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Behavioural Training For Parents Of Mentally Retarded Children

Ian Gregory Manion

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LA THÈSE A ÉTÉ MICROFILMÉE TELLE QUE NOUS L'AVONS RÉCU.
BEHAVIOURAL TRAINING FOR PARENTS OF MENTALLY RETARDED CHILDREN

by
Ian Gregory Manion

Department of Psychology

Submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

Faculty of Graduate Studies
The University of Western Ontario
London, Ontario
June 1985

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ABSTRACT

Seven families participated in a behavioural training program for parents of mentally retarded children. The goals of this research were to: conduct a more extensive and systematic assessment of behavioural generality following basic behavioural training; determine how certain task characteristics affect such generalization; determine if certain forms of additional training (i.e., self-management training) enhance such generalization; assess the long-term maintenance and setting generality of parent skills following training; assess the role of individual characteristics in the initial and generalized effects of training; and provide an analysis of both therapist and client costs associated with such training.

The research design was a multiple-baseline across families with multiple generalization probes across child tasks. Parent training was administered in two successive phases: basic training followed by self-management training. Direct observations of parent/child teaching interactions provided measures of parents' ability to implement behavioural teaching skills and measures of the generality of these skills across a variety of child tasks.
Although all parents showed marked increases in their ability to effectively implement behavioural teaching skills in an easy target task during basic training, different parents showed different patterns of generalized teaching to non-target child tasks. During self-management training, parents who had not yet generalized accurate teaching to all non-target tasks did so, while parents who had already demonstrated generalized teaching with certain tasks often showed additional increases. Changes in children’s correct responding to parental teaching generally paralleled changes in parent behaviour. Changes in parent and child behaviour were maintained over a 4-month follow-up period. Parents also demonstrated high rates of accurate teaching with new child tasks in the home setting, up to 5 months following the termination of training. Pretraining measures of parent stress were significantly correlated with parent and child behaviour change. Overall, parent satisfaction with the training program was very high.

It was postulated that the self-management procedures were successful because they promoted the transfer of stimulus control from the parent trainer to the parent. Overall, this research helped to identify a socially valid training approach that is effective in promoting generalized and maintained behaviour change at a cost that is not prohibitive. The clinical implications of this training approach were discussed.
ACKNOWLEDGMENTS

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to Nina for being there

to Melanie just for being
INTRODUCTION

In recent years, there has been an increasing interest in training parents to modify their own children's behaviour through a variety of behavioural treatment approaches (Berkowitz & Graziano, 1972; Gardner, 1976; Graziano, 1977; Johnson & Katz, 1973; Moreland, Schwebel, Beck, & Wells, 1982; O'Dell, 1974; Reisinger, Ora, & Frangia, 1976). "Behavioural parent training" refers to training where parents are taught behavioural and/or social learning principles and techniques with the goal being that these parents will use these skills to modify child behaviours (Wolfe, 1982). There is substantial evidence to show that parents can be trained as behaviour therapists and that they become effective in modifying a wide range of child behaviours. Parents have been trained to decrease psychogenic vomiting (Munford & Pally, 1979), to decrease stealing (Stumphauzer, 1976), to increase desirable sibling interactions (Lavingueur, 1976), to reduce child phobias (Luiselli, 1978), to reduce hyperactivity and extreme aggressive behaviour (O'Leary, O'Leary, & Becker, 1967; Sloane, Johnston, & Bijou, 1967), to decrease child enuresis and encopresis (Barrett, 1969; DeLeon & Sacks, 1972), and to decrease noncompliance in young children (Forehand & King, 1977; Peed, Roberts, & Forehand, 1977). In fact, as O'Dell (1974) concluded in his review, "there does not appear to be any class of overt child behaviour that parents
cannot be trained to modify" (p. 421).

In most of these studies, parents are trained to modify some form of maladaptive behaviour exhibited by their child who otherwise shows the ability to learn more appropriate behaviour. As Gath (1979) suggests, there are some quick successes reported in these studies which may not be appropriate to the situation of the parent of the handicapped child who may require many trials to make a very small gain. Though parent training techniques have generally been designed and evaluated collectively for both mentally retarded and nonretarded children, there are specific issues and concerns associated with training parents of mentally retarded children that warrant individual attention.

Why Parent Training?

There are a number of reasons why behavioural training for parents of mentally retarded children is considered to be a worthwhile undertaking. First of all, there are the economic advantages associated with such training. With the recent move towards deinstitutionalization, training paraprofessionals to work with the mentally retarded has taken an increasing degree of importance, with the training of parents leading the way. The shortage of trained professionals paired with the great demand for their
services has made training significant others in the mentally retarded child's environment an economically sound alternative. Adding to the feasibility of such an approach is the ease with which operant principles and behavioural technology lend themselves to supervised administration by non-professionals (Hislop, 1971). Parents' potential to function as effective behaviour managers for their developmentally disabled children is by now an empirically established fact (Baker, 1976; Heifetz, 1980; Johnson & Katz, 1973). By having parents work with their own children on a regular basis, staff-patient ratio problems usually associated with programs for mentally retarded children, are alleviated. As the parent training technology progresses, the cost of teaching parents of mentally retarded children to be effective behaviour therapists is itself decreasing.

A second major advantage is the improved communication between parents and professionals that results from such training. Hislop (1971) suggests that such an association between parents and professionals serves to discourage the prevailing unrealistic attitudes on the part of many families of the mentally retarded. This can be described as the 'fix him up syndrome' where parents may expect that their child's problems can be 'cured' like most other medical problems. Wilson (1979) describes how parent training helps to remove parents from a defensive posture to a positive partnership with professionals who previously
viewed them with alienation if not contempt.

A third advantage may be some of the positive side effects experienced by parents trained as behaviour therapists for their mentally retarded children. Some of the positive outcomes to parents described by Turnbull and Turnbull (1982) include reduced stress, increased family coping, and improved relationships within the family (parents and siblings). Another advantage is the increased sense of control experienced by parents who otherwise may have faced the feelings of helplessness often associated with raising a severely handicapped child. Finally, with some training in how to be effective teachers for their children, parents are better able to understand and evaluate the other types of programs (i.e., school) that their child may be involved in. This in turn allows them to be better advocates for services for their child.

A fourth advantage refers simply to the availability of parents in the mentally retarded child's environment. They represent the earliest and most prolonged contact with the child prior to the child attending school. For this reason they are in an ideal position to significantly develop their child's self-help, motor, intellectual, and preschool social skills (Litton & Ouder, 1979). As Harris, Wolchik, and Weitz (1981) suggest, there are some circumstances where parents may be able to deliver uniquely valuable
experiences. Parents interact with their children in situations unlikely to be witnessed by professionals on a daily basis (i.e. mealtime, toileting, grocery shopping, visits with relatives, etc.). For this reason, parents can apply learned techniques to a broader variety of naturally occurring situations. Again it should be noted that parents often have the luxury of working with their child on a regular basis, often providing daily intervention time.

The fifth advantage is closely related to the fourth and emphasizes the need to train parents in order to enhance the generalization and maintenance of any behaviour change produced in the child. A study by Lovaas, Koegel, Simmons, and Long (1973) is frequently cited to demonstrate the importance of parent training in this respect. They conducted follow-up measures, taken one to four years after intensive treatment of the behaviour of twenty autistic children. Large differences were found between groups of children whose parents were trained in behaviour modification techniques as compared to another group of children who were institutionalized. Children whose parents were trained to carry out behaviour therapy at home continued to improve, while children who were institutionalized regressed. Behaviourally trained parents provided sufficient contingent positive reinforcement to maintain appropriate behaviours while consistently extinguishing inappropriate behaviour. Because parents are
part of the mentally retarded child's natural environment, they are in an ideal position to facilitate the generalization of their child's newly acquired behaviour. Furthermore, parents are able to intervene with their child in the environmental contexts in which target behaviours emerge. Therefore, the importance of parent training lies not only in assuring that behaviour change persists in the natural environment over time, but also in the modificaton of a variety of child behaviours in a variety of practical situations. Of course in order to promote transfer of child behaviour across settings and time, parent behaviour must itself be maintained and generalize to other relevant situations.

Deficits Versus Excesses

Generally, child behaviours targeted for change are categorized as either behavioural excesses or behavioural deficits (Ross, 1974). For the most part, behavioural efforts at training parents have been directed at the modification of some of the more deviant child responses. While parents of mentally retarded as well as nonretarded children are faced with the management of such behavioural excesses, programs aimed at the remediation of skill deficits are more common with respect to children in the former category (Gath, 1979; Heifetz, 1977; Molloy, 1979).
Behavioural excesses successfully modified by parents include noncompliance (Brehony, Benson, Solomon, & Luscomb, 1980), hyperactive behaviour (Frazier & Schneider, 1975), tantrumming (Seitz & Terdal, 1972), and rumination (Becker, Turner, & Sajwaj, 1978). Other behavioural excesses targeted by parents of severely disturbed and mentally retarded children include self-stimulatory and bizarre behaviours such as rocking, ritualistic hand gestures, head banging, and aggressive acts. The elimination of such behaviour problems is often foremost in parent priorities as these are usually disruptive, sometimes dangerous, and almost always obstructive to other skill learning (Baker, 1976).

Deficit remediation has focussed on the development of feeding and eating skills (Barnard, 1968; Butterfield & Parsons, 1973), toilet training (Foord & Azrin, 1975; Mahoney, Wagenen, & Mayerson, 1971), academic skills (Benedetta, 1973; Benson & Ross, 1972), appropriate play (Marchant & Wehman, 1979; Mash & Terdal, 1973), and increasing attention span (Callias, Carr, Corbett, & Jenkins, 1973). Language acquisition has been a main target for children at all levels of retardation (Kazdin, 1979). Parents of mentally retarded and autistic children have successfully trained verbal labelling (Garcia, Bullet, & Rust, 1977; McConkey, Jeffree, & Hewson, 1979), prespeech and speech skills (Harris, Wolchik, & Weitz, 1981), vocal
imitation (Salzberg & Villani, 1983) responding to questions (Callias, Carr, Corbett, & Jenkins, 1973), and general communication and conversation skills (Arnold, Sturgis, & Forehand, 1977).

Therefore, while training for parents of intellectually normal children may focus on isolated problems often taking the form of behavioural excesses, parents of mentally retarded children must be prepared to manage a variety of inappropriate behaviours as well as to work towards the remediation of skill deficits. For retarded children then, as a specific behaviour problem is reduced or a particular skill taught, there will be other kinds of behaviour requiring careful programming (Baker, Heifetz, & Murphy, 1980). The implication of such a variety of target behaviours is that training parents of these children must be broader, teaching them a number of flexible and versatile techniques applicable in a greater number of situations.

Generalization and Maintenance

There are three important evaluation standards that should be considered when assessing the effectiveness of any training program: 1) the ability to demonstrate behaviour change or acquisition; 2) the generalization of that change to situations outside of treatment; and 3) the durability of these changes over time (Baer, Wolf, & Risley, 1968).
Researchers have been able to demonstrate that, with training, parents of retarded children do become effective behaviour managers (Breiner & Beck, 1984; Hornby & Singh, 1983). There is however a lack of consistent data on the generalization and maintenance of behaviour change in the training studies conducted to date.

The concept of generalization is a multi-faceted one, that has been defined in various terms by a number of authors. In their review of generalization of treatment effects with parents as therapists, Fofehand and Atkeson (1977) divided generalization into four categories. Temporal generality refers to the maintenance of treatment effects following termination of treatment. Setting generality refers to the occurrence of treatment effects in settings other than the therapeutic one. Behavioural generality refers to changes in behaviours not targeted for treatment. Finally, sibling generality refers to changes in the behaviours of the treated child's siblings.

**Maintenance.** Maintenance can be described as the generalization of treatment effects over time. This type of generalization has received the most attention in research with parents of mentally retarded children. Out of all of the training studies reviewed here, approximately two thirds report some form of follow-up reflecting the durability of training effects. Included among these studies however are
those that report purely anecdotal accounts of the
durability of their training. Firth (1982) for example
reported on families' further requests for assistance as a
measure of the durability of training effects. Twelve of 40
families participating in this program requested help from
either a community nurse or a psychologist following
treatment. Additional informal contacts revealed that
parents did not use the skills following training unless
prompted to do so by professionals.

The length of the follow-up period varies greatly from
study to study ranging from a few weeks (Salzberg & Villani,
1983) to 14 months (Baker, Heifetz, & Murphy, 1980; Clark,
Baker, & Heifetz, 1982). Only five studies report follow-up
measures past 8 months. The majority of studies report on
data collected within three months of training.

The most common method for collecting follow-up data is
to conduct parent interviews and/or to have parents fill out
questionnaires. Parents are usually asked about the extent
and quality of their implementation of trained skills, as
well as about the effects on the child behaviours targeted
for change. Bevington, Gardner, and Cocks (1978) conducted
semi-structured parent interviews with 13 families that had
terminated parent training. All of the parents reported
using some of the skills but few kept systematic records of
progress. Carpenter and Augustine (1973) trained four
mothers to develop speech skills in their mentally retarded children and collected follow-up data three months later by mail and by telephone contact. Only three of the four mothers seemed interested and capable of working systematically with their children and reported continued use of skills and the ability to modify child behaviours. More systematic interviews have been conducted by Baker, Heifetz, and Murphy (1980); Brightman, Ambrose, and Baker (1980); Brightman, Baker, Clark, and Ambrose (1982); Clark and Baker (1983); and by Clark, Baker, and Heifetz (1982).

A quarter of the studies assessing maintenance report follow-up data on child behaviours alone. In these studies there is no indication of whether parents have maintained their skills following training. Harris, Wolchik, and Weitz (1981) for example trained parents to develop speech skills in their autistic children and conducted one year follow-up assessments of the children's behaviours. Although there was evidence of maintenance for skills acquired by the end of training, the children did not show significant progress beyond that point. Without measures of parent behaviour, the authors hypothesized that parents may have been intermittently reinforcing children for appropriate speech behaviour, but failed to conduct formal intervention sessions to develop new behaviours.
The results from these follow-up assessments do not present a consistent trend. Several studies report excellent durability of training effects up to one year following training. Most of these studies however are case-reports where a single child behaviour or class of behaviours (i.e. communication skills) is targeted for modification by parents and where follow-up data are only provided on these child behaviours. Doleys, Doster, and Cartelli (1976) conducted group parent training and reported follow-up data at 2, 6, 10, 17, and 30 weeks following training. Clinic observations of parent/child interactions indicated that parents continued to use trained skills but at a slightly decreased rate. This study reflects durability of training effects in the clinic setting alone. Data were not collected in more natural settings.

Other studies report less favorable results. Becker, Turner, and Sajwaj (1978) treated the life-threatening rumination of a three year old mentally retarded girl by injecting lemon juice into the child's mouth contingent on the inappropriate behaviour. Parents were trained to administer the treatment in the home setting. An 11 month follow-up showed that the behaviour had returned at a high rate. This lack of maintenance was explained by the family's having stopped using the lemon juice treatment consistently.
Several group studies have reported mixed follow-up results. Brightman et al. (1982) conducted six-month follow-up interviews with families completing training in their study comparing group and individual parent training. The interviews were audiotaped and coded later on two major dimensions: 1) extent of continued programming; and 2) appropriateness of behavioral techniques used. Data from these interviews were used to categorize the families as high, medium, or low follow-through. The 15 families categorized as high follow-through had productively continued the programs they began during training and initiated some new teaching and/or behavior problem management following training. The 16 families constituting the medium group had continued some degree of useful teaching. The 10 families in the low group reported little or no continued teaching or demonstrated inadequate behavioral technique. Group and individually trained families did not differ by follow-through category. When one considers that 56 families initiated training (10 dropouts + 5 families with no follow-up) and that only 31 reported some degree of training durability (high + medium follow-through groups), the long-term effectiveness of this parent training program becomes questionable. Furthermore, the authors relied solely on parent self-report data to assess treatment durability.
O'Dell, Flynn, and Benlolo (1977) had a 58% return rate of follow-up questionnaires distributed to parents one month after the termination of their training. In their study, each participant underwent one of three types of pretraining experience prior to formal parent training: 1) pretraining in basic behavioural principles; 2) placebo pretraining; 3) no pretraining. Percentages of persons in each of the three conditions who reported using recording and graphing techniques at follow-up were approximately 35%, 17%, and 66% respectively. Of these however only three parents in the first condition, one parent in the second condition, and one parent in the third condition actually produced records or graphs to substantiate their self-report data. Follow-up data regarding other behavioural skills were not described. Bevington et al. (1978) and Lasser (1970) also described follow-up data where parents claimed the continued use of appropriate behavioural techniques even though few families kept systematic records of progress.

Probably the most systematic follow-up data have been collected on parents trained in the Read Project (Heifetz, 1977), a 20-week behavioural training program for parents of mentally retarded children. Baker, Heifetz, and Murphy (1980) contacted 95 of the 100 families who had completed the program 14 months later. The authors conducted structured in-home interviews assessing maintenance of child gains and parents' knowledge of programming principles as
well as the extent and quality of continued and new programming, perceived obstacles to home teaching, and perceived effects of the training program. Results revealed that parents had retained their knowledge of programming principles (with a slight drop) and children had retained their original skill gains. Many families had initiated some teaching of new skills, although few parents had carried out regular formal teaching sessions. Approximately one-third of the families were found to be doing little or no effective teaching. No direct measures of longterm durability of parent or child behaviours were used.

Two additional papers report on prediction studies based on posttraining and follow-up data gathered from the Read Project. Clark et al. (1982) conducted a discriminant analysis using combined data from the two group training conditions in the Baker et al. (1980) study to generate a prediction equation of posttraining and follow-up outcome. Prediction measures covered a broad range of child, parent, and family characteristics. Indices of socio-economic status (social class, income, mother's education) were found to be positively correlated with short-term outcome but not with continued teaching during the 14 month follow-through period. The mothers' teaching skills and experience before entering the program were found to be consistently related to short-term outcome. The best predictors of follow-up outcome were the indicators of parents' performance during
training including posttraining scores on a behavioural test, number of sessions logged, and trainers' prediction of follow-up. Based on these measures, the researchers were able to predict both short and long-term outcome correctly in approximately seven to eight out of ten cases. Again, all outcome measures were based on parental self-report data.

Clark and Baker (1983) extended the Clark et al. (1982) research by a) including a broader range of predictor variables; b) including a videotaped behaviour sample of parent/child interaction in their measures of posttraining proficiency; and 3) including twice as many families (53 and 50 for a total of 103), making cross-validation possible. In this study, follow-through was assessed by interviews six months after training. Variables that differentiated high proficient from low proficient families at posttraining included primary parent's education, family income, and previous behaviour modification experience. Variables that differentiated low follow-through families from high follow-through families included parent posttraining proficiency, marital status, and prior teaching of the target child. With these variables, the authors were able to correctly classify 76% of the cases. These results were consistent with Clark et al.'s (1982) findings. Dropouts were identified as being more likely to be single parents with little initial behaviour modification knowledge.
Overall these studies indicate that parents of mentally retarded children do not always do well in parent training. The last two studies indicate that parents who do best in training and who maintain trained skills are married and are higher in socio-economic status and education. They also have greater prior related skills and experience and expect fewer problems in teaching their child. The value of such outcome studies with long-term follow-up data is in identifying those who profit from training as well as those who do not. As Clark and Baker (1983) remark, attention to predictors of poorer outcome may aid in designing training alternatives. Whereas certain characteristics cannot easily be changed (marital status, socio-economic status) others may be modified by additional or preventive training (i.e. expectancies, prior knowledge of management procedures).

**Setting Generality.** The ultimate goal is to have the mentally retarded child produce appropriate behaviour and limit inappropriate behaviour in the variety of situations and settings that make up his or her natural environment. As mentioned earlier, parents of mentally retarded children are trained in an effort to promote the generalization of trained behaviours to these situations. This generalization is achieved when and if parents transfer their own newly acquired behavioural skills to these situations as well.
Most studies attempt to assess the generalization of parent training effects in the home environment. Generally this consists of parents' self-reports of the application of skills in the natural setting and subsequent changes in their child's behaviour. Most of the long-term follow-up data discussed in the previous section reflect the transfer of parent and child behaviours to the home environment. In general however, there have been little objective data indicating that parents use trained procedures when conditions vary significantly from initial training settings. Usually, only data on child behaviour are collected. Brehony et al. (1980) trained the parents of a seven year old severely retarded boy to manage several of his inappropriate behaviours (throwing objects, noncompliance, refusing to sit in chair at table). All training was conducted in a clinic setting. A two-month follow-up assessment was conducted in a local restaurant with two trained observers independently recording target child behaviours. Child behavioural improvement was maintained in the natural setting with all target behaviours approximately at posttraining levels. No systematic data reflecting parent behaviours in this setting were collected. To their credit, the authors did provide direct, unobtrusive (to the child), reliable measures of maintained child behaviour change, collected by independent observers in a more naturalistic setting.
Fredericks, Baldwin, McDonnell, Hofmann, and Harter (1971) comment on anecdotal reports of parents generalizing the use of skills to new, nontraining situations. No systematic data however were collected. Salzberg and Villani (1983) trained parents in the clinic to develop vocal imitation skills in their retarded children. Trained observers monitored both child and parent behaviours in the clinic and at home. All sessions were audiotaped. Though parents were competent teachers for their children when in the clinic, there was no generalization initially observed in the home setting of either parent or child behaviours. Once explicit training was conducted on how to tailor the teaching to the home setting, parents did transfer their skills to this more natural setting. This study demonstrates that even though setting generality does not always occur, more careful in-clinic training can foster such transfer to the home environment.

**Behavioural Generality.** Mentally retarded children display a wide range of behavioural excesses and deficits. As one particular problem is seemingly rectified, attention is required in yet another area. Accordingly, follow-up evaluations must emphasize parents' teaching efforts in new untrained areas. Few studies have systematically assessed the generalization of parent training skills to nontarget child behaviours. As part of their follow-up assessments,
Baker et al. (1980), Brightman et al. (1982), and Rose (1974) asked parents to identify new behaviours targeted for modification. In each of these studies, only a few parents reported generalization of their newly acquired teaching skills to new target child behaviours.

