has been achieved, a new program is initiated, following the same outline.
Experience indicates that a substantial proportion of parents, upon nearing completion of their first cycle of home programming activities, display increased interest in providing two or more home programs concurrently. Thus, over a period of time, as parents increasingly acquire skills in data collection and child management, they are able to make progressively larger contributions to child treatment.

Ongoing Parent Data Collection

The timely submission of parents’ data is a critical element in this parent-training model. By regularly graphing and reviewing the data on child performance, the home programmer is able to make decisions such as when to begin an instruction or treatment procedure at home; whether program revisions are needed; and when the next home visit should be scheduled.

Early in the development of this parent-training strategy, however, it was noted that many well-organized and cooperative families experienced difficulty in remembering to send their data sheets to school at regular intervals. Reminders such as notes sent home with children proved ineffective. Home programmers often expressed discomfort about “nagging” parents in order to obtain data sheets, and were unable to determine whether the data were not being collected, or whether they were merely not being submitted. The persistence of these problems ultimately led to the design of a special prompt system that enabled most parents to submit data regularly.

Procedure. Home programmers agreed that weekly submission of parents’ data on home instruction and treatment programs would be sufficient for the delivery of good parent-training services. Subsequently, all parents were individually invited by their home programmers to send their data sheets to school each Monday, in their children’s lunchboxes.

Each Monday morning, home programmers were asked to note, on a Weekly Log of Home Data (see Figure 3), whether data were expected from their assigned families. In a few cases, perhaps because home data collection had not yet begun, or because the parents notified their home programmer of family holiday or vacation plans, or of a family crisis such as illness, data sheets were not expected; in most cases, however, home programmers expected that families would submit data sheets each Monday for the preceding week of home intervention.

As children arrived at school on Monday mornings, the administrative assistant checked their lunchboxes and removed data sheets, indicating on the Weekly Log of Home Data whether data sheets were received from target families. If data were received on Monday, no further prompts were delivered to that family for the remainder of the week, although not uncommonly, the home programmer
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<table>
<thead>
<tr>
<th>Families</th>
<th>Data Requested This Week?</th>
<th>Data Sent to School on Monday?</th>
<th>Note Sent to Home</th>
<th>Data Sent to School on Tuesday?</th>
<th>Phone Call by Admin. Ass.</th>
<th>Data Sent to School on Wednesday?</th>
<th>Phone Call by Parent Trainer</th>
<th>Data Sent on Thurs. or Friday?</th>
<th>Check Data Is Rec’d</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADAMS</td>
<td>YES</td>
<td>YES</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>✓</td>
</tr>
<tr>
<td>BERLE</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>CASEY</td>
<td>YES</td>
<td>YES</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>DEANE</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>—</td>
<td>✓</td>
</tr>
<tr>
<td>EDSON</td>
<td>NO</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>FIELD</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>—</td>
<td>—</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

FIGURE 3. Weekly log of home data.

might contact the parents or write them a note, thanking them for remembering the data.

If data sheets were not received from a family on Monday, the home programmer sent a note home in the child’s lunchbox that day. This brief communication stated:

Dear [Name],

We did not receive your data on (target behavior) in your child’s lunchbox today. Will you please send these data tomorrow? Thanks for your cooperation.

On Tuesday, the lunchboxes were again checked for the presence of data sheets, and the Weekly Log of Home Data was again marked. Families submitting data sheets on Tuesday received no further prompts for the week, while families who had not yet sent their weekly data to school received a telephone call from the administrative assistant. During this brief, pleasant conversation, the caller inquired as to whether there were any illnesses or special problems in the child’s home, and invited parents to send their data sheets to school the next day.

On Wednesday, lunchboxes were again checked and the presence of home data was again recorded. Families sending data to school received no further prompts for the week, while families who had not yet sent data sheets received a final prompt—a phone call from their home programmer. During this call, the home programmer inquired whether there were any special problems related to the home data-collection procedures or intervention procedures, and asked if an immediate home visit was needed. For the remainder of the week, the admin-
istrative assistant continued to check lunchboxes and to record whether any additional data sheets were received.

When home data sheets were received and checked off, they were placed in home programmers’ mailboxes. Home programmers kept independent records of which families sent data sheets to school each week, thus permitting assessment of interobserver agreement.