Hudson (1982) used a two-item written response analogue measure to assess the behavioural generality of his parent training program. Following training, parents were asked to write out all the steps they would follow in dealing with two novel behavioural problems. The responses were independently assessed by two experienced clinical psychologists who were blind to the experimental status of each parent. Results indicated that the treatment groups were significantly better than the control group in their ability to generalize on this measure. The different treatment groups however (verbal instruction alone; verbal instruction plus the teaching of behavioural principles, verbal instruction plus the use of modelling and role-playing) did not differ on this measure. This measure is of limited usefulness since no attempt was made to demonstrate how such written responses are related to actual parent behaviours.

Staples-Dorn (1978) included a measure of the transfer of parent skills across behaviours in her study evaluating the effectiveness of a videotape self-scoring procedure for
training parents of mentally retarded children. Her results indicated that an instructional procedure incorporating discrimination training and self-scoring produced parent performance superior to that produced by instructor feedback or by discrimination training alone. The superiority of self-scoring was also demonstrated by greater transfer of training skills to new behaviours. The brief report available for review did not explain in any detail how behavioural transfer was assessed.

The most systematic investigation of the generalization of parent training effects was conducted by Koegel, Glahn, and Nieminen (1978) in their study with parents of autistic children. In the first of two experiments, four parents were trained using two different formats to teach seven autistic children specific target behaviours. The first procedure consisted of a brief (10 min.) demonstration on how to teach the specific target skill. The second procedure (general rules) was designed to maximize the probability of generalization across child-target behaviours but did not specifically teach the parent how to train any one specific child-target behaviour. This second training procedure included three lectures on behavioural procedures plus two videotapes demonstrating the use of these procedures with several different therapists working on a variety of problems with several different children. Results indicated that with brief demonstrations, each
parent was able to teach each specific task and that the child learned the skill. No generalization to new tasks however was observed. Brief demonstrations were required for every task before each parent could teach effectively. Once parents were trained with the general rules procedure, they were able to generalize their teaching skills across multiple children and multiple target behaviours.

The second experiment tried to clarify which aspect(s) of the generalization training were most effective in promoting transfer. The results indicated that videotape illustrations of the procedures without the presence of a master teacher were sufficient to promote skills that displayed behavioural generality. Sub-parts of the videotapes produced highly specific training results. The final most effective training program included: 1) specific instructions in stimulus control, shaping, consequences, and the use of discrete trials; 2) visual and auditory models of correct procedures; 3) correct and incorrect examples of skill use; 4) opportunity to practice over time after viewing the tapes. Anecdotally the authors reported that parents trained with a parent trainer seemed more confident than those trained with videotapes.

In a more recent study, Cowart, Iwata, and Poynter (1984) evaluated the effects of a multicomponent training program on three parents' teaching skills on a series of
tasks with severely handicapped students. The program included brief written instructions, slide presentations, role playing, and performance feedback. During feedback, the therapist informed parents as to the specific teaching rules they had or had not broken. Results indicated that training produced noticeable gains in both parent and student performance on tasks that were different from those during training. These gains were maintained during a 2-month follow-up assessment. It should be noted that booster feedback sessions (i.e., one for the first parent, four for the second parent, and two for the third parent) were implemented when parent teaching performance fell below 85% during posttraining. Furthermore, all of the teaching objectives for each student represented the same type of task (i.e., discrimination and instruction following tasks for the first student, instruction following tasks for the second student, and discrimination tasks for the third student) limiting the conclusions that can be drawn about the generalization obtained (i.e., near versus far generalization). In spite of these limitations, this study exemplifies the type of work that is needed in parent training research with this population.
Sibling Generality. Sibling generality has been virtually ignored by investigators training parents of mentally retarded children. One reason for this may be that there is usually only one mentally retarded child in a given family. This should not deter researchers from assessing parental use of learned skills with other nonretarded children in the household. The skills that parents are taught are just as applicable to the nonretarded as they are to the mentally retarded child.

An analysis of generalization to nontarget children was included in the Koegel et al. (1978) study. Not only did the authors monitor generalization of parent skills to nontarget behaviours but they also assessed parents' ability to generalize their teaching to other, nontarget, autistic children. They demonstrated that such generalization can take place with the proper type of training, one that is broader and that uses multiple examples of skill application.

To summarize, researchers do not assess the generality of their training effects as a matter of course. With minor exceptions (e.g., Cowart et al., 1984; Koegel et al., 1978) those that do tend to rely heavily on anecdotal or parent self-report data and do not provide direct measures of both child and parent behaviour. The findings from these studies indicate that the generality of training effects varies
greatly from family to family. Whereas some parents will use all of the trained skills in a variety of situations, modifying them to accommodate the needs of their mentally retarded child, others will use the skills inconsistently or not at all. The best generality has been demonstrated in case studies where a single target child behaviour is clearly defined and in studies where an effort has been made to train parents so as to maximize generality.

Why Parent Training May Be Unsuccessful

The stress associated with raising a developmentally handicapped child is well documented (Blacher, 1984; Crnic, Friedrich, & Greenberg, 1983; Holroyd & McArthur, 1976; Wikler, 1981). Turnbull and Turnbull (1982) list some of the problems and difficulties associated with having a mentally handicapped child. These include: the financial costs, the stigma, the time for care of the child, the interruptions to sleep, the social isolation, the limited recreational activities, the behaviour problems, disruptions to shopping and normal household routines, the pessimism about the future, taking vacations, finding babysitters, and social opportunities in the community. Of course not all families experience all of these difficulties. The heterogeneous nature of this group of parents must be stressed. Certain families may experience more severe financial difficulties while still others may suffer more
severe emotional strains. When you add to this the list of competencies desirable for parents to be effective teachers of their handicapped children, you realize the responsibility held by these individuals. It is no wonder that after a brief attempt at managing their own child's behaviour many parents prefer to defer the task to the experts.

Some basic contradictions in the parent training procedures themselves may also help to clarify some of the failures in this area. Although prescribing systematic operant procedures for application to the children is common practice, only a minority of trainers have applied the same procedures to support the parents' behaviour (Graziano, 1977). Many researchers assume that parent behaviour is reinforced by gains made by their children. There are two problems with this assumption. First of all, developmental progress displayed by mentally retarded children, even with training, is often very slow and therefore offers limited reinforcement to develop and maintain teaching skills in all parents. Secondly, recent research (Clark et al., 1982; Clark & Baker, 1983; Muir & Milan, 1982) has shown that parents vary their use of trained teaching skills independently of changes in their retarded child's behaviour. There is therefore a need for more systematic reinforcement of parents' efforts. Reinforcement is needed for the initial development of parent skills as well as for
the promotion of generalized use of these skills by parents following the termination of training.

Many researchers include some form of reinforcement in the initial training setting to help develop new skills and to ensure attendance and participation. Bates (1977) provides a good index of different types of reinforcers used to train and maintain effective parent behaviours. He describes pretraining conditions that can be arranged to encourage parental attendance at training sessions. These include personal invitations to parents (written or by phone); transportation assistance; convenient location and scheduling of training sessions; and arranging for babysitting services. He also describes reinforcers that can be incorporated into training itself including: providing a reinforcing physical setting (refreshments, breaks); using an interesting instructional format (variety of books, films, participant demonstrations); providing recognized course credit for participation (via college affiliation or simply by providing a certificate); providing interesting alternatives to traditional assessment procedures (video recording with video feedback); and providing direct reinforcement for participation and/or project completion (professional or paraprofessional social praise, peer reinforcement, token and monetary reinforcers). Parents should also be reinforced for program implementation. The most common method used to reinforce
parents during training is to provide them with feedback and social praise for progress in skill acquisition and the implementation of homework assignments.

Several researchers have used one or more of these techniques in their training programs. Yura, Zuckerman, Betz, and Newman (1979) provided in-service credit for parents participating in their group parent training program; and reported high attendance rates throughout training. Benassi and Benassi (1973) used contingency contracting to motivate parents in their program. By attending meetings, completing assignments, and participating at the meetings, parents earned tokens which could later be exchanged for money ($25) they had paid to enroll in the program. All parents had to sign a written contract agreeing to the arrangement. Five of the six participant families earned back the entire $25 while the sixth lost a small percentage of the fee for missing two sessions. O'Dell, Flynn, and Benlolo (1977) also had participant parents sign a written contract stating that they would do each phase of training. Contingencies used to encourage attendance included a printed certificate for 66% cumulative attendance, return of a $5 participation fee for 83% cumulative attendance, and a free child management text for 100% attendance. Additional incentives included coffee and donuts and a variety of personal contacts, telephone calls, and social verbal reinforcers.
Rose (1974) had parents decide about the content of their home assignments in his program for parents and foster parents of mentally retarded children. Once the decisions were made, an agreement in writing, detailing mutual responsibilities, was drawn up. Attendance by the foster parents was further encouraged by providing travel and babysitting money; whereas the natural parents were required to pay a $10 deposit which was returned if there was regular attendance. Finally, frequent praise was used to reinforce the group for their active participation, for task orientation, for reinforcement by one parent of another, for monitoring, and for completion of assigned tasks from session to session.

Muir and Milan (1982) conducted a systematic experimental study examining the functional relationship between parent reinforcement and improvement in children's behaviour. Reinforcement took the form of a lottery in which three single mothers could earn prizes contingent on the accomplishments of their mentally handicapped children. Parents were trained at home to teach their child a series of language skills. Direct observations of child and parent behaviours assessed progress through the program. An ABAB reversal design replicated across the three clients assessed the effectiveness of the various interventions. Results indicated that reinforcing the parents for their children's accomplishments produced clinically significant increases in
child progress when compared with the children's progress under the routine supportive practices of the baseline condition. It should be noted that during the reversal phase when the lottery system was removed, there was a return to baseline rates of child progress indicating that the external reinforcement and not the progress in child behaviour was maintaining the parents' teaching skills.

A more severe problem is the durability of parent skills following the termination of training and the transfer of these skills to the home environment. Most parent training programs are designed in such a way that such generalization is actually impeded. Parent reinforcement usually ends with the termination of training even though the expectation is for parents to continue using the trained skills over an extended period of time in a variety of different situations. As Bricker and Caruso (1979) suggest, the fact that providing appropriate consequences for adults is often overlooked probably can explain, in part, the lack of maintenance of new, more adaptive responses over time.

It is becoming quite evident that generalization of parent training effects like any other treatment effect cannot be expected to occur automatically as a result of training. A number of researchers (Baer, Wolf, & Risley, 1968; Kazdin, 1975; Kazdin & Bootzin, 1972; Stokes &
Baer, 1977) have concluded that generalization should be the object of direct programming during training. Bates (1977) suggests a number of elements that could be added to parent training packages to promote generalization and maintenance. The first of these is to arrange for reinforcers natural to the home setting that can replace therapist delivered reinforcers. Family members for example can be trained to reinforce each other contingent on some specific gain in child performance. He also mentions the training of parents in self-management techniques as a possible way of achieving program maintenance.

Training in self-management techniques has received an increased degree of attention by researchers attempting to promote generalized parental responding (Sanders & James, 1982). Research with parents of developmentally normal children with hard to manage behaviours (i.e., noncompliance) suggests that self-management training, when included as an adjunct to more traditional behavioural training, promotes maintained and generalized (across settings) parental responding (Sanders, 1982; Sanders & Glynn, 1981; Wells, 1979; Wells, Griest, & Forehand, 1980). The effectiveness of self-management techniques in training for parents of mentally retarded children has received limited attention. Two studies have demonstrated that one self-management procedure, self-recording, promotes maintained (Doleys et al., 1976) and generalized
(Staples-Dorn, 1978) parental behaviour change following training for parents of mentally retarded children. The effectiveness of these procedures appears to be in their focus on relevant stimulus and response characteristics operating in the parent training situation.

Other researchers have conducted informal telephone contacts following training to further reinforce parents' efforts at home. Yura et al. (1979) had parent trainers fade out their involvement over time during training. In this way, reinforcement for parents becomes more intermittent. There is abundant research in the learning literature to support the contention that carefully planned, intermittent schedules of reinforcement, result in an increased resistance to extinction (Ferster & Skinner, 1957). This has important implications for training parents of mentally retarded children since most natural reinforcement follows an intermittent schedule.

Finally, training for parents of mentally retarded children has reached the stage in its development where more attention should be given to the generalization and long-term maintenance of training effects. An initial step in this direction is to conduct better assessments of the maintenance and generalization of both parent and child behaviours. Researchers should no longer simply hope for generalization following training but should actively plan
and program for it during training (Stokes & Baer, 1977).

Proposed Research

The present research proposed a more explicit investigation of methods for training and generalizing behavioural teaching skills with parents of mentally retarded children.

The first step was to provide a thorough assessment of the generality of skills acquired during basic forms of parent training. Basic training refers to programs that rely heavily on more "traditional" behavioural parent training procedures including: instructions, modelling, role playing, feedback and homework assignments. The general context of training was deficit remediation. The main type of generalization assessed was the transfer of trained parent skills across different types of child tasks. Although "behavioural generality" has been identified as an important criterion in the evaluation of the effectiveness of parent training, it has received little systematic attention in the research conducted to date with this population. The present research monitored parental use of trained skills across a variety of child tasks, and examined how different task characteristics affect this transfer.
The particular task characteristic systematically modified was the level of difficulty that different tasks represented for the child. By varying the level of task difficulty, the amount of "natural reinforcement" available to parents who accurately produce trained skills was also varied. Generalization of parent skills to child tasks unlikely to show immediate change could be assessed. This represented a more realistic assessment of the type of generalization needed when training parents of mentally retarded children. During initial skill acquisition, parent-trainers usually have parents target easy-to-modify child behaviours. This is done to demonstrate to parents that the techniques being taught are effective. It is when parents are required to use these skills with new, often more difficult to modify behaviours, that their teaching skills deteriorate.

The second step was to assess the effectiveness of adding self-management training as a treatment component in promoting such "behavioural generality". Parents were trained to self-cue the use of appropriate skills in training situations. This was accomplished by way of visual cues and verbal self-instructions. Parents were trained to self-assess the accuracy of their implementation of trained skills. Self-assessment training relied heavily on the use of video feedback and video self-scoring. The goal with this second phase of training was to have parents implement
and assess their own behaviour accurately regardless of the child target task.

The basic research design was a multiple-baseline across families with multiple generalization probes across child tasks. Following an initial baseline, parent training was administered in two successive phases: basic parent training followed by self-management training. The goals of this research were to: a) conduct a more extensive and systematic assessment of behavioural generality following basic behavioural training for parents of mentally retarded children; b) determine how certain task characteristics affect such generalization; c) determine if certain forms of additional training (i.e., self-management training) enhance such generalization; d) assess the longterm maintenance of parent skills following training; e) assess the generality of training to a more naturalistic setting (i.e., home); f) assess the role of individual characteristics in the initial and generalized effects of training; and g) provide an analysis of both therapist and client costs associated with such training.
METHOD

Participants

All families participated in this study voluntarily. Letters were mailed to parents of children attending a local preschool program for the developmentally handicapped and to members of local groups for parents of mentally retarded children (total of 55 letters). All parents had children aged 2 to 6 years. The letter (see Appendix A) requested volunteers to participate in a study examining ways to train parents to be more effective teachers for their mentally retarded children. Interested families were invited to attend a group information meeting and later were contacted individually by phone to determine their willingness to participate further.

Of the eleven families who attended the group meeting, seven agreed to participate in the study. All participants completed a general consent form (see Appendix B), a consent form allowing the making of videotapes (see Appendix C), and a general demographic questionnaire (see Appendix D). Parents also completed a release of information form, allowing the principal investigator to examine their children's clinical files at associated institutions in order to obtain information pertaining to diagnosis and previous assessments (see Appendix E).
Although both parents (when applicable) were invited to attend all sessions, only one parent per family was identified as the primary teacher for the study. Five mothers and two fathers participated as primary teachers. The mothers varied in age from 22 years to 32 years ($M = 27$ years) while the fathers were 31 and 37 years of age respectively. Target children (three boys and four girls) ranged in age from 2 years 4 months to 6 years 4 months ($M = 4$ years). The most recent psychological assessments revealed that these children were functioning in the borderline to moderate range of mental retardation. Families' Social Economic Indices (Blishen, 1967, 1976) ranged from 24.98 to 69.64 ($M = 49.15$). These indices are representative of the full range of indices observed in a Canadian population (Blishen, 1976). A more detailed description of each family can be found in Table 1.

---

Insert Table 1 about here

---

Families received no compensation for participation in the study. Participants were required to provide their own transportation to clinic sessions. Although there were a few missed and rescheduled appointments, all families completed all phases of the study.
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</table>

**Family**

SES*  
49.21  35.15  27.11  68.72  24.98  69.64  69.26

* Blishen, 1976
Settings

Observations of parent/child interactions and all training took place in a playroom situated on the University of Western Ontario campus. The playroom was set up as a family livingroom and was equipped with a variety of age appropriate toys. A small table and three small chairs also were in the room. A one-way observation mirror permitted videotaping from an adjacent room.

An initial home visit was conducted prior to the first clinic session and a second approximately 4 to 5 months following training. Further observations of parent/child interactions were made during the second visit.

Child Teaching Tasks

A separate set of teaching tasks was selected for each child. Tasks were chosen to reflect each child's ability level, in consultation with parent(s) and, in some cases, teachers. The West Virginia Assessment and Tracking System (WVAATS) (Cone, 1981) was used solely as a reference tool to help the investigator and the parent(s) decide on appropriate tasks. The WVAATS represents a set of 20 scales developed to assess the adaptive behaviour of persons with a wide variety of handicapping conditions. Although validation of this relatively new set of scales is still being undertaken, Cone (1981) does report evidence for the
reliability and validity of this tool. Particular skill areas from which the tasks were chosen include: self-help skills, arithmetic skills, writing skills, picture labelling, matching skills, abstract language skills, prespeech and speech skills, and motor skills.

Six tasks were chosen for each child. Two "easy tasks" comprised behaviours that the child could already produce. These tasks were used to assess parents' ability to maintain correct responding. These also represented the type of task where the potential for accurate child responding was maximized, thus providing parents with the greatest possible level of "natural reinforcement" for their teaching efforts.

Two "medium tasks" comprised behaviours that the child had displayed only infrequently, but that parents felt could be improved with appropriate teaching.

Finally, two "difficult tasks" comprised behaviours that the child had not produced and was not expected to produce given his/her present level of functioning. With more extensive appropriate teaching from his/her parent, these behaviours eventually could be developed. These tasks represented the type of task that would provide parents with the least amount of "natural reinforcement" for their early teaching efforts.
Initially a pool of more than six tasks was suggested for each child by his/her parent(s) in consultation with the principal investigator. The choice of the final six tasks (two per task type) was made by the investigator and agreed upon by the parents following an initial clinic session where parents had the opportunity to work on all suggested tasks. The final choices were based on percentage of child correct responses in each task and parental perception of task difficulty (see Appendix F for a list of tasks used).

One "easy", one "medium", and one "difficult" task were selected to form the training set for each child. The remaining three tasks (one of each type) represented the generalization probe set. Parents' ability to teach the tasks in the training set was assessed during all phases of testing and training. Parents' ability to teach the tasks in the generalization probe set was assessed during testing phases. Within the training set, only the "easy task" represented a true target task. Parents were explicitly trained on how to teach this task and were given feedback on their performance on this task. The "medium" and the "difficult" task in the training set represented non-target training probes. In this way, generalization could be assessed to tasks where parents had extensive exposure but no direct training (non-target training probes) as well as to tasks where parents had limited exposure and no direct training (generalization probe tasks). Table 2 provides a
classification of tasks by type and set.

Insert Table 2 about here

Experimental Design

Two phases of parent training were introduced sequentially to each of the seven families, within a multiple baseline design across families (Hersen & Barlow, 1976). Multiple probes (Horner & Baer, 1978) were made to assess parents' use of behavioural skills in teaching non-target training tasks as well as generalization probe tasks. All families entered the program at approximately the same time and therefore all baseline observations began at approximately the same time.

Procedure

With the exception of an initial group information meeting, all families were seen individually during all testing and training phases. Individual clinic sessions were scheduled approximately twice per week. The principal investigator acted as primary therapist for all families. During an initial home interview, the therapist explained that the purpose of the study was to investigate the best way to train parents to be effective teachers for their own developmentally handicapped children. This interview also
Table 2

Classification of Tasks by Task Type and Task Set

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<thead>
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<td>Probe Set</td>
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was used to gather descriptive information on the parents and child, to fill out a questionnaire associated with the study, to discuss potential target tasks for the child, and to schedule further sessions. Parents were told that there might be a delay of up to 4 weeks before actual training would start, and the necessity of this delay was explained. The parents were not told the specific techniques that they would be learning.

**Baseline (B).** Observations were conducted in the clinic setting for varying numbers of observation sessions (2 to 6 sessions) to establish basal levels for both parent and child behaviours. Families were randomly assigned to the various lengths of baseline. During this testing phase, six specific child tasks were identified, and parents were instructed to work on each of these tasks with their child to the best of their ability (approximately 3 minutes was spent working on each task). The therapist explained to the parents that these baseline observations were necessary in order to assess their teaching abilities and their child's responses to their teaching. No other instructions or feedback were given to parents during this phase.

**Basic Parent Training (T).** During the first training phase, parents received "basic" parent training. The "basic" parent training program was derived from programs developed by Baker and his colleagues (Baker, Brightman,
Heifetz, & Murphy, 1976), by Becker (1971), by Harris (1983), and by Forehand and McMahon (1981). All parents were given instructions on social learning principles and their application in teaching a handicapped child. Specifically, parents were given written and verbal instructions on the proper implementation of a variety of teaching skills (i.e., setting up goals for child behaviour, setting up the teaching environment, record keeping, graphing, rewards, prompting, shaping, chaining, consequences for child inappropriate behaviour). Parent handouts for this phase of training were selected from various sections in the *Steps to Independence* series of manuals (Baker et al., 1976) (see Appendix G). All of these skills were modelled for the parents by the therapist in the context of the specific target task chosen for their child. Parents were given the opportunity to roleplay the use of these skills with the therapist acting as the child. Finally, parents practiced the use of the skills with their own child, in the presence of the therapist who provided feedback as to the accuracy of parent implementation. Parents were assigned homework where they were required to practice implementing the skills they learned during training with their child in the home environment. They were required to record their child's behaviour during these home teaching sessions. The Child Goal Sheet, the Child Behaviour Record Sheet, and the Child Behaviour Graph were
used by parents for purposes of child goal selection and record keeping throughout training (see Appendices H, I, and J respectively).

In all but one case, basic parent training consisted of five 1-hour training sessions conducted in the clinic setting. Basic training for family 3 lasted seven sessions. At the beginning of each training session, observations of parent/child interactions were made to assess parent and child behaviour in the target task and the two non-target training probe tasks. A detailed outline of the basic parent training program can be found in Appendix K.

**Return to Baseline (B).** Following basic parent training and preceding the next training phase, there was a return to baseline phase. This testing phase was identical to the initial baseline phase except for the tasks observed. Parent and child behaviour in the target task and the two non-target training probe tasks were assessed in every session of this phase, but changes in parent and child behaviour in the three generalization probe tasks were assessed only in the final session of this phase. This assessment procedure was followed in order to maintain limited parent exposure to generalization probes in the presence of the therapist. This return to baseline phase essentially represented a brief follow-up assessment of the basic parent training phase. It provided a very short-term
measure of the durability of basic training. It also provided an interim period prior to the initiation of the next phase of training so that any delayed effects of basic training would not be confounded with the effects of self-management training.

Self-Management Training (S). Parents continued to practice the use of the skills trained during the previous phase. In addition, parents were given self-management training. An analogy was drawn between how children's behaviour is influenced by the parents and how parents' own behaviour in turn (ability to follow a program consistently) is influenced by the environment (Sanders & Glynn, 1981). The therapist explained that in order for their child's behaviour to transfer to other relevant situations, the parents' behaviour must also transfer to these situations. Two sets of self-management skills were trained sequentially: 1- self-instructions; 2- self-assessment.

During self-instruction training, parents were taught to set reasonable goals for their own behaviour, as well as to self-cue the accurate implementation of parent skills. Verbal and written examples of reasonable goals were presented (see Appendix 1 for a sample Parent Goal Sheet). Parents, in consultation with the therapist, chose goals for themselves in their practice sessions with their child. Self-cueing consisted of helping parents set up visual cues
In their home to remind them to conduct daily teaching sessions with their child, and training parents to cue the accurate implementation of parent skills. Parents were trained to read summary sheets outlining the key skills to be used in a teaching situation before every teaching session. Parents also had the opportunity to practice using these skills in the clinic setting with the therapist available for feedback.

During self-assessment training, parents were taught to monitor their own teaching behaviour, and to record this behaviour accurately using the Parent Behaviour Record Sheet (see Appendix M). The therapist demonstrated the use of self-monitoring and self-recording and parents had the opportunity to practice these skills on the target task while receiving therapist feedback. Parents also viewed videotapes of previous and current sessions with their child and were instructed to assess the accuracy of their implementation of specific skills (self-evaluation) using the Parent Behaviour Video Record Sheet (see Appendix N). Parents were required to independently set new goals for themselves and were instructed to monitor, record, and evaluate their own behaviour while continuing to record their child's behaviour in all relevant situations.
Self-management training was conducted in four to five 1-hour training sessions. Observations of parent/child interactions in the target task and the two non-target training probe tasks continued during this phase. A detailed outline of the self-management training program can be found in Appendix O.

Follow-Up (F). On the average, four follow-up observations were conducted in the clinic setting over a period of 4 months following training. No contact between families and the therapist occurred during this period other than to confirm appointments and to conduct the follow-up observations. During the follow-up sessions, the therapist kept conversation to a minimum and answered specific questions only if questioned. Parents were observed working with their child on all six tasks originally assessed during baseline.

Home Visit (H). A second home visit was scheduled 1 week to 1 month following the final clinic follow-up observation. During this home visit, parents were instructed to conduct an average teaching session with their child. The therapist stressed that the goal was to observe new tasks that parents had been working on with their children (if any). Parents were free to structure the teaching session in any way they wished (i.e., number of tasks, sequence of tasks, time spent on each task).
Approximately 15 minutes of teaching was videotaped for each family using portable video equipment. Parents also completed a questionnaire during this home visit. Any questions regarding programming or the research project were also discussed at this time.

Observation Procedures and Behaviour Definitions

Video records were made prior to training (baseline), during all phases of training, and following training. Videotaped observations were conducted at the beginning of each session. The therapist instructed parents to work with their child on the predetermined teaching tasks. Parent/child interactions on each teaching task lasted approximately 3 minutes and were videotaped separately. The therapist was not present during teaching segments but returned between segments to indicate to parents when to begin a new task. Videotape records were coded by three undergraduate students trained by the principal investigator. Coders were blind to phases of testing and training. Parent and child behaviours were coded separately.

Parent Behaviours: Eight parent behaviours were defined for coding purposes: setup, teaching cues, other commands, trials, rewards, prompts, shaping, and ignoring. These behaviours were derived from categories defined by Harris (1983), and Koegel, Glahn, and Nieminen (1978). A
procedure similar to that employed by Koegel et al. (1978), Sanders (1982), and Sanders and Glynn (1981), was used to evaluate the accuracy of program implementation by parents.

Each teaching session with a given task (approximately 3 minutes) was divided into 20-second intervals (approximately nine). These intervals were analyzed to provide direct measures of parent behaviours. For each 20-second interval, each of the eight parent behaviour categories was rated as "correct" (fulfilling all aspects of the definition of the technique for all of the behaviour occurring in that interval), "incorrect" (did not fulfill the definition in some way during the interval), or "NA" (not applicable - behaviour was not observed in the 20-second interval). Complete behavioural definitions and coding guidelines for parent behaviours are outlined in the Behavioural Coding System: Parent Behaviour (see Appendix P). A sample Parent Behaviour Data Sheet can be found in Appendix Q.

Child Behaviours: Videotapes were coded to provide a measure of child performance on the various teaching tasks. For each teaching trial presented by a parent, an observer recorded whether the child's response was "correct", "incorrect", "prompted", or "shaped". Similarly, for each trial presented by a parent, an observer recorded whether the child's response to non-teaching commands (other
commands) was "correct", "incorrect", "prompted", or "shaped". Finally, for each teaching trial, the child's overall behaviour was rated as being "appropriate" or "inappropriate". Complete behavioural definitions and coding guidelines for child behaviours are outlined in the Behavioural Coding System: Child Behaviour (see Appendix R). A sample Child Data Sheet can be found in Appendix S.

**Measures**

**Direct Measure of Parent Behaviour.** A direct measure of parent behaviour was derived from the coded videotape data. A percentage score for correct parent teaching for each of the eight parent skills was computed as follows:

\[
\text{Percent Correct} = \frac{\text{No. of 20-second intervals}}{\text{Total no. of "correct" plus "incorrect" intervals}}
\]

The average of the eight scores was then computed in order to give an overall index of the parent's teaching behaviour for each task in each session.

**Direct Measure of Child Behaviour.** A direct measure of child behaviour was derived from the coded videotape data. A percentage score for correct unprompted child responses to
parent teaching commands for each session in each individual teaching task was computed as follows:

\[
\text{Percent Correct} = \frac{\text{Total no. of "correct" plus "shaped" child responses to teaching commands}}{\text{Total no. of "correct", "shaped", plus "incorrect" child responses to teaching commands}}
\]

**Parent Stress Index.** The Parent Stress Index (PSI) (Abidin, 1979, 1983a, 1983b) was completed by each parent during the initial home visit prior to the onset of clinic sessions and during the final home visit. The PSI is a 101-item clinical and research self-report instrument designed to identify parent-child systems which are under stress and to indicate the source of the stress. The PSI yields a total score, three domain scores, and 15 subscales. The domains measured are stresses related to child characteristics (Child Domain); parental characteristics (Parent Domain); and situation and demographic factors (Life Stress Scale). For the purposes of the present study, the optional Life Stress Scale was not included. There is evidence for concurrent, discriminant, construct, and factorial validity, as well as reliability for this scale (Abidin, 1983a). There are normative data on 534 parents visiting small group pediatric clinics in Central Virginia.
There is also evidence to suggest that PSI scores discriminate between parents of mentally retarded children and the normative population (Greenberg, 1983). Finally, studies by Plough (1980) and Lafferty, Cote, Chafe, Kellar, and Robertson (1980) suggest that the PSI is sensitive to reductions in stress level as a result of psychological intervention and therefore may be a valid measure of intervention effectiveness. A sample PSI profile sheet can be found in Appendix T.

**Parent Satisfaction Questionnaire.** Two versions of a satisfaction questionnaire similar to one used by Forehand and McMahon (1981) were completed by parents. Likert-type questions and a few open-ended questions were included to determine parental attitudes concerning the effectiveness as well as the anticipated long and short-term usefulness of the various teaching skills trained during the program. The first questionnaire was distributed during the final training session and parents were requested to complete the questionnaire and to return it by mail as soon as possible (see Appendix V). The second questionnaire was distributed during the final home visit and parents were again asked to return the completed questionnaire by mail (see Appendix V).

**Cost-Analysis.** A cost analysis was conducted to assess time spent and actual expenses incurred by the families and time spent by the therapist. Parents were required to keep
an itemized record of all time spent in conjunction with the training program. The Family Involvement Record (see Appendix W) was completed by parents on a daily basis and returned to the therapist at the end of each month. The therapist also kept a similar record of time spent on each family in conjunction with the training program. Parents' actual expenses were estimated from travel time and mode of transportation. The therapist also kept track of all materials used in conjunction with the training program.

Reliability

Interobserver reliability measures of both parent and child behaviours were calculated from data coded from videotape records. Two observers independently recorded data from approximately 20% of all videotape records of teaching tasks. Reliability checks were conducted in all phases of the program for all families.

Reliability of parent behaviour categories was calculated using the following formula: number of intervals of agreement on rating of parent behaviour categories divided by the number of intervals of agreement on rating plus disagreement, multiplied by 100. An agreement was counted each time the two observers both scored a category as "correct", "incorrect", or "not applicable". A disagreement was counted each time the observers' scoring of a category did not match for any interval. The mean
agreement across all parent behaviour categories was 86% (range = 75.3% to 97.4%).

Reliability of child behaviours was calculated using the following formula: number of agreements on the occurrence of a child behaviour divided by the number of agreements on rating plus disagreements, multiplied by 100. An agreement was counted each time the two observers both scored the occurrence of a child behaviour in the same trial. A disagreement was counted each time the observers' scoring of a child behaviour did not match. The mean agreement across all child behaviour categories was 90% (range = 76.7% to 96.1%).
RESULTS

Task Difficulty

Each child's percent correct response scores were averaged over baseline sessions for each task type (easy, medium, and difficult). Table 3 shows the mean baseline child percent correct response scores for each task type.

________________________
Insert Table 3 about here
________________________

A repeated measures analysis of variance conducted to establish actual baseline differences between tasks indicated a significant level of task difficulty effect, \( F(2,12) = 26.26, p < .0001 \). Post-hoc comparisons (Tukey's HSD) indicated that the mean baseline child correct response score for the easy tasks (\( M = 48.7, SD = 15.15 \)) was significantly higher than the mean for the medium (\( M = 19.8, SD = 12.28 \)) and the difficult tasks (\( M = 11.0, SD = 7.57 \)), \( p < .01 \). The mean baseline child correct response score for the medium tasks did not differ significantly from the mean of the difficult tasks.

These results suggest that the arbitrary a-priori choice of tasks by presumed level of task difficulty resulted in two rather than three significantly different task types (i.e., easy vs more difficult tasks).
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Individual Results

Parent Behaviour. The effects of training on parents' generalized teaching are shown in Figures 1 through 7.

Insert Figures 1 through 7 about here

Each data point represents parents' percent correct teaching for a given task in a given session. The three top graphs illustrate changes in parent behaviour for tasks in the training set while the three bottom graphs illustrate changes in parent behaviour for tasks in the generalization probe set. Parents' mean percent correct teaching scores in each phase of testing and training are presented in Tables 4 and 5.

Insert Tables 4 and 5 about here

All parents' mean percent correct teaching scores on the easy target task (top graph) showed substantial increases during basic parent training. Parent 4 showed the smallest increase (42.2% to 64.3%) while parent 3 showed the largest increase (4.8% to 62.2%). Parents' percent correct teaching scores on this task remained high throughout subsequent testing and training phases and all remained near
Figure 1. Parent 1's session by session percent correct parent teaching scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-up).
Figure 2. Parent 2's session by session percent correct parent teaching scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-Up).
FAMILY 2

EASY TASK

MEDIUM TASK

DIFFICULT TASK

PERCENT CORRECT PARENT TEACHING

SESSIONS
Figure 3. Parent 3's session by session percent correct parent teaching scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-Up).
Figure 4. Parent 4's session by session percent correct parent teaching scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization-probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-Up).
Figure 5. Parent 5's session by session percent correct parent teaching scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-Up).
Figure 6. Parent 6's session by session percent correct parent teaching scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-Up).
Figure 7. Parent 7's session by session percent correct parent teaching scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-Up).
Table 4

Mean Percent Correct Parent Teaching of Tasks in the Training Set by Phase of Testing and Training

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Table 5  
Mean Percent Correct Parent Teaching of Tasks in the  
Generalization Probe Set by Phase of Testing and Training

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<tr>
<th>Task</th>
<th>Family</th>
<th>Phase</th>
<th>B</th>
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<th>B</th>
<th>S</th>
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<td>42.7</td>
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<td>45.0</td>
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</table>
or above 90% during the 4-month follow-up period.

The effects of training on parent teaching scores show more variation across families when the data on the two non-target training probe tasks (second and third graphs) and the three generalization probe tasks (bottom three graphs) are considered. Nearly all parents showed increases in their teaching scores on the two non-target training probes during the basic training phase. Overall, these increases were not as substantial as those observed in the training task. Parent 2 actually showed a decrease in percent correct parent teaching (26.3% to 20.8%) in the difficult non-target training probe during basic training.

Since families were not exposed to the generalization probe tasks during basic training, data from the second baseline phase must be examined in order to assess the effects of training on parent teaching in these tasks. Different parents showed different patterns of generalized behaviour change. Families 1, 3, and 5 showed substantial increases in all three generalization probe tasks. Family 2 showed substantial increases in the easy and medium tasks (31.5% to 61.0% and 25.8% to 60.0%) with a decrease in the difficult task (9.7% to 0.0%). Family 6 showed substantial increases in the medium and difficult tasks (16.0% to 39.0% and 9.5% to 27.0%) with a decrease in the easy task (39.5% to 17.0%). Family 7 showed a substantial increase in the
medium task (13.0% to 59.0%), and only slight increases in the easy task (23.0% to 32.0%) and the difficult task (42.7% to 45.0%). Finally, family 4 showed decreases in percent correct parent teaching scores in all three tasks (54.2% to 38.0%, 40.0% to 36.0%, and 36.7% to 28.0%).

Two patterns of results are apparent when examining the effects of self-management training on percent correct parent teaching scores. First of all, parents who had not shown substantial increases in correct teaching for any one of the tasks during basic training did so during self-management training. For example, parent 2 showed an increase in correct teaching in the difficult non-target probe task during this phase (20.8% to 71.5%). Since families were not exposed to the generalization probe tasks during self-management training, data from the follow-up phase must be examined in order to assess the effects of self-management training on correct parent teaching. For example, family 7 showed a substantial increase in correct teaching in the easy generalization probe task following self-management training (32.0% to 93.0%).

Secondly, parents who showed an initial increase in correct teaching during basic training often showed substantial additional increases following self-management training. For example, parent 7 showed a substantial additional increase in correct teaching in the difficult
non-target training probe task during self-management training (40.3% to 87.6%). Similarly, parent 6 showed a substantial additional increase in correct teaching in the difficult generalization probe task following self-management training (27.0% to 86.3%). In all, this enhancement effect following self-management training was observed in 15 out of the 27 cases where initial increases in correct parent teaching following basic training were obtained. In most cases where no enhancement effect was observed, parents had already reached a ceiling level of correct teaching performance.

During the 4-month follow-up period, all parents' percent correct teaching scores remained substantially higher than initial baseline scores. The average percent correct parent teaching score across all families and all tasks during the follow-up phase was 86.3%. In only one case, the easy generalization probe task for family 3, was there a substantial decrease in percent correct parent teaching during follow-up when compared to the previous phase (81.0% to 67.0%).

Child Behaviour. Changes in percent correct child response scores throughout testing and training phases are shown in Figures 8 through 14.
Insert Figures 8 through 14 about here

Each data point represents the percentage of correct child responses to parental teaching for a given task in a given session. Children's mean percent correct response scores in each phase of testing and training are presented in Tables 6 and 7.

Insert Tables 6 and 7 about here

Generally speaking, changes in percent correct child response scores corresponded with the changes in percent correct parent teaching scores. Children either showed substantial increases in correct responding following basic training or following self-management training with the exception of child 3 who did not show substantial increases in either of the difficult tasks. Overall, the magnitude of changes in percent correct child responding was not as great as that observed in percent correct parent teaching. Finally, in all but three cases, changes in correct child responding were maintained during the 4-month follow-up period. Children 1 and 3 showed substantial decreases in correct child responding in the easy target task during
Figure 8. Child 1's session by session percent correct child response scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-Up).
Figure 9. Child 2's session by session percent correct child response scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-Up).
FAMILY 2

EASY TASK

MEDIUM TASK

DIFFICULT TASK

TERM (T), BREAK (B), SESSIONS (S), WEEK (F)

PERCENT CORRECT CHILD RESPONSES

SESSIONS (2-20)
Figure 10. Child 3's session by session percent correct child response scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-Up).
Figure 11. Child 4's session by session percent correct child response scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-Up).
Figure 12. Child 5's session by session percent correct child response scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-Up).
Figure 13. Child 6's session by session percent correct child response scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-Up).
Figure 14. Child 7’s session by session percent correct child response scores in each phase of testing and training for tasks in the training set (top three graphs) and for tasks in the generalization probe set (bottom three graphs) (B = Baseline; T = Basic Training; S = Self-Management Training; F = Follow-Up).
FAMILY 7.

EASY TASK

MEDIUM TASK

DIFFICULT TASK

EASY TASK

MEDIUM TASK

DIFFICULT TASK
Table 6

Mean Percent Correct Child Responses to Tasks in the Training Set by Phase of Testing and Training

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<td>85.5</td>
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<tr>
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<tr>
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</table>
follow-up (91.3% to 81.0% and 79.5% to 62.0%). Child 1 also showed a substantial decrease in correct responding in the difficult generalization probe task (67.0% to 33.3%). It should be noted however that child 1 was hospitalized for approximately 1 month during the 4-month follow-up period.

**Home Visit.** Data obtained during the final home visit are presented in Figure 15.

---

Insert Figure 15 about here

---

Solid bars represent the average of each parent's percent correct teaching scores on all six tasks during baseline. The range of these scores is also indicated. Striped bars represent the average of each parent's percent correct teaching scores on all new tasks taught during this home visit. The number of tasks taught during this home visit varied across families (range = two to five tasks). These results indicate that all families showed substantial increases in correct parent teaching at least four months following training, in a different setting, with new tasks. Collapsing scores across families reveals an average mean percent correct parent teaching score increase from 26.9% during baseline to 87.9% during the final home visit.
Figure 15. Average percent correct parent teaching scores for all tasks taught during baseline sessions and for all tasks taught during the follow-up home visit for all families (Range of scores contributing to each average is indicated on each bar).
Group Results.

Statistical analyses on group results were undertaken to supplement visual inspection of the data. Statistical analyses performed to examine the substantive and methodological questions include Revusky's Rn statistic (Revusky, 1967), repeated measures analyses of variance, Tukey's (HSD) tests of means, multiple t-ratios, and bivariate correlations.

Parent Behaviour. Revusky (1967) proposed a statistical test (Rn) to evaluate data obtained in multiple-baseline designs. The Rn statistic was also described by Kazdin (1976) in his chapter on statistical analyses for single-case experimental designs. In the multiple-baseline design across individuals, the statistical comparison is achieved by ranking scores of each individual at the point when intervention is introduced for any one of the participants. The experimental subject is the one for whom intervention has been introduced and each time the intervention is introduced constitutes a subexperiment. The sum of the rank outcomes of the experimental subjects in each subexperiment constitutes the Rn statistic. The underlying assumption is that, since each individual was subjected to the intervention in random order, and assuming no treatment effect, each individual would then have an equal probability of obtaining any given rank for each
subexperiment. Revusky (1967) provides a table showing the probability levels for various values of Rn.

A modified version of the Rn statistic was used to assess differences in percent correct parent teaching scores from baseline to basic training and from basic training to self-management training for tasks in the training set; and from baseline to basic training for tasks in the generalization probe set (see Table 8). Design considerations preclude additional comparisons using the Rn statistic. Because gradual rather than immediate training effects were anticipated, and because participants showed initial differences in percent correct parent teaching scores, the data used for the ranking procedure were mean percent differences in observed behaviours across several observations. The raw scores for each subject were transformed into mean performance scores across equivalent baseline and training observations on each occasion when the intervention was introduced for any one subject. Using the means across observations was more likely to provide a stable estimate of actual behaviour (Kazdin, 1976).

Insert Table 8 about here
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<th>Rn</th>
</tr>
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</tr>
<tr>
<td></td>
<td>T to S&lt;sup&gt;d&lt;/sup&gt;</td>
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<tr>
<td>Medium Non-Target</td>
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<td></td>
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<tr>
<td>Training Probe</td>
<td>B to T</td>
<td>8 ***</td>
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<tr>
<td></td>
<td>T to S</td>
<td>11</td>
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<tr>
<td>Difficult Non-Target</td>
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<td></td>
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<tr>
<td>Training Probe</td>
<td>B to T</td>
<td>7 ***</td>
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<td>B to T</td>
<td>16</td>
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<td>B to T</td>
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<td>Difficult</td>
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<td></td>
</tr>
<tr>
<td>Generalization Probe</td>
<td>B to T</td>
<td>11 *</td>
</tr>
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</table>

* P < .05, one-tailed test, *** P < .005, one-tailed test.