Twelve families whose children were enrolled in the school program participated in this study, and a reversal (B-A-B) design was used to assess the effectiveness of the parent prompt system. Prompts were introduced and data collection was begun at the beginning of October. The prompt system was discontinued for six weeks during April and May and reinstated for the final three weeks of the school year. During the reversal condition, home programmers continued to remind parents of the importance of returning home data sheets, as they had done prior to the beginning of the study.

Results and discussion. Interobserver agreement between the administrative assistant and home programmers remained at 100% throughout each condition of the study. Figure 4 displays the percent of families sending requested data to school each week. During the initial prompting condition (weeks 1 to 25), 64 to 100% of families sent data sheets to school weekly; the mean of this condition was 90%. When the prompt system was discontinued (weeks 26 to 31), only 45 to 67% of families sent home data to school; the mean of the reversal condition was 60%. Resumption of the prompt system for the remaining three weeks of

![Graph showing percent of families submitting data](image)

**FIGURE 4.** Percent of families sending requested data to school each week (n = 12).
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the school year (weeks 32 to 34) resulted in submission of home data by 92 to 100% of families. The mean of this final condition was 95%.

During the initial weeks of the study (weeks 1 to 3), a temporary decline in submission of data sheets may be noted. This appeared to occur because, as is typical at the beginning of each school year, parents who were inexperienced in data collection began an unfamiliar task, encountered difficulties, received assistance, and were able to resume. An alternative explanation of this phenomenon would be that it took several weeks for some families to come in contact with the prompt system. It is also interesting to note the decline observed at weeks 11 and 12; these data points preceded and followed the winter holiday season, and it appeared that families’ holiday plans interrupted their ongoing data collection activities.

Throughout both prompt conditions, home programmers reported that the lunchbox notes and occasional telephone calls to parents were more pleasant than their earlier attempts to obtain home data sheets through repeated reminders (“nags”). Parents, on the other hand, sometimes responded apologetically to home programmers’ calls, and expressed regret that they had caused them “extra work.”

Parents’ responses to the prompt system were especially evident during reversal; although significantly fewer parents submitted home data, many of them initiated conversations with home programmers about the importance of doing so, and during home visits and telephone calls, several parents questioned their home programmers about why they were no longer receiving systematic reminders, and indicated that they had found these prompts to be helpful.

At the beginning of the following school year (approximately 2 months later), an attempt was made to replicate these findings, using an A-B-A-B reversal design. Replication was not achieved, because parents’ submission of home data maintained at close to the previous levels (80 to 100% of families sent the expected home data to school). During this attempted baseline, however, several families requested the earlier prompt system, reporting that it had been helpful to them.

Since the availability of parent-collected data is essential to the delivery of good home programming services, the prompt system is seen as a critical component of this parent-training model. At the present time, some parents who have been associated with the school program for several years no longer appear to need such prompts, while families who are new to the program find it helpful. Thus, home programmers may ultimately individualize the system, so that it is available to those families who need it.

External Review of Home Programs

Invited peer review, as described by Risley and Sheldon-Wildgen (1980), serves as an important component of program evaluation; such review assumes
special importance in treatment programs for autistic children since, due to their severe deficits in language and conceptual skills, traditional rights protection mechanisms are often inappropriate or irrelevant (McClannahan & Krantz, 1981).

For these reasons, the parent-training model includes an annual review of children’s programs, conducted by professionals from beyond the treatment agency. These individuals are selected on the basis of their widely-recognized credentials and their expertise in the field of autism and severe behavior problems. They are asked to assess the number of individualized home programs delivered by parents each year, as well as to evaluate the effectiveness and appropriateness of parental intervention.

**Procedures.** At the close of each school year, two or more external reviewers independently examine the records of each child enrolled in the school and record, first of all, the number of individualized home programs implemented by parents during the preceding months of that academic year. An individualized home program is defined as a set of documents that includes: (1) a written response definition of the target behavior being treated by parents; (2) a written description of the data-collection procedure parents use to observe and record child performance; (3) a written description of the instruction or treatment procedure implemented by the parents; and (4) a graph or other type of data summary, supported by parents’ data sheets. If any of these components is absent, a home program cannot be said to exist. If all components are present, the parents’ efforts are acknowledged as a home program. In reviewing children’s records, the evaluators identify each program (or attempted program) by child name/number, and by the name of the target behavior (e.g., following directions, hitting and kicking, hand flapping); indicate the presence or absence of each of the necessary program components; and summarize their review by checking a space on their data sheets to indicate that the documents may/may not be considered an individualized home program.