<sup>a</sup> (Revusky, 1967)
<sup>b</sup> B = Baseline
<sup>c</sup> T = Basic Training
<sup>d</sup> S = Self-Management Training
The \textit{Rn} statistic indicated significant differences in percent correct parent teaching scores from baseline to basic training for all three tasks in the training set (easy task, \textit{Rn} = 7, \textit{p} < .005; medium task, \textit{Rn} = 8, \textit{p} < .005; difficult task, \textit{Rn} = 7, \textit{p} < .005) and for the difficult task in the generalization probe set (\textit{Rn} = 11, \textit{p} < .05). The only significant difference observed from basic training to self-management training in the training set was with the medium non-training probe task (\textit{Rn} = 11, \textit{p} < .05). Since a significant training effect had already been observed from baseline to basic training with this task, this second significant difference represents an enhancement effect.

Repeated measures analyses of variance conducted on mean percent correct parent teaching scores across phases of testing and training revealed significant main effects for training in all tasks (see Table 9). Visual inspection of the data revealed no significant changes from basic training to the second baseline phase. Essentially, this second baseline phase represented a continued assessment of changes associated with basic training. Therefore, for the purposes of this and all subsequent analyses, data from the basic parent training phase and the second baseline phase were combined.
Post-hoc analyses of mean differences (Tukey's HSD) in percent correct parent teaching scores (see Table 10) revealed significant increases from baseline to basic training for all tasks in the training set (easy task increase = 44.3%, \( p < .01 \); medium task increase = 33.0%, \( p < .01 \); difficult task increase = 30.2%, \( p < .01 \)) but only for the medium task in the generalization probe set (increase = 36.0%, \( p < .01 \)). Generalized increases in correct parent teaching following basic training therefore were obtained in three of the five non-target tasks.

These analyses further revealed significant increases in correct parent teaching from basic training to self-management training for all three tasks in the training set (easy task increase = 18.2%, \( p < .05 \); medium task increase = 23.6%, \( p < .01 \); difficult task increase = 21.8%, \( p < .05 \)). This additional significant increase above the initial effects of basic training represents an enhancement effect. An enhancement effect was obtained in the medium
Table 9

Mean Percent Correct Parent Teaching Scores Across Families and Repeated Measures Analyses

of Variance Results for Differences Across Phases of Testing and Training

<table>
<thead>
<tr>
<th>Task</th>
<th>Phase</th>
<th>B</th>
<th>T</th>
<th>S</th>
<th>F</th>
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<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
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</tr>
<tr>
<td>Generalization Probe</td>
<td></td>
<td>27.86</td>
<td>18.9</td>
<td>41.14</td>
<td>27.8</td>
</tr>
</tbody>
</table>

** p < .005,  *** p < .001.
Table 10
Mean Differences in Percent Correct Parent Teaching Scores Across Phases of Testing and Training

<table>
<thead>
<tr>
<th>Task</th>
<th>df</th>
<th>B&lt;sup&gt;a&lt;/sup&gt; to T&lt;sup&gt;b&lt;/sup&gt;</th>
<th>B to S&lt;sup&gt;c&lt;/sup&gt;</th>
<th>B to P&lt;sup&gt;d&lt;/sup&gt;</th>
<th>T to S</th>
<th>T to F</th>
<th>S to F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy Target Task</td>
<td>(4,18)</td>
<td>44.3**</td>
<td>62.5**</td>
<td>64.3**</td>
<td>18.2**</td>
<td>20.0**</td>
<td>1.8</td>
</tr>
<tr>
<td>Medium Non-Target Training Probe</td>
<td>(4,18)</td>
<td>33.0**</td>
<td>56.6**</td>
<td>65.3**</td>
<td>23.6**</td>
<td>32.3**</td>
<td>8.7</td>
</tr>
<tr>
<td>Difficult Non-Target</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training Probe</td>
<td>(4,18)</td>
<td>30.2**</td>
<td>52.0**</td>
<td>58.3**</td>
<td>21.8*</td>
<td>28.1**</td>
<td>6.3</td>
</tr>
<tr>
<td>Easy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generalization Probe</td>
<td>(3,12)</td>
<td>26.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generalization Probe</td>
<td>(3,10)</td>
<td>36.0**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difficult</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generalization Probe</td>
<td>(3,12)</td>
<td>13.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* <i>p < .05</i> (Tukey's HSD), ** <i>p < .01</i> (Tukey's HSD).

* B = Baseline,  
  * T = Basic Training,  
  * S = Self-Management Training,  
  * F = Follow-Up
generalization probe task as indicated by the significant increase (33.1%, \( p < .01 \)) from basic training to follow-up. A significant increase in correct parent teaching was obtained from basic training to follow-up in the difficult generalization probe task as well (increase = 35.0%, \( p < .01 \)). Finally, the significant increase from baseline to follow-up in the easy generalization probe task suggests an overall training effect that cannot be attributed to any single training component (basic or self-management training).

**Child Behaviour.** Results obtained with the \( R_n \) statistic on changes in percent correct child responding were similar to those obtained with parent behaviour (see Table 11).

Insert Table 11 about here

Significant increases in percent correct child responding from baseline to basic training were obtained in all three tasks in the training set (easy task, \( R_n = 7, p < .005 \); medium task, \( R_n = 8, p < .005 \); difficult task, \( R_n = 7, p < .005 \)) but not in the tasks in the generalization probe set. The only additional significant change across phases was obtained from basic training to follow-up with
Table 11

Differences in Percent Correct Child Response Scores
Across Phases of Testing and Training (Revusky's Rn)\textsuperscript{a}

<table>
<thead>
<tr>
<th>Task</th>
<th>Phases Compared</th>
<th>Rn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy Target Task</td>
<td>B\textsuperscript{b} to T\textsuperscript{c}</td>
<td>7 ***</td>
</tr>
<tr>
<td></td>
<td>T to S\textsuperscript{d}</td>
<td>16</td>
</tr>
<tr>
<td>Medium Non-Target Training Probe</td>
<td>B to T</td>
<td>8 ***</td>
</tr>
<tr>
<td></td>
<td>T to S</td>
<td>12</td>
</tr>
<tr>
<td>Difficult Non-Target Training Probe</td>
<td>B to T</td>
<td>7 ***</td>
</tr>
<tr>
<td></td>
<td>T to S</td>
<td>11 *</td>
</tr>
<tr>
<td>Easy Generalization Probe</td>
<td>B to T</td>
<td>14</td>
</tr>
<tr>
<td>Medium Generalization Probe</td>
<td>B to T</td>
<td>18</td>
</tr>
<tr>
<td>Difficult Generalization Probe</td>
<td>B to T</td>
<td>13</td>
</tr>
</tbody>
</table>

\* \textit{p} < .05, one-tailed test, \*** \textit{p} < .005, one-tailed test.

\textsuperscript{a} (Revusky, 1967)

\textsuperscript{b} B = Baseline

\textsuperscript{c} T = Basic Training

\textsuperscript{d} S = Self-Management Training
the difficult non-target training task ($R_n = 11, p < .05$).

Repeated measures analyses of variance conducted on mean percent correct child response scores across phases of testing and training revealed significant main effects for training in all tasks (see Table 12).

Insert Table 12 about here

Post-hoc analyses of mean differences (Tukey's HSD) revealed significant increases in mean percent correct child responding from baseline to basic training in the easy target task (increase = 20.0%, $p < .05$), the difficult non-target training probe (increase = 20.2%, $p < .05$), and the easy generalization probe (increase = 21.7%, $p < .01$) (see Table 13).

Insert Table 13 about here

Additional significant increases were obtained from basic training to self-management training in the two non-target training probes (medium task increase = 30.9%, $p < .01$; difficult task increase = 35.0%, $p < .01$). Finally, significant increases were obtained from basic training to follow-up in the medium (increase = 49.9%,
Table 12

Mean Percent Correct Child Response Scores Across Families and Repeated Measures Analyses of Variance for Differences Across Phases of Testing and Training

<table>
<thead>
<tr>
<th>Task</th>
<th>Phase</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>T</td>
<td>S</td>
<td>F</td>
<td>df</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy Target Task</td>
<td></td>
<td>48.43</td>
<td>18.5</td>
<td>68.43</td>
<td>19.8</td>
<td>84.43</td>
<td>14.6</td>
<td>84.14</td>
<td>12.5</td>
<td>(3,18)</td>
<td>12.53 ***</td>
</tr>
<tr>
<td>Medium Non-Target</td>
<td></td>
<td>48.17</td>
<td>13.0</td>
<td>32.29</td>
<td>17.3</td>
<td>48.71</td>
<td>11.6</td>
<td>63.14</td>
<td>14.1</td>
<td>(3,18)</td>
<td>27.17 ***</td>
</tr>
<tr>
<td>Training Probe</td>
<td></td>
<td>11.86</td>
<td>9.4</td>
<td>32.14</td>
<td>17.4</td>
<td>53.71</td>
<td>21.0</td>
<td>67.14</td>
<td>25.8</td>
<td>(3,18)</td>
<td>25.49 ***</td>
</tr>
<tr>
<td>Difficult Non-Target</td>
<td></td>
<td>49.00</td>
<td>17.8</td>
<td>70.71</td>
<td>22.7</td>
<td>81.00</td>
<td>16.2</td>
<td>(2,12)</td>
<td>18.17 ***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training Probe</td>
<td></td>
<td>25.33</td>
<td>12.7</td>
<td>26.17</td>
<td>20.0</td>
<td>76.17</td>
<td>19.8</td>
<td>(2,10)</td>
<td>21.57 ***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy Generalization</td>
<td></td>
<td>10.14</td>
<td>8.1</td>
<td>22.43</td>
<td>27.4</td>
<td>52.00</td>
<td>26.7</td>
<td>(2,12)</td>
<td>6.48 *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td></td>
<td>48.17</td>
<td>13.0</td>
<td>32.29</td>
<td>17.3</td>
<td>48.71</td>
<td>11.6</td>
<td>63.14</td>
<td>14.1</td>
<td>(3,18)</td>
<td>27.17 ***</td>
</tr>
<tr>
<td>Generalization Probe</td>
<td></td>
<td>11.86</td>
<td>9.4</td>
<td>32.14</td>
<td>17.4</td>
<td>53.71</td>
<td>21.0</td>
<td>67.14</td>
<td>25.8</td>
<td>(3,18)</td>
<td>25.49 ***</td>
</tr>
<tr>
<td>Difficult</td>
<td></td>
<td>49.00</td>
<td>17.8</td>
<td>70.71</td>
<td>22.7</td>
<td>81.00</td>
<td>16.2</td>
<td>(2,12)</td>
<td>18.17 ***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generalization Probe</td>
<td></td>
<td>25.33</td>
<td>12.7</td>
<td>26.17</td>
<td>20.0</td>
<td>76.17</td>
<td>19.8</td>
<td>(2,10)</td>
<td>21.57 ***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>10.14</td>
<td>8.1</td>
<td>22.43</td>
<td>27.4</td>
<td>52.00</td>
<td>26.7</td>
<td>(2,12)</td>
<td>6.48 *</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .02,    *** p < .001.
Table 13
Mean Differences in Percent Correct Child Response Scores Across Phases of Testing and Training

<table>
<thead>
<tr>
<th>Task</th>
<th>df</th>
<th>B$^b$ to T$^b$</th>
<th>B to S$^c$</th>
<th>B to F$^d$</th>
<th>T to S</th>
<th>T to F</th>
<th>S to F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy Target Task</td>
<td>(4,18)</td>
<td>20.0*</td>
<td>36.0**</td>
<td>35.7**</td>
<td>16.0</td>
<td>15.7</td>
<td>- .3</td>
</tr>
<tr>
<td>Medium Non-Target Training Probe</td>
<td>(4,18)</td>
<td>14.6</td>
<td>31.1**</td>
<td>45.5**</td>
<td>16.5*</td>
<td>30.9**</td>
<td>14.4</td>
</tr>
<tr>
<td>Difficult Non-Target Training Probe</td>
<td>(4,18)</td>
<td>20.2*</td>
<td>41.8**</td>
<td>55.2**</td>
<td>21.6*</td>
<td>35.0**</td>
<td>13.4</td>
</tr>
<tr>
<td>Easy Generalization Probe</td>
<td>(3,12)</td>
<td>21.7**</td>
<td>32.0**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium Generalization Probe</td>
<td>(3,10)</td>
<td>.9</td>
<td>50.8**</td>
<td></td>
<td></td>
<td></td>
<td>49.9**</td>
</tr>
<tr>
<td>Difficult Generalization Probe</td>
<td>(3,12)</td>
<td>12.3</td>
<td>41.9*</td>
<td></td>
<td></td>
<td></td>
<td>29.6*</td>
</tr>
</tbody>
</table>

* $p < .05$ (Tukey's HSD),  ** $p < .01$ (Tukey's HSD).

* $b = $ Baseline, $T = $ Basic Training, $s = $ Self-Management Training, $f = $ Follow-Up.
p < .01) and the difficult (increase = 29.6%, p < .05) generalization probe tasks. The additional increases in the training probes represent enhancement effects while the increases in the generalization probes represent generalization effects following self-management training.

**Correspondence Between Parent and Child Behaviour.**
 Pearson correlation coefficients were calculated to clarify the relationship between percent correct parent teaching and percent correct child responding for each of the six tasks. Individual session parent and child scores across all phases of testing and training were used to calculate the correlation coefficients. In all cases, percent correct parent teaching was significantly positively correlated with percent correct child responding (p < .001) (see Table 1A).

Insert Table 1A about here

---

**Parent Satisfaction Questionnaire.**

Parents generally reported a high absolute level of satisfaction with the parent training program at both posttraining and follow-up. The temporal stability of overall parent satisfaction was measured by comparing results at treatment termination to those at the 4-month
Table 14

Correlations Between Percent Correct Parent Teaching Scores and Percent Correct Child Response Scores, for Each Task Across Phases of Testing and Training

<table>
<thead>
<tr>
<th>Tasks and Variables</th>
<th>df</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Teaching With Child Responding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy Target Task</td>
<td>129</td>
<td>.695*</td>
</tr>
<tr>
<td>Medium Non-Target Training Probe</td>
<td>129</td>
<td>.643*</td>
</tr>
<tr>
<td>Difficult Non-Target Training Probe</td>
<td>129</td>
<td>.784*</td>
</tr>
<tr>
<td>Easy Generalization Probe</td>
<td>59</td>
<td>.611*</td>
</tr>
<tr>
<td>Medium Generalization Probe</td>
<td>59</td>
<td>.816*</td>
</tr>
<tr>
<td>Difficult Generalization Probe</td>
<td>59</td>
<td>.651*</td>
</tr>
</tbody>
</table>

* p < .001, two-tailed test.
follow-up (see Table 15). There was no significant change in overall parent satisfaction, $t(6) = -.19$, N.S.

An analysis of individual items revealed significant changes in only two items from posttraining to follow-up. Parents reported being significantly more confident in their ability to effectively teach the tasks chosen during the program at follow-up, $t(6) = -2.50$, $p < .05$; and reported working on significantly more new tasks with their child at follow-up, $t(6) = -2.52$, $p < .05$. These results should only be interpreted as suggestive due to the lack of control for experimentwise error rate. They do support the direct observational data at follow-up which indicated maintained high levels of correct parent teaching with tasks chosen for the program as well as generalized correct parent teaching to new tasks taught in the home.

In terms of the teaching format, parents generally rated the videotape procedures and practice in the clinic with their child as the easiest and most useful teaching approaches, and rated roleplaying and homework (recording and graphing) as the most difficult and the least useful teaching approaches. With regards to specific parenting techniques, rewards, teaching cues, and prompts were rated
Table 15
Mean Parent Satisfaction Questionnaire Scores and Subscale Scores Immediately Following Training and After the Follow-Up Period

<table>
<thead>
<tr>
<th>Scale</th>
<th>Posttraining</th>
<th>Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Total Satisfaction Score</td>
<td>236.43</td>
<td>21.92</td>
</tr>
<tr>
<td>Overall Program</td>
<td>49.14</td>
<td>3.67</td>
</tr>
<tr>
<td>Difficulty</td>
<td>52.57</td>
<td>8.08</td>
</tr>
<tr>
<td>Basic Parent Training</td>
<td>25.43</td>
<td>2.30</td>
</tr>
<tr>
<td>Self-Management Training</td>
<td>61.00</td>
<td>4.04</td>
</tr>
<tr>
<td>Usefulness</td>
<td>28.43</td>
<td>3.69</td>
</tr>
<tr>
<td>Continued Use of Skills</td>
<td>17.86</td>
<td>1.68</td>
</tr>
</tbody>
</table>

\( n = 7, \ df = (n - 1) = 6, \) no significant differences (two-tailed test)
as the easiest and most useful basic skills, while goal
definition, discrete trials, recording and graphing were
rated as the most difficult and least useful basic skills.
The group of self-management techniques were generally rated
as being equally easy and useful although overall they were
rated slightly lower than the basic skills. It should be
noted that the absolute level of satisfaction with these
parenting skills remained quite high.

When specifically asked to identify the reason for
their generalized and maintained teaching ability, parents
responded that child progress, the overall effectiveness of
the behavioural procedures, and certain of the
self-management skills (self-cueing, videotape analysis and
feedback, parent goal setting) all contributed.

Suggestions for improving the program included
beginning self-management in conjunction with basic
training, varying the speed of progression through the
program for different families, working on a greater number
and variety of child tasks, including more information on
behaviour management, and decreasing the number of
observational sessions. Many of these suggestions related
to concessions that had to be made for research purposes.
Parent Stress Index.

The Parent Stress Index profile for this group of seven families closely resembles the reference group profile for parents of developmentally delayed children presented by Abidin (1983a). Generally speaking, this group is described as experiencing significantly more stress than parents of normal children. Parent Stress Index scores and subscale scores are presented in Table 16. The stressors associated with parenting with the present sample were primarily related to the child's characteristics as indicated by the elevated Child Domain Score for the group at baseline ($M = 119.57$, $SD = 20.60$).

Insert Table 16 about here

The temporal stability of Parent Stress Index scores was measured by comparing results at pretraining with those at the 4-month follow-up. There was no significant change in total Parent Stress Index scores, $t(6) = .71$, N.S., nor were there any significant changes in subscale scores.

An examination of individual results reveals certain differences from pretraining to follow-up (see Table 17).
Table 16

Mean Parent Stress Index Scores and Subscale Scores Prior to
Training and After the Follow-Up Period

<table>
<thead>
<tr>
<th>Scale</th>
<th>Baseline</th>
<th>Follow-Up</th>
<th>( t^* )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Total Stress Score</td>
<td>239.00</td>
<td>40.93</td>
<td>233.00</td>
</tr>
<tr>
<td>Child Domain Score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptability</td>
<td>119.57</td>
<td>20.60</td>
<td>119.57</td>
</tr>
<tr>
<td>Acceptability</td>
<td>27.14</td>
<td>5.05</td>
<td>27.57</td>
</tr>
<tr>
<td>Demandingness</td>
<td>19.71</td>
<td>4.23</td>
<td>18.43</td>
</tr>
<tr>
<td>Mood</td>
<td>24.14</td>
<td>5.46</td>
<td>23.00</td>
</tr>
<tr>
<td>Distractibility/Hyp.</td>
<td>10.29</td>
<td>4.23</td>
<td>10.00</td>
</tr>
<tr>
<td>Reinforces Parent</td>
<td>28.43</td>
<td>3.31</td>
<td>30.14</td>
</tr>
<tr>
<td>Parent Domain Score</td>
<td>119.43</td>
<td>25.89</td>
<td>113.71</td>
</tr>
<tr>
<td>Depression</td>
<td>19.57</td>
<td>6.68</td>
<td>18.14</td>
</tr>
<tr>
<td>Attachment</td>
<td>13.00</td>
<td>3.06</td>
<td>13.43</td>
</tr>
<tr>
<td>Restriction of Role</td>
<td>14.86</td>
<td>4.26</td>
<td>14.71</td>
</tr>
<tr>
<td>Sense of Competence</td>
<td>27.86</td>
<td>5.55</td>
<td>26.29</td>
</tr>
<tr>
<td>Social Isolation</td>
<td>12.57</td>
<td>4.39</td>
<td>12.43</td>
</tr>
<tr>
<td>Relationship With</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spouse</td>
<td>18.29</td>
<td>4.07</td>
<td>16.71</td>
</tr>
<tr>
<td>Patient Health</td>
<td>13.28</td>
<td>2.06</td>
<td>12.00</td>
</tr>
</tbody>
</table>

\( n = 7, \ df = (n - 1) = 6, \) no significant differences
(two-tailed test).
At pretraining, three families had total stress scores that deviated by more than one standard deviation from the mean of the normative data for this population (Abidin 1983a) (\(M = 222.1, \ SD = 38.9, \ n = 30\)). Family 3 (score = 286) and family 4 (score = 297) scored significantly higher than the mean while family 7 (score = 178) scored significantly lower than the mean. At follow-up, decreases in total stress scores were obtained with families 3 and 4 (scores = 264 and 276 respectively) while family 7 showed an increased stress score (score = 197). Although a clear regression to the mean effect cannot be ruled out, another possible explanation is that parent training mediated extreme Parent Stress Index scores.