As they review each set of documents, the evaluators are also asked to scrutinize child performance data and to determine, on the basis of these data, whether the child’s home performance: (1) changed in a desired direction; (2) showed no change; or (3) changed in an undesired direction during the preceding months of the school year. Again, the reviewers place check marks on their data sheets to indicate the occurrence and/or direction of child behavior change.

Finally, on the basis of their review of children’s records, the evaluators are asked to judge the appropriateness of children’s home programs, by checking one of the following categories: (1) the home instruction or treatment procedure may continue; (2) the instruction or treatment procedure should be stopped immediately; or (3) the procedure is not being implemented because _______. The latter item, which calls for write-in responses by evaluators, is necessary because some children may have met their treatment goals, remained in baseline, left the program, etc.
Upon completion of this review of children’s home programs, the external reviewers summarize their data, assess their interobserver agreement, and make their findings available to program personnel.

*Results and discussion.* At the end of the last school year, external reviewers examined the records of 12 children who were enrolled in the school program and who lived at home with their own families, and separately reviewed the records of 5 children who attended the day school and lived in the group home. Since teachers and therapists at school provide home programming for children who live with their own families, while group home personnel provide parent training on behalf of children receiving residential treatment services, separate review and summary of these children’s records is advantageous, because it results in more specific feedback for the two groups of home programmers.

The measures of home programming reported below pertain to the 12 families whose children continue to live at home. Similar results are available for children receiving group home treatment (Tyburczy, Bailey, Krantz, & McClannahan, 1980). Interobserver agreement between independent evaluators was calculated using the formula: total number of agreements, divided by agreements plus disagreements × 100. Interobserver agreement was 100% on number of individualized home programs delivered by parents during the year; 100% on the effectiveness of these programs; and 100% on the appropriateness of home instruction and treatment procedures.

The external reviewers determined that the 12 families and their home programmers had attempted 38 child intervention programs during the year; of these, 6 were disqualified because they did not meet the definition of an individualized home program, leaving a total of 32 home programs implemented by 12 families. The descriptive labels of these programs, and the number of children who received each program are presented in Table 1. These 32 home programs delivered to 12 children resulted in a mean of 2.7 individualized home programs per family during the year. Thus, parents made a substantial contribution to child treatment.

The six “nonprograms” included efforts to teach appropriate approaches to adults, appropriate toileting, “friendly” verbal behavior, homework on handwriting, direction following, and describing temporarily-remote events. All were disqualified because of missing elements, such as the absence of a graph, or the lack of a written description of the instructional procedure. Although they could not be counted as home programs, these partial or “incorrect” programs were nonetheless included in other aspects of the review. This procedure was employed because it was felt that the reviewers’ assessment of the effectiveness and appropriateness of these incomplete programs could provide helpful feedback that would be useful to home programmers in their future work with parents. In addition, the comprehensive review of all records was seen as an additional mechanism for safeguarding the rights of children in treatment.

Table 2 displays external evaluators’ assessment of the effectiveness of child instruction and treatment activities provided by parents. As indicated in the table,
TABLE 1