**Intercorrelations Among Variables.**

The interrelationship between changes in parent behaviour, changes in child behaviour, Parent Satisfaction Questionnaire scores, and Parent Stress Index scores were examined by calculating correlation coefficients between individual variables. Two parent and two child behaviour change scores were calculated to reflect changes from baseline to posttraining and from baseline to follow-up.
Table 17

**Individual Parent Stress Index Scores and Subscale Scores Prior to Training and After the Follow-Up Period**

<table>
<thead>
<tr>
<th>Scale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Stress Score</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>pre</td>
<td>221</td>
<td>242</td>
<td>286</td>
<td>297</td>
<td>223</td>
<td>226</td>
<td>178</td>
</tr>
<tr>
<td>follow-up</td>
<td>224</td>
<td>238</td>
<td>264</td>
<td>276</td>
<td>188</td>
<td>246</td>
<td>197</td>
</tr>
<tr>
<td><strong>Child Domain Score</strong></td>
<td></td>
<td></td>
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<tr>
<td>pre</td>
<td>103</td>
<td>118</td>
<td>150</td>
<td>136</td>
<td>132</td>
<td>105</td>
<td>93</td>
</tr>
<tr>
<td>follow-up</td>
<td>106</td>
<td>121</td>
<td>128</td>
<td>137</td>
<td>116</td>
<td>121</td>
<td>108</td>
</tr>
<tr>
<td><strong>Parent Domain Score</strong></td>
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</tr>
<tr>
<td>pre</td>
<td>118</td>
<td>124</td>
<td>136</td>
<td>161</td>
<td>91</td>
<td>121</td>
<td>85</td>
</tr>
<tr>
<td>follow-up</td>
<td>118</td>
<td>117</td>
<td>136</td>
<td>139</td>
<td>72</td>
<td>125</td>
<td>89</td>
</tr>
</tbody>
</table>
Change scores were calculated by subtracting the average percent correct parent or child score for all six tasks during baseline, from either the average percent correct parent or child score for the three tasks in the training set during self-management training, or the average percent correct parent or child score for all six tasks during follow-up. These two parent behaviour change scores and two child behaviour change scores were correlated with posttraining and follow-up Parent Satisfaction Questionnaire scores, as well as with pretraining and follow-up Parent Stress Index scores. All correlations are presented in table 18.

Insert Table 18 about here

Parent behaviour change at posttraining ($M = 57.00$, $SD = 12.23$) was positively correlated with child behaviour change at posttraining ($M = 36.29$, $SD = 13.92$) but not at follow-up (parent $M = 59.14$, $SD = 13.95$; child $M = 43.00$, $SD = 13.30$). Parent behaviour change at posttraining and follow-up was negatively correlated with pretraining Parent Stress Index scores ($M = 239.00$, $SD = 40.93$). Child behaviour change at posttraining and follow-up was negatively correlated with pretraining ($M = 239.00$, $SD = 40.93$) and follow-up ($M = 233.29$, $SD = 32.67$) Parent Stress Index scores.
Table 18

Intercorrelations Among Parent and Child Behaviour Change Scores, Parent Stress Index Scores (Pre and Follow-Up), and Parent Satisfaction Questionnaire Scores (Posttraining and Follow-Up)

<table>
<thead>
<tr>
<th></th>
<th>PBC-2</th>
<th>CBC-1</th>
<th>CBC-2</th>
<th>PSI-PRE</th>
<th>PSI-FU</th>
<th>PSQ-POST</th>
<th>PSQ-FU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Behaviour Change</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline to Self-Management (PBC-1)</td>
<td>.939**</td>
<td>.754*</td>
<td>.736*</td>
<td>-.744*</td>
<td>-.670*</td>
<td>.707*</td>
<td>.794*</td>
</tr>
<tr>
<td>Baseline to Follow-Up (PBC-2)</td>
<td>.656*</td>
<td>.584</td>
<td>-.659*</td>
<td>-.608</td>
<td>.684*</td>
<td>.753*</td>
<td></td>
</tr>
<tr>
<td>Child Behaviour Change</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline to Self-Management (CBC-1)</td>
<td></td>
<td>.695*</td>
<td>-.921**</td>
<td>-.660*</td>
<td>.881***</td>
<td>.825**</td>
<td></td>
</tr>
<tr>
<td>Baseline to Follow-Up (CBC-2)</td>
<td></td>
<td></td>
<td>-.825**</td>
<td>-.752*</td>
<td>.641</td>
<td>.887***</td>
<td></td>
</tr>
<tr>
<td>Parent Stress Index</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Pre-Training (PSI-PRE)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.857**</td>
<td>.816**</td>
<td>-.911***</td>
</tr>
<tr>
<td>Follow-Up (PSQ-FU)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.725*</td>
<td>-.816**</td>
<td></td>
</tr>
<tr>
<td>Parent Satisfaction Questionnaire</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Training (PSQ-POST)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.883**</td>
</tr>
<tr>
<td>Follow-Up (PSQ-FU)</td>
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<td></td>
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</tr>
</tbody>
</table>

* p < .05, two-tailed test,  ** p < .01, two-tailed test,  *** p < .005, two-tailed test.
Index scores. These correlations were generally higher than those observed between parent behaviour change and Parent Stress Index scores. Parent Satisfaction Questionnaire scores were positively correlated with parent and child behaviour change scores both at posttraining (M = 236.43, SD = 21.92) and at follow-up (M = 237.29, SD = 25.70). Posttraining and follow-up Parent Satisfaction Questionnaire scores were negatively correlated with pretraining and follow-up Parent Stress Index scores.

High positive correlations between pretraining and follow-up Parent Stress Index scores (r = .857, p < .01) and between posttraining and follow-up Parent Satisfaction Questionnaire scores (r = .883, p < .01) indicate that these measures were stable over time.

Cost Analysis.

Cost analysis results are presented in Table 19.

__________

Insert Table 19 about here

__________

Overall, parents spent an average of 70.05 hours and $62.63 during their involvement in the program. The therapist spent 31.20 hours per family. These costs are reduced substantially when training costs are examined
### Table 19

**Analysis of Therapist and Family Time Spent and Actual Family Expenses Incurred During the Training Program**

<table>
<thead>
<tr>
<th></th>
<th>Therapist Time</th>
<th>Family Time</th>
<th>Family Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Training</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic</td>
<td>743 (12.38)</td>
<td>2092 (34.87)</td>
<td>$16.37</td>
</tr>
<tr>
<td>Self-Management</td>
<td>341 (5.68)</td>
<td>650 (10.83)</td>
<td>$13.68</td>
</tr>
<tr>
<td>Training Total</td>
<td>1084 (18.06)</td>
<td>2742 (45.70)</td>
<td>$30.68</td>
</tr>
<tr>
<td><strong>Research</strong></td>
<td>789 (13.14)</td>
<td>1461 (24.35)</td>
<td>$32.58</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1872 (31.20)</td>
<td>4202 (70.05)</td>
<td>$62.63</td>
</tr>
</tbody>
</table>

*a: average time spent per family by the therapist, minutes (hours).

b: average time spent by each family, minutes (hours).

c: average actual monetary expenses by each family.
separately from research costs (therapist costs = 18.06 hours; family costs = 45.70 hours, $30.05). Training costs can be subdivided further by type of training, indicating the additional costs of self-management training above and beyond basic training. Since self-management training could be implemented in conjunction with rather than subsequent to basic training, these additional costs should be viewed as liberal overestimates.

The estimates of actual therapist expenses are not listed since they do not include major overhead and capital costs (i.e., building and upkeep, major video equipment) nor do they include an estimate of the therapist's salary. More detailed breakdowns of therapist and family time, family expenses, and a list of therapist materials used during training can be found in Appendices X, Y, and Z.
DISCUSSION

Summary of Findings

Seven families participated in a behavioural training program for parents of mentally retarded children. Two phases of parent training, (1) basic training, and (2) self-management training, were introduced sequentially. Direct observations of parent/child teaching interactions provided measures of parents' ability to implement behavioural teaching skills and measures of the generality of these newly acquired teaching skills across a variety of child tasks. Although all parents showed marked increases in their ability to effectively implement behavioural teaching skills in an easy target task during basic training, different parents showed different patterns of generalized teaching to non-target child tasks. During self-management training, parents who had not yet generalized accurate teaching to all non-target tasks did so, while parents who had already demonstrated generalized teaching with certain tasks often showed additional increases. Changes in children's correct responding to parental teaching generally paralleled the changes observed in parent behaviour.

Changes in parent and child behaviour were maintained over a 4-month follow-up period. Parents also demonstrated high rates of accurate teaching with new child tasks in the
home setting, up to 5 months following the termination of training. Overall, parent satisfaction with the training program was very high.

Interpretation of Findings

The first two goals of the present research were to conduct a more extensive and systematic assessment of behavioural generality following basic training for parents of mentally retarded children and to determine how certain task characteristics might affect such generalization. Two main findings from previous research were replicated. First of all, basic training did promote the development of effective teaching skills in parents of mentally retarded children. All parents in the present study improved their teaching when working on the easy target tasks. This is consistent with previous research demonstrating the effectiveness of behavioural training in promoting behaviour change. Secondly, although some generalization to non-target tasks was observed, this generality was not uniform either within or across families. This is typical of the few studies that have assessed behavioural generality. Some parents generalize better than others and some parents generalize to some tasks but not to others.
There are a number of possible explanations for the different patterns of generalization observed following basic training. As originally suggested, task characteristics may account for some of the results. Two task characteristics were manipulated in this study. The first of these was task difficulty. Although general behavioural principles were presented during training, the focus of all demonstrations, roleplaying, and feedback was the easy target task. Lack of generalization to more difficult tasks may represent a discrimination problem. Based on the initial decision rules for choosing tasks according to level of difficulty for the child, and on the acquisition curves for changes in child percent correct responding in the various tasks, we can assume that parents were faced with two different teaching problems. For the easy tasks, acquisition curves (sharp increases during training) suggested a performance deficit on the part of the child. Children had the necessary behaviours in their repertoire of skills but did not produce these behaviours in the teaching situation. For these tasks, the more important parent skills would be those relating to behavioural antecedents (i.e., instructions and cues) that consistently elicit acquired behaviours. For the more difficult tasks, acquisition curves (gradual increases over time) suggested a child skill deficit problem. Children did not have the necessary behaviours already in their repertoire. For these
tasks, the important parent skills would be those that help the child to acquire new behaviours (i.e., prompting, shaping), in addition to those that ensure consistent responding (i.e., instructions and cues). The discrimination problem for parents therefore lies in their inability to determine which teaching skills are appropriate in a given teaching situation. This would explain the lack of generalization to tasks of a more difficult type observed with certain families. Another possible explanation is that parents simply were not as skilled or as practiced at the skills more relevant to child behaviour acquisition. This would not explain why parents generalized to more difficult tasks during a later phase without additional training in the use of these "behaviour acquisition" teaching skills.

The second task characteristic manipulated in this study was the degree of parental exposure to tasks while in the presence of the therapist. Parents practiced teaching training set tasks in the clinic throughout all phases of testing and training. Parents practiced teaching generalization probe set tasks in the clinic only during testing phases. The most frequent result observed was a lack of generalization to tasks for which there was limited exposure (generalization probe set). Research has shown that interspersing reinforced trials among unreinforced probes may increase responding on probes (Neef, Iwata, and Page, 1977). During basic training, parents received
feedback on their teaching for the easy target tasks (delayed reinforced trials) but not for the non-target training probes (unreinforced probes). Teaching of both task types was undertaken in the same training sessions. Generalization probe tasks were not interspersed with reinforced target tasks. An increase in correct responding on non-target training probes and not on generalization probes therefore would be expected and in fact occurred. Related to this is the possibility that the therapist gained stimulus control over parents' accurate teaching for tasks in the training set. Limited exposure to tasks in the generalization probe set did not permit the transfer of this control to these tasks.

A combination of the discrimination problem and the stimulus control problem represents a likely explanation for the lack of generalization observed with certain families following basic training. Parents learned new skills but did not know when or where to use them. When accurate generalized implementation of behavioural teaching skills was observed, therapist stimulus control could not be ruled out as an important contributing variable.

The third goal of the present research was to determine if certain forms of additional training (i.e., self-management training) enhance generalization. Results indicated that implementing self-management training
following basic training did promote the generalization of
accurate parent teaching to tasks where generalization had
not been obtained. Furthermore, in many cases,
self-management training resulted in additional increases in
percent correct parent teaching for tasks where some degree
of generalization had already been obtained. A possible
explanation for these results is that self-management
training effectively promoted the transfer of stimulus
control over parental teaching from the therapist to the
parents themselves. Following self-management training,
parents were cueing their own behaviour and were providing
their own feedback for their teaching efforts. The
antecedants signalling the availability of feedback as well
as the feedback itself were under parental control.
Therefore, all relevant cues and consequences were present
in all parental teaching situations.

A second possibility is that self-management training
actually represented a form of discrimination training where
parents learned to detect task relevant cues signalling the
appropriateness of various behavioural teaching procedures.
The videotape feedback permitted parents to conduct a more
detailed analysis of each teaching situation. Essentially,
parents learned to assess their own teaching regardless of
the situation. Lack of child progress, when and if it
occurred, could therefore be attributed to the incorrect
implementation of behavioural skills rather than to the
perceived ineffectiveness of the procedures. Parents were more likely to correct their teaching following self-assessment than to abandon it.

Discrimination training and transfer of stimulus control are not incompatible as theoretical explanations for the effects obtained with self-management training. The goal of self-management training and its associated procedures is to have the individual control his or her own behaviour. In the present study, fading therapist involvement (cues and feedback) while increasing parent initiated cues (self-cueing, self-instructions) and feedback (self-assessment) were used to promote this transfer of control. At the same time, providing a set of general rules (self-instructions) and allowing parents to view their own teaching while receiving therapist and self-generated feedback on their ability to follow these rules in different situations constituted a programmed form of discrimination training. Such a model of generalized training effects emphasizes the need to focus on the nature and character of the stimuli and consequences that come to control performance of newly acquired parent teaching skills.

The fourth and fifth goals were to assess the long-term maintenance of parent skills following training and to assess the generalization of such skills to a more naturalistic setting. Although there were individual
differences in overall levels of change in parent behaviour, increases in correct parent teaching were maintained over the 4-month follow-up period. Parents also displayed high levels of correct teaching in the home environment with new child tasks. Child behaviour change was maintained as well but showed more variability. Parents did not abandon their use of the behavioural teaching skills when their children's performance decreased on "off days". This suggests that parents' knowledge and confidence in the accuracy and appropriateness of their teaching efforts served to maintain their behaviour in the absence of the more "natural reinforcement" associated with child progress. Parents however did report that child progress played an important role in their maintained and generalized teaching ability. Parental self-feedback and self-knowledge of teaching ability as well as child progress appear to be two complementary types of task-based (versus trainer-based) consequences maintaining newly acquired parent skills.

The sixth goal was to assess the role of individual characteristics in the effectiveness of parent training with this population. Although a wealth of demographic information was collected on each family, no clear association was found between these and training outcome. The limited sample size must be highlighted in this regard. An important variable that was analyzed in more detail was parent stress. Although it has been suggested that the
Parent Stress Index (PSI) is sensitive to training effects (Plough, 1980; Lafferty et al., 1980) no pre to follow-up group differences were obtained with this measure in the present study. In certain cases, extreme PSI scores did appear to be affected by the overall training program. Furthermore, there was an association between PSI scores and changes in parent and child behaviour. These results are suggestive at best and underline the importance of considering individual parent characteristics in training outcome research. Although all parents profited from the present training program, additional consideration should be given to dealing more directly with interpersonal and coping difficulties. Intagliata and Doyle (1984) have recently described Interpersonal Problem-Solving Skill Training which may represent the type of precursor to parent training needed by certain individuals experiencing more global coping difficulties.

The final goal of the present research was to provide a cost analysis of both therapist and client costs associated with the training program. Results indicated that costs for this intervention program were not prohibitive. The meaningfulness of these results however suffers due to the lack of adequate comparison figures. Few studies provide an analysis of program costs and no study could be found that assessed costs to the families involved.
The Read Project (Heifetz, 1977), a 20-week program training parents to be more effective teachers for their mentally retarded children, did assess the costs associated with their training. Baker, Heifetz, and Murphy (1980) summarized the cost figures for the various training formats evaluated. Costs ranged from $38 per family for a manuals only training format to $211 per family for a manuals plus nine biweekly group meetings plus six interhome visits format. No details were provided on what costs were included in their estimates or how they were calculated. Because of the limited information provided regarding the costs of the Read Project, any comparison with the present study is of limited value.

The present study provided detailed estimates of both family and therapist time and family monetary expenses. Such information enables clinicians to estimate actual therapy costs for implementing a similar program given their own staff salaries and overhead costs. Furthermore, parents can be given a realistic estimate of their time and monetary commitment to this type of training.

Obviously, both research and service oriented programs for families of mentally retarded children need to assess associated therapy and family costs. Once these data are available we can adequately evaluate the comparative cost-effectiveness of such programs.
Limitations of Present Research

There are a number of limitations that should be considered when interpreting the results of the present research. The first relates to the generalizability of the results obtained. The parents in the present study represent a very small non-random sample of the larger population of parents of mentally retarded children. The recruitment procedures followed suggest that participants were highly motivated. This high level of motivation is reflected in the lack of dropouts and the degree of parental involvement (i.e., driving 45 minutes each way for a 1-hour training session). Children came from a very narrow age range (i.e., 2 to 6 years) and were not experiencing more severe and profound delays. On the other hand, demographic data indicated that these families were representative of the full range of SES levels. Etiologies and extent of developmental delays varied across children. Finally, the group PSI profile closely resembled the general profile provided by Abidin (1983a) for a large sample from the same population. Replication of the present results with a larger more heterogeneous sample is warranted.

The generalizability of the training program itself must be considered. Although all training procedures were described in full detail thus facilitating replication, a major therapist characteristic cannot be overlooked. The
trainer in this study was the parent of a retarded child as well as being a professional working in the area. The credibility of such a parent trainer would be different than that of others working with this population. Results from the posttraining Parent Satisfaction Questionnaire support this hypothesis. Parent ratings for the therapist section were extremely high with an average score of 6.54 on the five 7-point scale items across families. Although therapist characteristics may have contributed to the overall training effects they would not account for the different effects obtained with the two training approaches since the same therapist conducted both basic and self-management training. Replication of the training program with different therapists would clarify the role of this particular therapist characteristic.

Design considerations limit the conclusions that can be drawn from the results obtained. The sequential presentation of the two training packages does not permit an analysis of the relative effects of self-management training alone. Furthermore, implementing training in packages does not allow us to identify the relative contributions of the different elements of each package. We do not know for example which part or combination of parts of the self-management training package was responsible for the obtained generalization effects. This design does not allow us to evaluate the long-term maintenance of skills as a
result of basic training alone. Finally, the comparison of follow-up parent teaching in the home to baseline levels of parent teaching is questionable. A more appropriate comparison could have been made if a pretraining measure of parent teaching in the home had been obtained. Furthermore, the presence of the therapist during home teaching at follow-up represents a possible confound since he may have represented a controlling variable present in both the training and the generalization setting.

Although adopting a group design may have alleviated some of these problems, the advantages of small sample designs cannot be overlooked. In fact, the present research demonstrates some of the advantages that the N=1 approach might have over more conventional group designs. There are often practical problems associated with collecting large numbers of clients, especially when conducting time consuming long-term outcome research. Dealing with select populations often limits research possibilities. In situations where more conventional group designs are less feasible, N=1 designs provide a viable alternative.

In the N=1 approach, individuals are more closely monitored and individual differences become more apparent. Group designs can provide information on individual differences but, more often than not, such differences are lost when results are averaged over the group. For this
reason, N=1 designs may shed light on findings that could go unnoticed with more conventional procedures. The different generalization patterns observed for different families in this study represent an example of such findings.

Closely related to this is the greater ability in isolating mechanisms of change during training with N=1 designs. Largely ignored in group designs is within-subject variability or the particular course of a participant during training. The site of processes of change is in the individual, and group averages and variance may be misleading. The repeated measures associated with N=1 designs allow careful monitoring of day-to-day variability in individual behaviour.

An N=1 approach is therefore particularly advantageous in the present type of research for purely practical reasons as well as for the type of control and information provided in the training situation.

A final limitation pertains to the statistical analysis of results. First of all, the small sample size limits the power of the statistical tests conducted. Furthermore, no control was made to limit experimentwise error rates. Finally, the choice of certain statistical tests (i.e., repeated measures analyses of variance on differences across phases) is questionable because of the nature of the data. These problems should be considered in light of the fact
that statistical analyses were undertaken solely to supplement visual inspection of the data. The magnitude of the results obtained both through visual inspection and via statistical analysis support the contention that clinically significant findings were obtained.

Future Research

Issues for future research are closely related to the limitations just described. A larger, more heterogeneous sample from this population would provide more generalizable results. The role of various therapist characteristics needs to be clarified. The effectiveness of including parents as therapists or co-therapists in training for other parents using the procedures studied here could be assessed.

Different aspects of the training program itself could be systematically varied and analyzed. A first step would be to conduct a component analysis of the self-management training package. In this way, redundant and/or unnecessary elements can be trimmed making the overall program most cost effective. Two additional ways of reducing training costs that warrant investigation would be to combine basic and self-management training, implementing both sets of procedures concurrently rather than sequentially, and to conduct group rather than individual training sessions. The scope of training could also be broadened. Both parental
management of child behavioural excesses and child skill training could be targeted for change.

Research on training for parents of mentally retarded children has generally lagged behind the research on more "normal" populations. In the parent training literature for developmentally normal children, investigators have found that parental characteristics do influence training efficacy (McMahon, Forehand, Griest, and Wells, 1981; Reisinger, Frangia, and Hoffman, 1976; Wahler, 1980). It seems likely that parental characteristics would affect the outcome of parent training programs for developmentally delayed children as well. The present research attempted to assess parent characteristics by providing a measure of parent stress. Future research should try to identify salient parental characteristics (e.g., maternal depression, marital discord, insularity, parental intelligence, locus of control, as well as parent stress) that may also require intervention either concomitantly or independently of parent training.

Finally, the role of fathers as therapists for their own developmentally delayed children needs further investigation. Although fathers were included in the present research, no systematic attempt was made to assess differences in the effects of training by sex of the parent. Not only may training outcome differ but parental adjustment may also vary with the sex of the parent.
Clinical Implications

To be of value, any training must be effective and useful beyond the training situation. This becomes even more important in training programs for parents of mentally retarded children where there is a greater variety of behaviours targeted for management. If there are limits to the usefulness of behavioural parent training then these limits must be identified and remedied if at all possible.

The present research attempted to clarify some of the limitations associated with training parents of developmentally delayed children. It provided a methodology for assessing the generality of training effects. It also helped to identify a socially valid training approach that is effective in promoting generalized and maintained behaviour change and whose cost is not prohibitive.

In its present format, the training program assessed here would be applicable as an adjunct to programs where the primary focus is skill training. More specifically, it would be appropriate as an adjunct to training for parents involved in early intervention programs (i.e., infant stimulation), as well as preschool and other educational programs for the developmentally handicapped. It should be noted that this program provides parents with skills that are most appropriate for "structured" teaching with their child. Although the principles are applicable in different
circumstances, structured teaching should not be conducted at the expense of quality time with a mentally retarded child. The importance of playful interactions between parents and their developmentally handicapped children must not be overlooked (McConkey, McEvoy, and Gallagher, 1982).