<table>
<thead>
<tr>
<th>Type of Program</th>
<th>Number of Children who Received this Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote Events, Descriptive Language &amp; Paraphrastic Speech</td>
<td>4</td>
</tr>
<tr>
<td>Verb Demonstration</td>
<td>2</td>
</tr>
<tr>
<td>Independent Play</td>
<td>2</td>
</tr>
<tr>
<td>Physical Aggression</td>
<td>2</td>
</tr>
<tr>
<td>Following a Schedule of Activities</td>
<td>1</td>
</tr>
<tr>
<td>Awakening Others</td>
<td>1</td>
</tr>
<tr>
<td>Playing Radio at Appropriate Volume</td>
<td>1</td>
</tr>
<tr>
<td>Blowing</td>
<td>1</td>
</tr>
<tr>
<td>Grabbing Self</td>
<td>1</td>
</tr>
<tr>
<td>Bus Ridership</td>
<td>1</td>
</tr>
<tr>
<td>Spontaneous Reporting of School Activities</td>
<td>1</td>
</tr>
<tr>
<td>“Being Happy”</td>
<td>1</td>
</tr>
<tr>
<td>Inappropriate Verbal/Vocal Behaviors</td>
<td>1</td>
</tr>
<tr>
<td>Hitting &amp; Kicking</td>
<td>1</td>
</tr>
<tr>
<td>Noncompliance</td>
<td>1</td>
</tr>
<tr>
<td>Cooperative, “Friendly” Behavior</td>
<td>1</td>
</tr>
<tr>
<td>Doing Homework</td>
<td>1</td>
</tr>
<tr>
<td>Biting Self</td>
<td>1</td>
</tr>
<tr>
<td>Taking Food</td>
<td>1</td>
</tr>
<tr>
<td>Doing Chores At Home</td>
<td>1</td>
</tr>
<tr>
<td>Voluntary Belching</td>
<td>1</td>
</tr>
<tr>
<td>Marching Pictures</td>
<td>1</td>
</tr>
<tr>
<td>Number Concepts</td>
<td>1</td>
</tr>
<tr>
<td>Identifying Body Parts</td>
<td>1</td>
</tr>
<tr>
<td>Reading</td>
<td>1</td>
</tr>
<tr>
<td>Climbing</td>
<td>1</td>
</tr>
<tr>
<td>Total Number of Home Programs</td>
<td>32</td>
</tr>
</tbody>
</table>

19 home programs produced desired behavior change, 11 programs produced no change, and 2 programs resulted in undesired changes in child performance, thus giving parents a 59% success rate in delivering home treatment services. However, it may be noted that 3 programs in the “no behavior change” category actually represent parental successes since, in these cases, maintenance programs were being effectively provided, in order to assure the stability of behavior change achieved in the previous year. Combining these 3 programs with the 19 other successful programs yields a parent success rate of 69%.

Although there are, as yet, no normative data that may be used to evaluate these results, the finding that more than two-thirds of all home programs were successful in helping children achieve treatment goals is regarded as highly encouraging, especially given the severity of the behavior problems and skill deficits displayed by these autistic youngsters.

Finally, evaluators examined the appropriateness of home programs, by delivering their opinions on whether each program should be continued or stopped immediately. As shown in Table 3, reviewers recommended that 22 home in-
### TABLE 2
**Effectiveness of Individualized Instruction and Treatment Programs Implemented at Home by Children’s own Parents**

<table>
<thead>
<tr>
<th>Behavioral Outcome</th>
<th>Home Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( n )</td>
</tr>
<tr>
<td>Behavioral change in desired direction:</td>
<td></td>
</tr>
<tr>
<td>Child in baseline</td>
<td>1</td>
</tr>
<tr>
<td>Child in treatment</td>
<td>17</td>
</tr>
<tr>
<td>Child achieved treatment goal, treatment discontinued</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>19</td>
</tr>
<tr>
<td>No behavior change:</td>
<td></td>
</tr>
<tr>
<td>Child in baseline</td>
<td>1</td>
</tr>
<tr>
<td>Child in treatment</td>
<td>7</td>
</tr>
<tr>
<td>Child in treatment, behavior maintaining at appropriate level</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>11</td>
</tr>
<tr>
<td>Behavior change in undesired direction:</td>
<td></td>
</tr>
<tr>
<td>Child in baseline</td>
<td>0</td>
</tr>
<tr>
<td>Child in treatment</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>32</td>
</tr>
</tbody>
</table>

Instruction and treatment programs (69%) be continued. No programs were viewed as inappropriate, i.e., as deserving immediate cessation. This evaluation dimension was not relevant to 10 home programs (30%) because, for a variety of reasons, an intervention procedure had not yet begun, had not been continued, or had been terminated prior to the review.

### TABLE 3
** Appropriateness of Individualized Instruction and Treatment Programs Implemented at Home by Children’s own Parents**

<table>
<thead>
<tr>
<th>Evaluation Dimension</th>
<th>Home Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( n )</td>
</tr>
<tr>
<td>Instruction or treatment procedure may continue</td>
<td>22</td>
</tr>
<tr>
<td>Instruction or treatment procedure should be stopped immediately</td>
<td>0</td>
</tr>
<tr>
<td>Instruction or treatment procedure is not being implemented because:</td>
<td></td>
</tr>
<tr>
<td>Child met treatment goal</td>
<td>4</td>
</tr>
<tr>
<td>Parents did not initiate/continue</td>
<td>2</td>
</tr>
<tr>
<td>Child in baseline</td>
<td>1</td>
</tr>
<tr>
<td>Discontinued due to transition program</td>
<td>1</td>
</tr>
<tr>
<td>Discontinued, no reason given</td>
<td>1</td>
</tr>
<tr>
<td>Procedure not effective</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>32</td>
</tr>
</tbody>
</table>
Annual review by external evaluators contributes an additional dimension to the assessment of parent-training effectiveness, serves an important rights protection function for children in treatment, and generates data that are invaluable to home programmers and their trainers and supervisors as they plan for continued services to families.

Parents' Evaluation of Program Services

Increasingly, consumers are being invited to participate in evaluating the social significance of treatment goals, the appropriateness of intervention procedures, and the importance of treatment results (Wolf, 1978). Obtaining consumers' opinions is useful because it generates feedback that can be used to correct problems or improve services; because it underlines the professionalism of program personnel who invite regular evaluation; and because it contributes to the protection of youth rights (Phillips et al., 1974).

Examples of questionnaires that have been used to obtain parental feedback may be found in Eyberg and Johnson (1974); Kent and O'Leary (1976); Phillips et al. (1974); and Tyburczy et al. (1980). The parent-training model described above utilizes the latter two Likert-type scales, as well as a series of open-ended items (e.g., "The services provided during this school year that have been most helpful to me are _____") to secure consumer evaluation by parents who have received training services. Since these three separate instruments may gather similar or dissimilar pictures of parent satisfaction, this evaluation procedure offers a means for examining the validity of parents' responses.

Providing parents with opportunities to serve as program evaluators helps to assure them that their feedback is valued. In addition, surveys of parent opinion may generate special rewards for home programmers, whose professional efforts are often clearly reflected in parents' evaluations.

SUMMARY AND CONCLUSIONS

Over the past six years, this parent-training model has been presented many times, and it has not been uncommon for others to question whether these families, in contrast to the families served by some other programs for autistic children, were perhaps wealthier, better educated or more concerned with their children. Since socioeconomic status, ethnicity, employment and similar variables are unrelated to children's eligibility for treatment services, such demographic data have never been collected. However, the authors believe that the parents who have been the recipients of training may reasonably be regarded as a representative sample of parents within the state, and that the characteristics of the model are much more strongly related to training outcome than are the personal characteristics of parents.

A key element of the model is its emphasis on "hands on" training, both for
home programmers and for parents. Home programmers’ acquisition of teaching interaction components and other relationship-building and in vivo-training skills receive at least as much emphasis as their acquisition of technical and methodological skills, enabling them to provide an effective support system and to reinforce parents’ efforts to deliver treatment. The ongoing cycle of home visits—in which the home programmer models the use of a new procedure, encourages the parents to practice the new skill, and delivers positive and corrective feedback—may appear costly, and it is. However, analyses of cost effectiveness are relevant only insofar as intervention programs achieve desired outcomes; it is useless to examine the cost effectiveness of programs that do not produce behavior change.

Another salient dimension of the model is individualized programming, not only for children, but for their parents. Early in the development of this paradigm, a high level of effort was invested in the design of group training strategies, since it was assumed that it would be more efficient to provide training to groups, rather than to individuals. A large number of difficulties were encountered during these attempts to provide group training, including: (1) some parents felt patronized by training activities and materials, while others had difficulty understanding both written and oral presentations; (2) parents of more severely-handicapped children reported feeling discouraged by the reports of other parents whose children were more skilled; (3) parents of older children were uninterested in discussions of the problems of younger children and vice versa; (4) many parents reported difficulties in arranging for child care during parent meetings; this appears to be a particularly chronic and unremitting problem for the parents of autistic children, due to the severity of children’s inappropriate behaviors; and (5) while the parents shared some concerns (e.g., children’s direction-following and language development skills), children’s behavioral diversity often meant that one family’s top-ranked problem would not be shared by any other family attending the group meetings.