The particular training procedures assessed here are relevant for less behaviourally oriented training situations as well. With the current research in dynamic assessment (Feuerstein, 1979) there has been an increased interest in mediated learning experiences. "Mediated learning experiences are those in which an adult selects, frames, and labels the external world in order to focus a child's attention on those aspects that are more important" (Day, 1984, p. 163). Many of the teacher skills used in mediated learning (i.e., use of successive prompts, cues, modelling) have their counterparts in the more behavioural teaching approaches. It is appropriate therefore to assume that many of the training procedures evaluated in the present research would be applicable and beneficial in training parents and/or teachers using different yet related teaching approaches with developmentally delayed children.
Conclusion

The gap between research on families of developmentally normal children and research on families of developmentally delayed children is narrowing. There are many parent training issues common to both populations. The problem of maintained and generalized behaviour change following parent training is an area of particular interest. It is becoming increasingly apparent that parent trainers must actively program for generalization during training if they hope to obtain clinically significant and durable results. The present research has offered one possible approach to achieve this goal.
REFERENCES


APPENDIX A

Letter of Introduction With Return Consent Form
Dear Parent(s):

I am a senior psychology graduate student at the University of Western Ontario. My area of specialization is Child Clinical Psychology. I am presently undertaking my doctoral dissertation research in cooperation with Dr. Bradley Bucher. We are interested in discovering ways to train parents to be more effective teachers for their mentally retarded children. We are writing to ask whether you and your child would be willing to participate in this research. Participants will not only be receiving valuable training but will also be contributing to the development of a program that will benefit other parents of handicapped children.

Initially, each family will attend two 1-hour sessions per week for a total of seven weeks. All training will be conducted at the University. Four monthly follow-up sessions will also be held at the University. Parents will help in the scheduling of sessions so that there will be minimal disruption of family schedules. We will teach parents a variety of behavioral techniques to help them develop various skill areas in their child (i.e., self-help, preacademic skills, etc.). The target skills will be individually chosen for each child. No unusual or harmful procedures are involved. Although both parents are welcome, only one parent will have to attend all sessions (the same one each time).

We may publish the results of this work, but no child or family in the study will be identifiable in any way. We will also be sending families a summary of the results when the study is completed. If you would like more information, please call me, Ian Manion, at the University (679-2582) and I will be happy to talk to you about the study. I can also be reached most evenings at home (672-6824).

If you are considering participating, please sign the enclosed form and send it back as soon as possible. This does not commit you in any way to further involvement in the program. We will be contacting you regarding an information meeting to be held at the University in the near future. If you are not interested, please return the form to indicate that fact by signing in the proper place. Participation is absolutely voluntary and your decision to participate or not will in no way affect services you may receive from other sources.

Thank you in advance for your time and cooperation.

Sincerely,

Ian C. Manion, M.A.
Department of Psychology
University of Western Ontario
Name of Project: Behavioural training for parents of mentally retarded children

I (We) am (are) interested in participating in the study described and would be willing to attend an information meeting.

Parent(s): ___________________________

Name of Child: ______________________ Age: ______

Telephone Number: ______________________

Date: ______________________

OR

I (We) am (are) not interested in participating in the study described.

Parent(s): ___________________________

Comments: ___________________________
APPENDIX B

General Consent Form
I am a senior Ph.D. student in the Department of Psychology at the University of Western Ontario. I am presently undertaking my doctoral dissertation research in cooperation with Dr. Greg Koran. In this research I am interested in discovering ways to train parents to be more effective teachers for their mentally retarded children. Participants will not only be receiving valuable training but will also be contributing to the development of a program that will benefit other parents of handicapped children.

Initially, each family will attend two 1-hour sessions per week for a total of seven weeks. All training will be conducted at the University. We will teach parents a variety of behavioral techniques to help them develop various skill areas in their child (i.e., self-help, pre-academic skills, etc.). The target skills will be individually chosen for each child. No unusual or harmful procedures are involved. Although both parents are welcome, only one parent will have to attend all sessions (the same one each time) with their child. Parents will also be interviewed for information regarding their background and their child's developmental abilities. We will also ask parents to complete questionnaires related to their child’s behavior and their role as parents.

Participation is absolutely voluntary and your decision to participate or not will in no way affect services you may receive from other sources. You are also free to withdraw from the program at any time.

We may publish the results of this work, but no child or family in the study will be identifiable in any way. We will also be sending families a summary of the results when the study is completed.

If you agree to participate in this program, please sign below.

__________________________  ________________
Name (please print)          Signature

__________________________  ________________
Staff member                Date

Ian G. Manion, M.A.
Department of Psychology
University of Western Ontario
Phone: 679-2582
APPENDIX C

Videotape Consent Form
BEHAVIOURAL PARENT-TRAINING PROJECT

Permission for Videotaping

I _____________________________ hereby
Name (please print) permit the videotaping of myself and my child
for assessment, training and research purposes.
Name (please print)

___________________________
Signature

___________________________
Staff Witness Date
APPENDIX D

General Demographic Questionnaire
BEHAVIOURAL PARENT-TRAINING PROJECT

General Information

Child's Name ________________________ Sex __________
Age __________ Birth Date ________________________
Home Address __________________________________
______________________________________________
______________________________________________
Home Phone ________________________________
Father's and/or Mother's Bus. Phone ____________
School ______________________________________
        Name __________________ Address ____________
Name and Address of Child's Doctor ______________
Father's Name __________________ Age ____ Education __
Father's Occupation ____________________________
Mother's Name ___________________ Age ____ Education __
Mother's Occupation __________________________
Family Income _____________________________

Is child adopted? [ ] If so, at what age? ______

Family Household Members by Name, Age and Relationship to the Child:

(1) (Name) (Age) (Relationship)
(2) (Name) (Age) (Relationship)
(3) (Name) (Age) (Relationship)
<table>
<thead>
<tr>
<th>Vision</th>
<th>Date</th>
<th>Done By</th>
<th>Results</th>
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</thead>
<tbody>
<tr>
<td>Hearing</td>
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<td></td>
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<tr>
<td>Speech</td>
<td></td>
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<td></td>
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<td>Psychological</td>
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<tr>
<td>Physical</td>
<td></td>
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Diagnosis of your child’s handicap ____________________

Estimate of your child’s level of functioning (years) ____________

Please list additional handicaps (eg., heart defect, cleft palate, nystagmus, hearing loss, etc.) ____________________

Previous Programming:

<table>
<thead>
<tr>
<th>Name of Program</th>
<th>Worker or Teacher</th>
<th>Date</th>
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</table>
Present Programming Received Other Than School:

<table>
<thead>
<tr>
<th>Name of Program</th>
<th>Worker or Teacher</th>
<th>Date</th>
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Please describe any previous child management training or other forms of parent training you may have received in the past:

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</table>

Do you have any previous experience or knowledge of Behaviour Modification techniques? If so, please describe:

<p>| |</p>
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</table>

Appraisal of yourself as a parent (strengths and weaknesses):

<p>| |</p>
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</table>

Completed By: __________________
APPENDIX E

Release of Information Consent Form/
Access to Clinical Records
BEHAVIOURAL PARENT-TRAINING PROJECT

Consent for Release of Information

I (We) ____________________________ Name of parent(s) or guardian(s)
heretofore consent to let Ian Manion, as principal investigator
of the Behavioural Parent-Training Project, have access
to our child’s clinical file at ____________________________ Name of institution
I (We) understand that this information is to be used
for research purposes only and that the confidentiality
of this information will be maintained.

Full name of child (please print)

Signature(s) of parent(s) of guardian(s)

Date
APPENDIX F.

List of Child Tasks
List of tasks by task type for each family participating in training

<table>
<thead>
<tr>
<th>Family</th>
<th>Task</th>
<th>Easy</th>
<th>Medium</th>
<th>Difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Training Set</td>
<td>Receptive Signing</td>
<td>Matching Numbers</td>
<td>Counting Objects</td>
</tr>
<tr>
<td></td>
<td>Generalization Set</td>
<td>Productive Signing</td>
<td>Tracing Shapes</td>
<td>Three Commands</td>
</tr>
<tr>
<td>2</td>
<td>Training Set</td>
<td>Matching Pictures</td>
<td>Tracing Shapes</td>
<td>Counting Objects</td>
</tr>
<tr>
<td></td>
<td>Generalization Set</td>
<td>Receptive Colours</td>
<td>Matching Numbers</td>
<td>Writing Name</td>
</tr>
<tr>
<td>3</td>
<td>Training Set</td>
<td>Stacking Blocks</td>
<td>Receptive Labelling</td>
<td>Imitating Sounds</td>
</tr>
<tr>
<td></td>
<td>Generalization Set</td>
<td>Imitating Gestures</td>
<td>Use of Zipper</td>
<td>Tracing Shapes</td>
</tr>
<tr>
<td>4</td>
<td>Training Set</td>
<td>Threading Shoelace</td>
<td>Prepositions</td>
<td>Pattern of Clap</td>
</tr>
<tr>
<td></td>
<td>Generalization Set</td>
<td>Receptive Labelling</td>
<td>Matching Colours</td>
<td>Receptive Shapes</td>
</tr>
<tr>
<td>5</td>
<td>Training Set</td>
<td>Matching Pictures</td>
<td>Prepositions</td>
<td>Matching Numbers</td>
</tr>
<tr>
<td></td>
<td>Generalization Set</td>
<td>Matching Shapes</td>
<td>Receptive Numbers</td>
<td>Pattern of Claps</td>
</tr>
<tr>
<td>6</td>
<td>Training Set</td>
<td>Matching Numbers</td>
<td>Prepositions</td>
<td>More and Less</td>
</tr>
<tr>
<td></td>
<td>Generalization Set</td>
<td>Productive Letters</td>
<td>Tracing Shapes</td>
<td>Pattern of Claps</td>
</tr>
<tr>
<td>7</td>
<td>Training Set</td>
<td>Matching Pictures</td>
<td>Productive Signing</td>
<td>Pattern of Claps</td>
</tr>
<tr>
<td></td>
<td>Generalization Set</td>
<td>Imitating Gestures</td>
<td>Receptive Labelling</td>
<td>Block Patterns</td>
</tr>
</tbody>
</table>
APPENDIX G

Parent Handouts
"Hi, Honey. How did Stevie do this afternoon? It seems we've been trying to teach him to unbutton for a long time now... I wonder if he's getting anywhere?"

"Wait a minute. You don't have to wonder—just look at this."

"You mean you've actually been keeping a record of how he's doing?"

"Well, I really wanted to know for sure how much his unbuttoning was improving, and this helps me see when to move on to the next step. See, he's definitely learning."

**record keeping**

As we have emphasized throughout this manual, exposing your child to continual success is the best way to ensure progress in the learning situation. The more he succeeds, the more he progresses. Yet, just how quickly your child will progress is impossible to predict, for no two children will ever learn in quite the same way—and in quite the same amount of time.

In this regard, then, it is best not to wonder, "How long will it take?" and instead to ask, "Is my child showing progress?" or "Is the program working well?" or "Can he do more of the task this week than he could last week?" in order to answer any of these questions, you will have to keep records. Progress does come slowly and your real test as a teacher is in "sticking with it." Sometimes when your child has difficulty with a step for several days, it may mean that you've taken too big of a jump, put another step in between.
Keeping a daily record of progress will remind you to carry out the program regularly. Records also help you to remember "how it's been going." If your records show that the child has been making very little progress lately, you must ask some questions about your program:

1. Does he really understand what I want him to do? (Can I get his attention better? Can I show and guide him more?)

2. Is this step too difficult? (Can I find a slightly easier step for him to learn first?)

3. Is the reward still something he wants? (Can I find something else he might like even more?)

We've talked a lot about making sure your child is rewarded for his efforts. What about rewards for you? Your biggest reward is seeing your child learn. Since we sometimes don't see changes too clearly in those skills we teach every day, however, progress records will help to see that he really has learned over the past months.

We should acknowledge what is probably obvious to you—most parents do not enjoy keeping progress records. We do feel, though, that having an account of progress helps the teaching to proceed better. The best procedure is to record each teaching session, as we have suggested. If you do not continue this daily record, however, then at least take a once-a-week look at your child's functioning on the skill being taught and make note of where he is. This way you will have a rough record of change.

What you will find most difficult as a teacher is simply to keep going. If you can just force yourself to continue, it won't matter if your program is less than perfect—your child will benefit. But if you give up, will it really matter how good your program was?

Think, then, of a reward for yourself besides your child's progress. Dinner at a favorite restaurant, perhaps? An entire day without having to do the dishes? When your child has learned a new skill, enjoy that reward. Like your child, you, too, have earned it!
The child with special needs does not see the world as we do. This is not to say that we know how he does see the world any more than we know how it looks to anybody. But we do know that certain actions, events, directions and requests which seem so easily understandable to us seem not so simple to him. At least his behavior indicates that he is more often confused—uncertain of how to behave—when faced with our "everyday situations" than we are. Thus, while his view of the world is no better or worse than ours, it is distinctly different and we must plan our teaching to acknowledge and respect this difference.

Before you begin to teach, you will have to decide when and where you will teach, and what materials you will need. This advanced planning on your part is setting the stage for success—finding ways to simplify the task so that it is understandable and easy for your child to manage.

Let's consider the kinds of things you will have to keep in mind in order to set a successful stage for your child.

**Time**

Pick one to three short time periods (2 to 5 minutes) during the day. This may seem very short, but when you first begin, a teaching session lasting only a few minutes is more realistic. During your session you should give your child four to five attempts on the step you are teaching. Pick a time when he is not tired and when the usual daily interruptions are most likely to be at a minimum—when other children are at school, when the favorite TV program is not on, when you usually don't have a lot of other things to do which will distract you.

Very simply, the best time for your child to learn is any period in the day when both you and he can direct all of your attention to the task, when neither of you is distracted. Select a best time and then try to have a teaching session at about that time every day.

**Place**

As we mentioned earlier, learning to attend to a task also means learning to not attend to other things. You will want to choose a place to teach which is not too distracting. Toys, TV, other children, a nearby window—the list of things which might compete for your child's attention is endless. Simply select a place to teach which is removed from the center of activity, and remove whatever distractions you can.

Of course, your home is not a school, and finding a good place to teach may be easier said than done. Nevertheless, a teaching session where you and the task are the main things for your child to attend to is something to aim for.
Consistency

Once a good place for teaching has been established, it should be used consistently. This will allow your child to become accustomed to one setting and to your expectations of him within it. The comfortable feeling of knowing what is expected in a given situation is rare for most children. A consistent time and place for teaching, however, allows such a feeling to develop and should increase your child's cooperation. It is important that you do not carefully teach him the skill one time and then do it for him another time because you're in a hurry. Follow the same procedure every time and make sure that other family members are doing what you do. Having others in the family involved is very desirable only if all of you are doing the same thing.

Materials

When teaching your child skills, such as attending to you or coming when his name is called, you will need few materials, if any. Most of your child's learning, however, will require him to interact with materials. Another way to make sure he experiences success is to make these materials interesting and easy to manage.

Ask yourself if he can do what is expected of him with the materials provided—or might a change in the materials ensure greater success?

For example, attending to materials on a table is easier if the chair is high enough. The battle to get food on a spoon is more likely to end in victory if fought with mashed potatoes rather than peas. Drinking from a glass is a lot easier if there is only a little in it. Small hands fit more comfortably around a stacking ring than a crayon. Try to think of ways to make your child's world easier to manage so that learning will be more successful.

Planning

Plan the lesson in advance so that you know just what you are going to ask your child to do. Take a few minutes before the session to outline what you want to cover—it will make the lesson go much more smoothly.
Instructions

1. Stand near her. Make certain she can see you and hear you. Expecting her to respond to something shouted from another room is certainly asking too much, but even talking to her from across the room may be too difficult in the beginning.

2. Get on her level. She must be able to see your face. That's what you want her to pay attention to. If she is sitting on the floor, squat down so she can see you. If she is sitting at a table, rather than tower over her, sit next to her. Stand in front of her, not behind. Make it possible for her to attend to your face.

3. Call her name. If there is one word your child understands, it is probably her name. Before asking her to do anything, get her attention by calling her name—then she'll know you are talking to her. Wait until she turns to look at you before continuing. If she doesn't look, say her name again.

4. Get eye contact. When you say her name and she turns toward you, look her in the eyes. If she is facing you but looking at the floor, she may be paying more attention to the floor than to you. If she doesn't look right at you, put a finger gently on her chin and guide her to look at you.

5. Choose your words carefully. Use simple, familiar words and short, concise sentences. "Take the block," which tells her in simple, clear terms exactly what you want her to do, is better than "Take the big red block from Mommy," which may have no meaning for your child and may not convey a clear message.

6. Use gestures. Your child will more easily understand your words if you accompany them with meaningful gestures.

"Come and eat"

"Sit down in the chair"

"Give the block to me"
Rewards

When our behavior leads to something pleasant for us, we are more likely to perform that behavior again. This is the nature and purpose of rewards.

Simply defined, a reward is anything we enjoy or look forward to. For the child, as well as for ourselves, it is a payoff for a job well done.

When we stop to consider what makes us perform as we do, we can usually see the reasons behind our behavior quite easily. By and large, we act as we do because our behavior pays off—whether in money (paychecks), the approval of others (praise, smiles), the promise of good things to come (vacations), or the pleasant private feeling of a job well done. Any or all of these payoffs can be rewards for performance. They are effective in motivating our behavior because they are things we value and enjoy. A child's behavior is motivated in exactly the same way. And this brings us to an important principle.

Behaviors followed by a reward are more likely to happen again.

To teach your child self-help skills, you will need to find rewards which are meaningful to him. At first, succeeding at a task may not be half as rewarding as seeing you smile at him, hearing you praise him, or tasting his favorite snack.

For the child learning early self-help skills, there are three types of rewards that prove most effective:

1. Your praise and attention
2. Favorite snacks
3. Favorite games and toys
Your praise and attention

It may sound funny but the biggest reward you can offer your child is yourself, and you can do so in any number of ways: Cheerful praise, smiles, hugs, bouncing him on your lap—whatever he likes most.

Favorite snacks

Whatever is a “treat” for your child will serve as a powerful reward in the learning situation: A favorite candy, bits of a cookie, cereal, ice cream, juice, or potato chips. The list is endless and only you will know what is a rewarding snack for your child.

Favorite games and toys

Perhaps your child enjoys playing with ribbons or crumpled up paper, listening to the radio, drawing lines on a page. Here, as before, you know your child and his interests best.

The reason for using these rewards in the teaching situation is, again, a simple one: Behaviors followed by rewards are more likely to happen again.

We will return to rewards later to discuss how to use them wisely when teaching. For now, think about your child’s likes and dislikes so that you can make a list of rewards to use when teaching him the self-help skill you have chosen.

Below is a short list of items that may be rewards for your child.

<table>
<thead>
<tr>
<th>Attention</th>
<th>Food</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A smile</td>
<td>Cola</td>
<td>Bounce a ball</td>
</tr>
<tr>
<td>“Good boy/girl”</td>
<td>Potato chip</td>
<td>Water play</td>
</tr>
<tr>
<td>A hug</td>
<td>Dry cereal</td>
<td>Listen to music</td>
</tr>
<tr>
<td>Being tickled</td>
<td>Candy</td>
<td>Crayon</td>
</tr>
</tbody>
</table>

You must realize that none of these rewards is guaranteed to work with your child for the simple reason that we did not think of them with your child in mind. Only you can do this: only you know what might be especially rewarding just for him.
Rewards can be a very powerful tool in the hands of an effective teacher. But, as with most tools, they can sometimes be accidentally misused. As a result, instead of working for you they can very suddenly be working against you.

To make sure rewards are working for you, we ask that you pay close attention to the following points. Read, re-read, and remember them: they are based on what we have found to be the most common problems with rewards among the parents we have worked with.

Give your reward as soon as the child performs the desired behavior

If you have to wait before finding and giving your child what he's earned, he may have forgotten what he did to earn it. Worse yet, in those two minutes he may perform other behaviors that you shouldn't be rewarding. So, when your child does what you asked of him, always praise him and immediately give him any other reward you are using.

Make certain your rewards are rewarding

Favorite snacks are less effective rewards when used right after lunch. Fun toys are certainly less so when they've just been played with. Increase the effectiveness of whatever rewards you decide to use by seeing to it that your child will really want and look forward to them. If you cannot find another reward that he will work for, use his meal itself, giving bites for successful performance of the task. Food will always be an effective reward if your child is hungry. However, food may interfere with expressive language exercises, so if you do use food, give only very small amounts and make sure his mouth is empty before your next direction.

Do not pay attention to problem behaviors

We don't often think of our occasional yelling or getting up to chase a child around the room as rewards. Yet these are forms of attention to children. And attention, as we have seen, is a very effective reward. Remember the simple rule: Behaviors followed by rewards are much more likely to be performed again. Save your attention for those behaviors that you want in the teaching situation. Let your child learn that if he wants your attention, he won't get it by running around the room or staring out of the window. As much as possible remain seated and ignore this behavior, waiting for him to turn his attention back to you. He should only get your attention by doing what is asked. If you must go to get him back, do not scold or criticize. Give your attention only after the next success.
WHEN TO REINFORCE

There are three rules about when-to-reinforce which are important for parents:

1. In teaching new tasks, reinforce immediately rather than permitting a delay between the response and reinforcement.
2. In the early stages of learning a task, reinforce every correct response. As the behavior becomes stronger, require more and more correct responses before reinforcing (gradually shift to unpredictable* intermittent* reinforcement).
3. Reinforce improvement* or steps in the right direction. Do not insist on perfect performance on the first try.

Remember that success is a reward

If a given step in the task proves, with repeated efforts, to be too difficult, you should break the skill down still further, moving back to a slightly easier step. Each teaching session should begin with a step already mastered, and then move on to new learning. Likewise, each teaching session should end with success. So, if he is getting restless, or you feel it is time to quit for the day, be sure to give him one last, easy task so that he will end with success.

Phase out rewards

As your child masters a skill, you will find that you can phase out the extra rewards—the food and the activities. Praise alone will most likely support his performance and you can save the extra rewards for helping him with the steps of your next program. Phase out rewards gradually by increasing the amount which you ask of him before giving one of the “extra” rewards. Eventually, the new skill will be a regular part of his behavior, and should be maintained by your praise and his increased mastery over his world. Remember, though, that your praise is never an “extra”: it should go with him whenever he is trying to learn or perform any skill.
Each child is unique and your child will no doubt have his own way of meeting a new teaching situation. However, we are certain about one thing: Your child will have some strategy for avoiding that teaching situation.

Perhaps he will cooperate until the first hint of failure, or perhaps you won't even be that lucky. Many children will show no interest in the task, will drop the materials, look everywhere but at you, or simply wander off. Others will fly into a rage at the first demand, with enough crying, biting, hitting, and screaming to make teaching seem hardly worthwhile. Some will be less obvious and will find cute things to do to distract you from teaching.

What you are seeing, partly, is a strategy for making a learning demand go away. In the past, every time these behaviors succeeded in making someone give up trying to teach they were strengthened a little bit.

We have seen that a desirable behavior, when followed by a reward, is more likely to happen again. Well, an undesirable behavior (like screaming or kicking in the teaching situation), when followed by a reward (getting out of the teaching situation), is more likely to happen again as well.

Our emphasis is to minimize behavior problems by using a teaching strategy which makes learning easy and fun. We have already talked about a number of ways to make success more likely for your child. Yet, despite your best efforts, problem behaviors will still happen.

We will mention just one specific guideline for now. If there are problem behaviors, ask yourself, "Is the step too difficult, or is she just trying to get out of it?" With practice you should be able to know when you have gone too fast and when you should expect a success.
Perhaps the most frequent problem behavior which will interfere with your teaching is not paying attention. Your child can be clever at finding other places for his attention: leaving the room, grabbing the rewards, changing the subject. We have talked about the usefulness of rewards for interesting a child in the task; the above teaching suggestions are also attention-getters. Your child is drawn into the learning situation by a predictable routine, easy demands and clear instructions; providing materials he can master and eliminating competing distractions help still further.

Re-read the above suggestions and think about how each will specifically apply to teaching your child and to making him more likely to pay attention. Then answer the questions below to further develop your program.

Consider the self-help skill you have chosen to teach your child.

When will you teach it?

________________________________________________________________________

________________________________________________________________________

Where will you teach?

________________________________________________________________________

________________________________________________________________________

How will you reduce distractions?

________________________________________________________________________

________________________________________________________________________

What materials will you use (can these be made more manageable)?

________________________________________________________________________

________________________________________________________________________

Please write out your answers to these questions. In our experience, parents who actually stop and write down their answers find the manual much more useful.
“Tell me something a hundred times and I may still not fully understand what you want me to do. Show me what you mean—demonstrate clearly and slowly—just once or twice and I'll be closer to that goal. But do it with me, put your hand on mine and guide me through it, and I'll make it!”

Think about it. When you teach an infant, you do not launch into complicated instructions; you quite naturally demonstrate for him or guide him.

Most of us would readily admit that we, too, would rather be shown than instructed. We recognize how confusing words—especially directions—can sometimes be.

And for this reason, as we attempt to teach you behavior modification with words and a few illustrations, we'd like to be there with you to “show you what we mean” and perhaps “do it with you.” We would not have to guide or demonstrate for long. Soon we could just prompt you with words, and before long we could begin to fade out our assistance altogether.

A manual like this can only guide through words and pictures and thereby make your learning task more difficult than it ideally should be. You, however, can make your child’s task easier with your physical guidance.
Tell her

Tell Charlene or your child to "...grab the tennis ball and we'll have a quick game of catch before dinner..." and she might well run into the next room and play with the dog or hide under the table.

She, of course, cannot understand or follow directions like that.

Rather, she needs to be told simply and directly what you want her to do.

"Charlene, give me the ball."

"Charlene, touch your nose."

Even if she does not, at first, know what these simple directions mean, she will slowly come to understand them as you teach her the accompanying actions.

Show her

Show her exactly what you want her to do. Sometimes, if you want her to do something new, it helps if you do it first. You can demonstrate the movements for her, or involve another family member.

It helps to make movements slowly and in an exaggerated way. If you are asking her to "give me the ball," for example, first make sure she is watching. Then have another family member slowly pick up the ball, and place it carefully in the palm of your outstretched hand. You may need to show her several times to be sure she sees what you both are doing.

Guide her

In many cases, especially in the beginning, a child will need physical help to be able to pick up and give you the object you name.

After you have shown your child how to "give me the cup" or "give me the ball," take her hand in yours and guide her to pick up the object and complete the action.

As the child begins to learn what is expected, you can gradually use less physical guidance, until she can give you the ball or cup or whatever, completely on her own.
Tell her
Tell Charlene or your child to "... grab the tennis ball, and we'll have a quick game of catch before dinner..." and she might well run into the next room and play with the dog or hide under the table.

'She, of course, cannot understand or follow directions like that.

Rather, she needs to be told simply and directly what you want her to do.

"Charlene, give me the ball."

"Charlene, touch your nose."

Even if she does not, at first, know what these simple directions mean, she will slowly come to understand them as you teach her the accompanying actions.

Show her
Show her exactly what you want her to do. Sometimes, if you want her to do something new, it helps if you do it first. You demonstrate the movements for her, or involve another family member.

It helps to make movements slowly and in an exaggerated way. If you are asking her to "give me the ball," for example, first make sure she is watching. Then have another family member slowly pick up the ball, and place it carefully in the palm of your outstretched hand. You may need to show her several times to be sure she sees what you both are doing.

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As the child begins to learn what is expected, you can gradually use less physical guidance, until she can give you the ball or cup or whatever, completely on her own.
**Simplify**

We have described the use of incentives to interest your child in trying a task and to ensure that he will be more likely to perform well in the future. However, it is far easier to motivate a child to perform if the task itself is arranged so that it is *simple for him to succeed*. Our guiding principle will be: *Simplify.*

**Proceed by Small Steps**

Most of our skills appear to be performed as one smooth, continuous operation. However, if we could remember far enough back to when we first struggled to walk, or eat with a spoon, or hold a small object, we would immediately have a very different understanding of what these seemingly smooth, one-step operations look like to someone who hasn’t mastered them. Indeed, they can be seen as quite complex by the child about to learn them. They must be simplified if they are ever to be learned. *The most basic rule in behavior modification teaching is to proceed gradually to ensure success.*

**Shaping**

As we have seen, when setting out to teach, you will require at first that your child do only a little. You should then be ready *immediately* to praise him and give him whatever other reward you are using.

You will not, of course, wait for a perfect performance, but will reward a good try. By using rewards in this way you can gradually shape his rough approximations into smooth performance. This gradual approximation to the final goal is called *shaping*. When the child is not progressing or is becoming upset, one reason might be that you have taken too big of a step, that you are not shaping gradually enough. Back off to a previously mastered step and try again.

You will bring your child carefully along a series of steps. The process is slow and gradual. To expect dramatic changes is to set yourself up for disappointment. Yet by demanding of your child only small steps, by rewarding these steps appropriately and by gradually increasing the size of these steps over time, progress is made. Parents who stick with their programs prove it all the time.
Suppose you were in a race that had no rules—just a finish line and a starter to say “Go.” Suppose, furthermore, that you wanted to guarantee your success in winning that race. What would you do?

After considering a number of inventive possibilities, it is likely that you would decide to start the race right next to the finish line. Then, as soon as the starter said “Go,” you’d be finished—and successful. Why not? There were no rules, right?

Such is the case with a teaching strategy called backward chaining. It views the teaching of a real skill much like the running of the strange race just described, except that your child is the runner and the completion of the task is the finish line. The best way to guarantee success in this kind of race is to start right next to the finish line or, in other words, as near as possible to the completion of the task. Then, as soon as the race begins, your child has only a short distance to go before he reaches the finish line—and success.

Let’s take a quick look at how one skill, hand washing, might be taught according to the strategy of backward chaining. Hand washing can be broken down like any skill into many small, manageable steps. But, for the purposes of illustration, let’s just break it down into these four:

1. Turning on the water
2. Lathering hands
3. Rinsing hands
4. Turning off the water

Now, what is the finish line in the hand washing race? Step 4—turning off the water because this would represent the completion of the task. So, in order to start your child as close to the finish as possible, what must you do? You must do Steps 1, 2 and 3 for him first, turning on the water, lathering and rinsing his hands for him. You might even have to help him grasp the faucet, too, so that as soon as you say “Go” he could turn the water off and complete the task by himself quickly and easily. The race would be won.

In reality, however, the race cannot remain such a simple one forever; we will want to make the strategy of backward chaining useful for teaching more than just the ends of skills. You’ve begun by doing practically all of the skill for him, requiring him to do only a little to complete the task. You will continue to teach by doing just a little less for him each time; you’ll move the starting line a little farther from the finish line until you eventually get to the beginning.

To return to our 4-step hand washing program, this would require that once the child masters turning off the water, you would begin by having him do some of the rinsing unassisted (Step 3); eventually, he’d move back to lathering his hands with your help (Step 2) and then to turning on the water (Step 1). Each time he struggles through a new step he then moves into a chain of steps he has already mastered, and it’s smooth going to the end.

By following the strategy of backward chaining, your child will win the race every time!
QUESTIONS

My other children do not need food rewards to learn. Why should he?

This is a pretty common reaction to the use of food rewards for teaching. The answer is simple: his past learning experiences have been very different from those of other children. Therefore, it isn’t fair to insist that he should want to learn and thus push him, or conclude that he cannot learn and thus do it all for him. In the same way that a physically handicapped child might need to use a crutch to get around (and no one would argue that he should do otherwise), so the retarded child needs some “learning crutches” to help him get around in our teaching situations.

The food rewards really help to motivate her to follow simple directions, but will they always be necessary?

Probably not for these directions. In the beginning, when the task is new and she is uncertain, extra rewards like food are very important. As she masters an exercise she will likely come to perform it for your praise alone or even the self-satisfaction which comes from doing something well. Over time, these simple directions will become part of more complex tasks and will be followed quite routinely. But expect that phasing out food rewards for any given exercise will be a slow and gradual process. Although the snack becomes no longer needed to motivate these directions, it will still be useful when you begin to teach a new exercise, like discriminating among several directions.

Isn’t what you call rewarding just bribery?

No, because bribery means rewarding unethical behavior. In teaching your child, we are concerned with rewarding only good behavior. In fact, all of us work for rewards, whether they be money, praise, respect, or a feeling of job well done. We will gladly accept rewards for our own “good” behavior, and these rewards make our behavior more predictable and more enjoyable. But if we were to accept rewards for unethical behavior—well, that’s bribery!

Consider this: your special-needs child probably hasn’t received the natural rewards other children get for speaking, playing, etc. Adding special rewards will help your child build these skills, so that he’ll eventually receive more “natural” rewards—especially the nicest reward of all, the personal feeling of doing something well.
What if my child refuses to come with me to the teaching session?

If he is usually cooperative, and this happens, don't make an issue of it; you can try the teaching session at a time when he is more willing. If refusing is something that he usually does, then first carefully review the teaching program to make sure:

1. You are asking of him something you are sure he can do.
2. You are rewarding him often enough.
3. You are using a reward that you know is special to him.

If the teaching program seems correct, then gently but firmly insist that he participate. Ignore his tears and attempts to leave while guiding him through the steps. Keep the sessions very short (a minute or two) and reward him frequently.

My child often starts screaming and crying in the middle of the teaching session. What should I do?

There is no single way to handle a behavior problem. With this behavior, your child is telling you something and your best response depends on why he is acting out. Consider the following possibilities:

1. He might be tired. The session may have gone too long and you will need to quickly find an exercise he can easily do. Wait until he has quieted down a bit, have him do the easy exercise, reward him, and end the session.
2. He might be frustrated. The exercise may be too hard for him and, like most retarded children, he might be very ready to quit when he thinks he will fail. In this case, you will again wait until he has quieted down a bit, present him with a somewhat easier step, and proceed with teaching.
3. He might be angry. He might have wanted to do it one way and you demanded another way. His reaction might be a direct expression of anger because the task had not gone his way. You would need, then, to wait until he has quieted down a bit, and then proceed with teaching.
4. He might often respond to demand situations with screaming and crying so the demands will "go away." If tantrum behavior is a very common response of his, you would try to ignore the tantrum, giving it no attention. At the same time, insist that he stay in the teaching session, and continue as soon as possible with your teaching demands.
Can I teach more than one program?

Yes, but at first you should select just one program and get started on that one before you begin a second program. If several family members are helping to teach, this will make it easier to carry out more than one program. As everyone becomes used to the behavior modification approach, you will be able to use it throughout the day to teach many skills. But start slowly. The danger in starting too much at once is that you might at some point feel it is too much work and abandon it all. Start with one program which is very easily managed within your current daily schedule.

Does a teaching program have to be carried out every day to be successful?

Consistency is more important in teaching self-help skills than in any other skill area. A child learning to dress or eat is confused if some days you patiently help him to learn while other days you do it for him because you are in a hurry. Of course, there will be occasional days when other family activities take priority, or when your child is sick, or when you, yourself, for whatever reasons, do not feel quite up to teaching. Occasional lapses in a program will not mean disaster. But a general inconsistency in teaching may make your teaching efforts in the self-help area relatively worthless.

Does the same person always have to work on a program with the child, or can different family members switch off?

If other family members are willing and have the time to spend with you in order to understand what you’re doing, then they certainly could teach too. They should read the manual and you should discuss the program together. Also, you should all observe each other teaching, so that you are doing it in the same way. Teaching is much more successful in families where the whole family is familiar with the program and involved in teaching.

What should I do when everything seems to be going wrong?

This is typical of a variety of questions which behavior modifiers cannot answer. Why? Because it is phrased generally and supplies little information. What, for example, does “everything” mean? And how many different behaviors could be meant by “going wrong”? Remember always that behavior modifiers deal with observable and specific behaviors and, if you are to be successful in modifying behavior, you too must observe carefully and be specific.
USE OF TIME-OUT

1. Clear concise commands: When you want your child to do something, use a simple direct command. This way you can be sure that your child understands exactly what you expect. Give only one command at a time. Give only commands that you are willing to take the time to enforce. If you are going to provide a rationale, give it before the command.

2. No questions: Do not use a question when you want your child to do something (e.g., "Would you clean up your room now?"). When you ask your child a question, you give him or her a choice and you must be willing to accept no as an answer.

3. Praise compliance: After you give a command, stop and wait for your child's response. If he or she does what you want, immediately praise him or her. Compliance is desirable behavior. You can increase this behavior by using your attention contingent on its occurrence.

4. Warning: If your child does not comply with your command after a reasonable amount of time (probably about 5 seconds), give him or her a warning. Do not repeat your command. This will help stop you from becoming angry as you repeatedly ask your child to do something.

   Warnings are "if ... then" statements (e.g., "If you don't pick up that block, you will have to sit in the chair."). Warnings should be given in a stern, firm voice so that your child knows that you are serious.

5. Praise compliance: Again, if your child complies following a warning, immediately praise or attend to him or her.

6. Time-out (TO):

a) If your child does not start to comply to a warning within 5 seconds, you must use TO. The form of TO that is usually best is putting your child in a chair facing a corner. Take your child firmly by the hand and place him or her on the chair. Say, "Since you didn't ... , you have to sit in the chair until I say you can get up."

   Use gestures and motions that show your displeasure. Do not discuss or reason with your child while taking him or her to TO or while he or she is in TO. Completely ignore his or her temper tantrums, shouting, protesting, or promises to behave.

b) The first time your child gets off the chair without your permission, immediately and firmly place him or her back on the chair and say, "You got off the chair, so that will be an extra minute in TO."

c) If your child continues to engage in inappropriate behavior, continue to add time to his or her TO. The maximum amount of time should not surpass 30 minutes. If your child continues to misbehave in TO past this point, loss of privileges can begin.
d) The child should be in T0 for about 3 minutes. The most important rule is that release from T0 must be contingent upon sitting quietly in the chair for 15 seconds. Otherwise, the child might learn that misbehavior (crying, screaming) will effectively terminate T0.

e) After your child has been quiet for an appropriate length of time, go to him or her and remove the child from T0.

f) Return to the activity that resulted in T0 and repeat the command with which he or she originally refused to comply. Then follow the rules listed above.

7. To summarize, the sequence is as follows:

Remember, never give your child a command unless you are prepared to follow the above procedure. If you really don't think it's important, don't make it a command.
SUMMARY

1- SETTING

- choose a regular time and place
- limit distractions
- use interesting materials that your child can manage

2- PLAN SESSIONS

- have everything ready (materials, reinforcers, data sheets)
- plan for the unexpected (plenty of kleenex, warn others not to interrupt)

3- CUES (INSTRUCTIONS)

- make sure that your child is attending (call child's name)
- get eye contact
- use instructions that are clear and discriminable
  - your cue must stand apart from other verbalizations
  - it must have a distinct onset and offset
- avoid using questions
- use cues that are appropriate to the task
- your cues should specify the target behaviour
- your cues should be consistent across trials
- your cues should be uninterrupted

4- TRIALS

- your trials should have a distinct beginning and end
- your timing of trials and the delay between trials should be consistent (consistent intertrial interval)

5- CONSEQUENCES

- consequences must be effective (make sure your rewards are rewarding)
- vary reinforcers
- always pair a social reward (praise) with any other type of reward (i.e. edible)
- be enthusiastic when you praise
- your consequences should come immediately after your child's response
- your consequences should be unambiguous
  - don't say no with a smile
- your consequences should be consistent and contingent
  - reward every correct response during
  - the initial acquisition of skills
  - reward now and then (intermittently)
    - to maintain new behaviour once it is
      established
  - finish every session with a success
    - you want your child's memory of the
      learning session to be a pleasant one

- do not reinforce inappropriate behaviour
  - ignore minor off task behaviour

6- PROMPTS
- use prompts only when needed
- your prompts should be effective
  - prompts should be sufficient to help
    your child produce an appropriate
    response

7- SHAPING
- each reinforced response should be at least as good
  as the previous one
- if a task is too difficult, break it down into
  smaller and simpler steps
- every shaped response should be rewarded with praise

8- RECORDING DATA
- after each trial, record the results of the trial on
  your data sheet
- graph your child's progress at the end of each
  session
APPENDIX H

Child Goal Sheet
APPENDIX I

Child Behaviour Record Sheet
BEHAVIOUR RECORD

Parent's Name: ____________________

Child's Name: ____________________  Task: ________

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APPENDIX J

Child Behaviour Graph
APPENDIX J

Child Behaviour Graph
APPENDIX K

Detailed Outline of Basic Parent Training Program
Basic Training Outline

Session 1

I. Introduction
A. introduce self and secondary therapist (if appropriate)

II. Observation of Parent/Child Teaching Interaction
A. observe parent working with child on all tasks chosen for the program (approximately 3 minutes per task)

III. Setting Instructions to Child
A. therapist gives child setting instruction (Forehand and McMahon, 1981, p. 60)
B. therapist prompts parent to reinforce child throughout session
C. therapist and parent ignore as required

IV. Goals of Program
A. teach parents behavioural techniques that are effective in managing child behaviour and teaching new skills
B. make parents experts; there is nothing we as therapists can do that they can't do

V. Overview of Program
A. treatment program is active:
   1- parent is primary agent in changing child behaviour
   2- parent learns a number of skills for teaching his/her own child
B. cautionary notes
   1- program not a cure all
   2- importance of doing homework
   3- explain number of sessions planned

VI. Description of Teaching Style
A. observation of parent and child in teaching situation at beginning of each session (3 or 6 tasks observed)
B. discussion of homework from previous session
C. explain new skill (instruction)
D. demonstrate new skill (modelling)
E. roleplay with parent (therapist plays child)
F. parent practices teaching target task to child in clinic (immediate therapist feedback and prompts)
G. parent practices teaching target task to child in clinic (delayed therapist feedback)
H. homework
   - practice teaching at home (all tasks)
- written materials
- record keeping

VII. Overview of Social Learning Theory and Behaviour Modification Approach to Teaching
A. define: behaviour is learned
B. assumptions underlying procedures
   1. behaviour is learned; child may have a handicap but he/she learns how to cope, for better or worse
   2. everyone is a teacher, simply a question of how systematic you are

VIII. Record Keeping
A. importance of record keeping
   1. evaluating progress (or lack thereof)
   2. modify programs when necessary
B. method
   1. introduce Child Behaviour Record
      - demonstrate how to record child responses
   2. introduce Child Behaviour Graph
      - demonstrate how to graph child behaviour
      - explain how to interpret graphs

IX. Defining Child Behaviours (Goal Setting)
A. importance of operationally defining child behaviours
   1. consistency (different people can teach same thing)
B. elements of a good definition
   1. materials used for task
   2. parent cue
   3. position and movement of materials
   4. appropriate child response
C. demonstrate writing a good definition (target task)
   1. use Child Goal Sheet
   2. use input from parent

X. Answer Questions

XI. Homework
A. practice writing goals for all other tasks
B. reading material (Record Keeping; Setting the Stage; Instructions)

* 1st basic training session begins in same session as final baseline observation
Session 2

I. Observation of Parent/Child Teaching Interaction
   A. observe parent working with child on the three
tasks in the training set (approximately
   3 minutes per task)
   B. therapist instructs parent to record data

II. Setting Instructions to Child
   A. therapist prompts parent to issue setting
      instruction to child
   B. parent is reminded to reinforce child
      throughout session
   C. parent is reminded to ignore as required

III. Discuss Homework
   A. give feedback on work done
   B. reinforce parent for completion of assigned work
   C. answer questions pertaining to homework

IV. Brief Review of Goal Setting and Record Keeping
   A. review parent recorded data from I
   B. assist parent in graphing data (target task)

V. Setting Up the Teaching Session
   A. instruct parent on important aspects of setting
      up teaching sessions
      1- place
         - eliminate distractions
      2- time
         - not too long
         - pick time when parent and child are not
too tired
      3- consistency
         - consistency of time and place
      4- materials
         - should be interesting to child
         - should be easy to manipulate
      5- planning
         - have everything ready before you start
            (teaching materials, rewards)
         - prepare for the unexpected (kleenex, warm
            other members of the family not to interrupt)