Perhaps most serious was a pattern of attrition; most parents attended group meetings for some period of time following their child’s enrollment in the program, but later disengaged. A number of procedures for manipulating parent attendance were attempted without success. These included personal invitations from trainers to parents; pairing of social occasions (e.g., potluck suppers) with parent-training meetings; scheduling “special events,” such as speakers or films; and “personalizing” meetings by holding them in parents’ and staff members’ homes.

Unquestionably the most ambitious attempt to increase parents’ attendance was the offer of a free child-care weekend for the target children of parents who attended four out of five group meetings. Of the 18 parents whose children were then enrolled in the program, a mean of 7 parents attended during baseline; a mean of 8 parents attended during the meetings that could help them earn free child care; and a mean of 5 parents attended the remainder of the group meetings...
held during that school year. The results of this rather expensive intervention procedure were neither instrumental in providing parent training nor encouraging to trainers, who were sometimes left without an audience.

In interpreting these results, it is important to note that, although parents are self selected into programs by virtue of their autistic children’s needs for treatment, they are not, for the most part, self selected into parent-training groups, as are the parents of some normal and mildly-disturbed children. This has important implications for the design of parent-training strategies, and serves as a primary rationale for the level of individualization implicit in the present model. Thus, at the outset of training, parents are not required to attend group meetings, nor are they asked to become familiar with a global set of child management procedures; instead, they are assisted in acquiring a specially-selected subset of skills that they need in order to intervene in a child problem that they have helped to identify.

Individualized programming for parents enables home programmers to adopt the underlying assumption that “the parents are always right.” If parents are unable to implement their child’s program at home, this is assumed to be due to the incorrect design of instruction or treatment procedures and/or to the inadequate delivery of training services. Home programmers become strong advocates for parents as well as children, and when the home programmer calls to schedule a training contact, he/she is not inviting the parents to a group situation, but to a meeting that will be especially arranged for them and their child.

Parental participation in the selection of target behaviors also appears to be an important aspect of their continuing engagement in training. In some cases, home programmers assist parents in teaching particular child behaviors solely on the basis of their importance to families (e.g., teaching a pre-verbal child to produce an approximation to “ma-ma”; teaching a severely-language-delayed child to recite John 3:16; or teaching an asocial child to kiss his parents), with the result that parents become more enthusiastic about child progress and more involved in home instruction and treatment.

Parent convenience is also a significant factor in maintaining home intervention efforts. Providing “packages” of materials (often attractively presented in special notebooks or athletic bags) needed for the delivery of child treatment services appears to contribute to parents’ ongoing implementation of child management procedures, as well as to their submission of data on child performance.

Although designers of parent-training programs have typically examined consequent stimuli (i.e., parent and child reinforcement variables), it has been less common for program developers to assess antecedent stimuli, such as prompt systems. Some important components of the present model include agendas that prompt home programmers to deliver specified training services, and notes and telephone calls that function as a prompt system enabling parents to routinely submit data on children’s behavior at home.
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In delivering home programming services, as well as in delivering other types of intervention services to autistic youth, systems that facilitate generalization require special attention. In the treatment setting under discussion, children’s school programs are specifically designed to achieve “sequential modification” (cf. Stokes & Baer, 1977), that is, to promote generalization across responses, persons, settings and times of day. This is accomplished by scheduling children’s school days in 30-minute blocks, so that at the end of each half-hour session, children change teachers, classrooms and activities, but remain in contact with treatment contingencies, since all teachers and therapists interacting with each child have been trained to implement that child’s individualized programs. Nevertheless, baseline data collected by the parents of these autistic children almost uniformly indicate that unprogrammed generalization does not occur. This repeated finding underlines the importance of parents’ home-based treatment efforts.

Finally, although some families require more training than others, and parents differ in levels of treatment services they can provide to their own children, the most noteworthy aspect of this parent-training model is its success in engaging all families in ongoing home programming activities, with the result that parents make a very substantial contribution to children’s progress.

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