VI. Instructions
   A. explain how to issue teaching cues so that they
      maximize the likelihood of appropriate child
      responses
      1- face to face
      2- make sure child is settled and on task
      3- call name
      4- get eye contact
5- give teaching cue
   - should be discriminable from other verbalizations
   - should be appropriate to the task
   - should be consistent across trials
   - should be uninterrupted
6- wait for response
7- be consistent
   - timing
   - wording
8- discrete trials
   - discrete beginning and end
   - consistent intertrial interval

VII. Demonstrate Set Up and Instructions (Target Task)

VIII. Roleplay Set Up and Instructions (Target Task)

IX. Parent Practices with Child (Therapist Feedback and Prompts) (Target Task)

X. Answer Questions

XI. Homework
   A. practice home teaching (all tasks)
   B. record keeping
   C. reading material (Rewards, Behaviour Problems)

Session 3

I. Observation of Parent/Child Teaching Interaction
   A. observe parent working with child on the three tasks in the training set (approximately 3 minutes per task)
   B. therapist prompts parent to record data

II. Setting Instructions to Child
   A. if parent does not issue setting instruction at appropriate time, therapist prompts

III. Parent Graphs Data

IV. Discuss Homework

V. Brief Review of Setting Up and Instructions
   A. therapist gives parent feedback on parent/child teaching interaction observed in I (target task)

VI. Rewards
   A. define: a reward is anything we enjoy or look forward to
B. principle: behaviours followed by a reward are more likely to happen again

C. types of reward
   1- praise and attention (social)
      - verbal
      - physical
   2- favorite snacks (edibles)
   3- favorite games and toys (activity)

D. guidelines for rewards
   1- make sure rewards are rewarding
   2- vary reinforcers
   3- always use a verbal social with any other type of reward

E. when and how to reward
   1- immediately
   2- contingently
      - reward the appropriate behaviour
   3- consistently
   4- enthusiastically
   5- unambiguously
      - saying "No" with a smile or "Good Boy" in an angry tone of voice is ambiguous
   6- phase out rewards
   7- finish every trial with a success

VII. Demonstrate Rewards (Target Task)

VIII. Roleplay Rewards (Target Task)

IX. Parent Practices with Child (Therapist Feedback and Prompts) (Target Task)

X. Behaviour Problems
   A. explain how and why behaviour problems develop in a teaching situation
      1- look at task
         - are cues appropriate
         - are materials interesting
         - is task too difficult
      2- look at rewards
         - right amount
         - right type (are they rewarding)
      3- make task predictable

B. explain ignoring procedure in context of teaching

XI. Roleplay Behaviour Problems (Therapist Plays Part of Child, Gives Feedback and Prompts) (Target Task)

XII. Answer Questions

XIII. Homework
   A. practice home teaching (all six tasks)
   B. recording and graphing
   C. reading material (Shaping, Prompting, Chaining)
Session 4

I. Observation of Parent/Child Teaching Interaction
   A. observe parent working with child on the three tasks in the training set (approximately 3 minutes per task)
   B. therapist prompts parent to record data

II. Setting Instructions to Child
   A. if parent does not issue setting instruction at appropriate time, therapist prompts

III. Parent Graphs Data

IV. Discuss Homework

V. Brief Review of Rewards and Behaviour Problems
   A. therapist gives parent feedback on parent/child teaching interaction observed in I. (target task)

VI. Prompts
   A. define: any event (cues, instructions, gestures, directions, examples, models) that help initiate a response
   B. goal: every trial should end in a success
      - using prompts enables child to learn appropriate response by experiencing aided success
   C. sequence
      1- choose appropriate initial cue
      2- wait for response
      3- prompt child for incorrect response or for the lack of a response within a reasonable delay
   D. levels of prompts:
      1- verbal prompts (tell them)
         - initial cue not considered a prompt
         - additional, more explicit cues are considered prompts
      2- visual prompts (show them)
         - pointing
         - modelling
      3- physical prompts (guide them)
         - hand over hand
         - gradually use less guidance
   E. guidelines for prompting
      1- prompts should follow all aspects of good teaching cues
      2- prompts should be effective and sufficient
         - parent should use least intrusive prompts first (move from least assistance to most assistance)
      3- prompted responses should be rewarded
VII. Shaping
A. Define: shaping involves the correct reinforcement of successive approximations
B. Goal: have child experience success for each step
C. When to shape
  1- look for lack of progress on behaviour graphs (is task too difficult the way it is?)
D. How to shape
  1- simplify
  2- find sequence of small steps
  3- shape steps (reinforce approximations)
  Note: each reinforced response should be at least as good as the last one

VIII. Backward Chaining
A. Define: involves developing a sequence of behaviours in a backward order,
    - the final response is developed first, the next to last response second, etc.
    - give example of washing hands
B. Goal: guarantee success by starting at the end
C. How to backward chain
  1- find all steps in a complex sequence of behaviours
  2- start as near to the completion of the task as possible
  3- reward each step (end to start)
  4- develop each step to criterion before adding steps
D. Importance of combining chaining, shaping, prompting, rewards, and appropriate cues

IX. Demonstrate Prompts, Shaping, and Backward Chaining (Target Task Plus One Additional Situation)

X. Roleplay Prompts, Shaping, and Backward Chaining (Target Task Plus One Additional Situation)

XI. Parent Practices with Child (Immediate Therapist Feedback and Prompts) (Target Task)

XII. Answer Questions

XIII. Homework
A. Practice home teaching (all six tasks)
B. Recording and graphing
Session 5

I. Observation of Parent/Child Teaching Interaction
   A. observe parent working with child on the three tasks in the training set (approximately 3 minutes per task)
   B. therapist prompts parent to record data

II. Setting Instructions to Child
   A. if parent does not issue setting instruction at appropriate time, therapist prompts

III. Parent Graphs Data

IV. Discuss Homework

V. Brief Review of Prompting, Shaping, and Backward Chaining
   A. therapist gives parent feedback on parent/child teaching interaction observed in I (target task)

VI. Review of Basic Training
   A. therapist gives parent summary sheet
   B. go through summary sheet with parent, item by item
   C. encourage parents to use skills in all relevant situations
   D. answer questions pertaining to the summary sheet

VII. Time-Out
   A. in some cases (depending on age of child and parent interest) time-out procedure is presented (see handout)

VIII. Answer Questions

IX. Homework
   A. practice home teaching (all tasks)
   B. recording and graphing
APPENDIX L

Parent Goal Sheet
PARENT GOAL SHEET

Parent's Name: __________________________
Child's Name: __________________________
Date: ________________________________

Short-term goals:
1- sessions per week: __________________________

2- tasks:

3- parent skills:

Long-term goals:

Revision date: __________________________

New child skills:

_______________________________
APPENDIX M

Parent Behaviour Record Sheet
**PARENT BEHAVIOUR RECORD SHEET**

**Parent's Name:**

**Child's Name:**

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<th>TASK</th>
<th>SETUP</th>
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APPENDIX N

Parent Behaviour Video Record Sheet
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APPENDIX O

Detailed Outline of Self-Management Training Program
Self-Management Training Outline

Session 1

I. Observation of Parent/Child Teaching Interaction
   A. observe parent working with child on the three tasks in the training set (approximately 3 minutes per task)
   B. parent instructed to record data

II. Setting Instructions to Child
   A. if parent does not issue setting instruction at appropriate time, therapist prompts

III. Parent Graphs Data

IV. Introduction to Self-Management Training
   A. instruct parents to continue to apply procedures introduced in previous phases for all tasks
      1- setting goals
         - parents should have goals for all six tasks
      2- practice teaching at home
      3- keeping data (recording and graphing)
   B. explain concepts of generalization and maintenance
      1- setting generalization
      2- behavioural generalization
      3- sibling generalization
      4- maintenance over time
   C. explain concepts of self-management training
      1- rationale: children's behaviour is influenced by what goes on in the home (e.g., family's reactions)
         - parents' behaviour (ability to follow a program consistently) is also influenced by the environment
      2- show how parent's behaviour has been regulated so far in the training sessions by the therapist
      3- explain how this form of support and feedback will probably not be available in the home environment
      4- goal: the goal of self-management training is to transfer control of parent behaviour to parents themselves
   D. describe self-management skills to be trained
      1- goal selection for parent behaviour
      2- self-cueing
         - general
         - specific
      3- self-instructions
      4- self-monitoring and self-recording
      5- self-assessment
V. Answer Questions

VI. Homework
   A. practice home teaching (all tasks)
   B. recording and graphing
   C. parent asked to bring in summary sheet for next session

Session 2

I. Observation of Parent/Child Interaction
   A. observe parent working with child on the three tasks in the training set (approximately 3 minutes per task)
   B. parent instructed to record data

II. Setting Instructions to Child
   A. if parent does not issue setting instruction at appropriate time, therapist prompts

III. Parent Graphs Data

IV. Parental Goal Selection
   A. relate parental goal selection to goal selection for child
   B. introduce Parent Goal Sheet
      1- short term goals
         - tasks
         - sessions per week
         - skills parent should use
      2- long term goals
         - when to revise program
         - when to add new tasks
         - what tasks to add
      3- work out goals with parent

V. Self-Cueing and Self-Instruction
   A. relate self-cueing for parents to cues for children
      1- cues for short term goals
         - reminder on fridge (Happy Face)
         - self-instructions prior to every teaching session (Summary Sheet)
      2- cues for long term goals
         - revision date (date should be written down in appointment book or home calendar

VI. Parent Practices Self-Instructions in Brief Teaching Session With Child (Target Task)

VII. Answer Questions
VIII. Homework
A. practice home teaching (all six tasks)
   - parent told to implement self-instructions
     before every teaching session
B. recording and graphing
C. parent instructed to put visual cue (Happy Face)
   in a highly visible location at home
   (i.e. in the kitchen, on the fridge)

Session 3

I. Parent Self-Instructs
A. if parent does not self-instruct using the
   summary sheet, therapist prompts

II. Observation of Parent/Child Interaction
A. observe parent working with child on the three
   tasks in the training set (approximately 3
   minutes per task)
B. parent instructed to record data

III. Setting Instructions to Child
A. if parent does not issue setting instruction
   at appropriate time, therapist prompts

IV. Parent Graphs Data

V. Brief Review of Parental Goal Selection,
   Self-Cueing, and Self-Instructions
A. therapist gives parent feedback on parent/child
   teaching interaction observed in II (target task)

VI. Self-Assessment Procedures
A. define: self-monitoring involves parents
   observing their own behaviour.
   - self-recording involves actually
     writing down the results of the self-
     monitoring process
   - self-evaluation involves parents comparing
     their own teaching behaviour against some
     specified performance standard
B. goal: self-assessment provides parents with data
   regarding their own behaviour that they can
   use to assess the effects of behaviour change
   strategies
C. describe standard of performance
   i. standard is information on summary sheet

VII. Videotape Self-Observation, Self-Recording, and
     Self-Evaluation
A. present Parent Behaviour Video Record Sheet
   i. review videotape of parent teaching session
      from II (target task)
2. code 5 trials from target task (demonstrate)
3. have parent code 5 additional trials while providing immediate feedback
4. have parent code 5 additional trials while providing delayed feedback
5. show parent videotape records of previous sessions (target task) and have parent code these sessions

VIII. Live Self-Observation, Self-Recording, and Self-Evaluation
A. present the Parent Behaviour Record Sheet
   1. explain how it is used
   2. have parent evaluate their own performance from initial teaching session (see II)
   3. provide feedback on self-evaluation - relate to data obtained from videotape self assessment

IX. Homework
A. practice home teaching (all tasks)
B. practice using the Parent Behaviour Record Sheet to self-assess teaching in the home
C. recording and graphing

Session 4

I. Parent Self-Instructs
A. if parent does not self-instruct using the summary sheet, therapist prompts

II. Observation of Parent/Child Interaction
A. observe parent working with child on the three tasks in the training set (approximately 3 minutes per task)
B. parent instructed to record data

III. Setting Instructions to Child
A. if parent does not issue setting instruction at appropriate time, therapist prompts

IV. Parent Self-Assesses Own Behaviour
A. parent completes Parent Behaviour Record Sheet for all three tasks observed in II

V. Parent Graphs Data

VI. Brief Review of Self-Assessment Procedures
A. therapist provides parent with feedback regarding home self-assessment exercise
B. review of recording conventions for
   1- Parent Behaviour Video Record Sheet
   2- Parent Behaviour Record Sheet
VII. Videotape Self-Assessment
   A. parent practices self-assessing own teaching behaviour by reviewing videotape from II and from previous sessions
   B. therapist provides delayed feedback in each circumstance
   C. comparison is made between parent's self-assessment immediately following the practice teaching session (see II) and his/her assessment of that same session on videotape

VIII. Final Instructions
   A. review importance of generalization
      1. important for parent to continue to use skills, to continue to work with child, to continue to use self-management procedures
      2. does not have to use self-management procedures as often as during training - should conduct self-imposed booster evaluations
      3. remind parent that all skills can and should be used with any new tasks.
   B. parent can stop teaching any tasks that they feel is no longer worthwhile
      1. parent should check occasionally to see if child has maintained their ability to respond appropriately on abandoned tasks
   C. give parent follow-up package (extra data sheets, goal sheets, etc.)
   D. remind parent of revision date
   E. set up 1-month follow-up visit
   F. thank parent for participation
   G. remind parent that therapist is available for further consultation upon request
APPENDIX P

Behavioural Coding System:
Parent Behaviour
BEHAVIOURAL CODING SYSTEM: PARENT BEHAVIOUR

This coding system assesses parents' implementation of behaviour modification techniques. Parent behaviour is coded from videotape records of parent/child teaching sessions.

Intervals:

Each teaching session lasts an average of 3 minutes. For the purposes of coding, each session is divided into 20-sec. observational intervals. Interval cues are dubbed onto one of the two audio tracks available on each videotape. Each interval begins with a verbal dubbed cue and ends with the next numbered dubbed cue.

e.g. "start..., one..., two..., three..., four..., five."

This series of cues represents five observational intervals. The first interval begins with the cue "start" and ends with the cue "one" while the fifth interval begins with the cue "four" and ends with the cue "five".
Previous intervals and subsequent intervals begin at the first dubbed sound. Any behaviour observed simultaneously with a dubbed cue is considered as occurring in the subsequent interval.

e.g. PARENT: "Johnny, point to the red."
    CHILD: Points to the red.
    PARENT: (At the same time as dubbed cue six) "Good boy!"

The parental reward "Good boy!" is coded in the second interval.

The last interval in a given session may be from 14 to 34 seconds in duration.
Coding Scheme:

For each interval, observers score each of seven behavioural categories as being "correct", "incorrect", or "not applicable".

Correct: (+)

Code as correct if parent fulfills all aspects of the behaviour category definition for the entire the interval.

Incorrect: (-)

Code as incorrect if parent does not fulfill one or more aspects of the behaviour category definition during the interval. If in a single interval the parent both (1) meets all requirements of a behaviour category definition and (2) at a different time violates one or more category requirement, it is coded as incorrect.

Not Applicable:

Code as not applicable when a category in question is not observed during a given interval.
Behaviour Categories:

Setup:

No distractions are visible to the child and observable by the coder within the field of vision as defined by the videotape playback screen.

exceptions: items normally present in the teaching situation (i.e., box of kleenex, plant, teaching materials for the task at hand, etc.) do not have to be removed.

For each interval, set-up is coded as either "+" or "-". There is no "n/a" classification for this category.

Any interval where the parent leaves the teaching area to obtain additional materials is coded as a "-".

e.g. The cupboard is closed with no toys visible.
    This is coded as "+".

e.g. There is a toy directly behind the parent, out of the child's line of vision.
    This is coded as "+".

e.g. The cupboard is closed but a set of stacking blocks are left out on top of the cupboard.
    This is coded as "-".
Teaching Cue:

A teaching cue is defined as any verbalization and/or presentation of a cue or stimulus by the parent directed to the child which indicates to the observer that a task related response is required (task as defined in parental goal sheet).

To be coded as '+' for any given interval, teaching cues must meet the following criteria:

(1) There should be one teaching cue per trial.
   A trial begins with a verbal teaching cue and/or the presentation of stimulus material by the parent.
   A trial can end in one of the following ways:
   a) a correct response by the child followed by the presentation of another cue or stimulus by the parent.
   b) a correct response by the child followed by reinforcement from the parent.
   c) an incorrect response by the child followed by the presentation of another cue or stimulus by the parent without prompting or correction.
   d) an incorrect response by the child followed by a parental prompt and the presentation of a
different cue or stimulus by the parent.

e) an incorrect response by the child followed by a parental prompt, reinforcement and the presentation of a different cue or stimulus by the parent.

More than one teaching cue is permitted in any given trial if additional cues following the initial teaching cue constitute part of a parental prompt (see Prompts) or part of a parental shaping sequence (see Shaping).

(2) Cues must be clear and discriminable

a) must stand apart from other, irrelevant verbal instructions to the child.

  e.g. PARENT: "Mary, put square with square."
  This is coded as "+'.

  e.g. PARENT: "Yes that was a kite, now put block on block."
  This is coded as "-'.

b) must be in a clear tone of voice discriminable from other verbalizations. (i.e., at least two seconds of silence before and after utterance of the cue).
e.g. PARENT: "The blue one (with every word clearly articulated)."

This is coded as "+".

e.g. PARENT: "The orange one (said quickly with the words slurred together)."

This is coded as "-".

e.g. PARENT: "Good work! Put blue on blue."

This is coded as "-".

e.g. PARENT: "Good work Brian!" (three second pause) "Put blue on blue."

This is coded as "+".

(3) Each cue must be consistent in form with that given in the previous trial.

   e.g. 1st trial PARENT: "Jimmy do" (parent raises two hands overhead).

   2nd trial PARENT: "Jimmy put your hands like this" (parent put both hands on table).

This is coded as "-".

   e.g. 1st trial PARENT: "Jimmy do (parent raises two hands overhead)."

   2nd trial PARENT: "Jimmy do (parent puts both hands on table)."
This is coded as "+".

(4) The parent must have the child's attention when initiating a teaching cue.
   
a) child must not be engaged in any form of off-task behaviour when parent initiates the cue (off-task behaviour as defined in Ignoring).

b) child's head and body must be oriented towards the parent or the teaching materials when parent initiates the cue.

(5) Cues must be appropriate to the target task.

   e.g. PARENT: "Johnny, put the five on the five (parent holds up the number six)."

   This is coded as "-".

(6) Each teaching cue should specify the target behaviour clearly. The parent can omit the verbal portion of the teaching cue if, in a given task, the child consistently anticipates the verbal cue by responding appropriately to the presentation of the stimulus material.

(7) All cues must be uninterrupted. The parent must not interrupt his/her teaching cue for any reason. If the child interrupts the cue with competing behaviour or looks away, the parent must finish
Presenting the teaching cue, wait for a response from the child, and prompt if necessary.

E.g. PARENT: "Paul, put the... No! Look at me. Put the block in the box."

This is coded as "-".

(8) Question cues must not be used unless the target task requires the child to respond to verbal questions.

E.g. PARENT: "Can you put tree on tree?"

This is coded as "-".

E.g. PARENT: "What colour is this (parent holds up a red card)." Where the task requires child to verbally identify colours.

This is coded as "+".

Note: verbalizations are identified as questions:

a) by sentence structure

E.g. PARENT: "Do you want to put red on red?"

b) by intonation

E.g. PARENT: "Put red on red, OK?"
Other Commands:

An "other command" is defined as any verbalization and/or presentation of a cue or stimulus by the parent directed to the child which indicates to the observer that a physical response is required to any non-target behaviour. This can include commands directed towards a child's off-task behaviour and/or commands related to the teaching task but that do not require a targeted response.

To be coded as "+" for any given interval, "other commands" should follow all proper guidelines as defined in "Teaching Cues".

e.g. Child gets up and heads for the door during a teaching trial.

PARENT: "Johnny, sit down".

This is coded as "+".

e.g. PARENT: "Why don't you sit down?"

This is coded as "-".

The parent can issue an "other command" without the child's full attention if the command is directed to the child's inattention.

e.g. PARENT: "Johnny, look at me."
Trials:

To be coded as "+" for any interval, trials must meet the following criteria:

(1) Each trial must have a discreet onset and offset which is recognizable to the coder.

(2) There should be a discreet intertrial interval between trials which consists of any noticeable period of time (approximately two seconds) in which no on-task responding is required of the child. Intertrial intervals should be of approximately the same duration. An intertrial interval may be of a longer duration if a parent is waiting for the child to terminate inappropriate or off-task behaviour.
Rewards:

There are basically four types of rewards:

a) verbal
   e.g. "Good boy!", "Nice matching!"

b) edible
   e.g. raisins, ice cream, chips,

c) physical
   e.g. pat on the head, tickles.

d) activity
   e.g. play with a toy car.

To be coded as "+" for any interval, rewards must meet the following criteria:

1) Verbal rewards must be given by the parent in an enthusiastic tone of voice that is discriminable from the tone used for commands or other verbalizations.

2) Although verbal rewards (praise) can be given by themselves, all other types of rewards must be paired with a verbal reward.
(3) All rewards must be delivered within three seconds of a correct child response to a teaching cue or other command and prior to the issuing of any additional command.

(4) All rewards must be effective and must be something that the child enjoys:

   e.g. Code as "-" if child plays with edible reward or needs parental prompting to eat it.

(5) Good rewards do not include questions or commands (questions as defined in Teaching Cues).

   e.g. PARENT: "Give yourself a clap."
       This is coded as "-".

   e.g. PARENT: "You really know your colours, don't you?"
       This is coded as "-".

(6) Rewards must be clear, concise, and unambiguous.

   e.g. "No" with a smile or "Good girl" with a frown are ambiguous.
       These are coded as "-".

(7) All correct child responses to teaching cues must be
rewarded (exception: see (9), Intermittent rewards).

(8) All prompted correct child responses to teaching cues must be rewarded (no exceptions).

(9) Rewards can be given intermittently. Intermittent rewards are defined here as rewards given less frequently than on a one to one ratio with correct child responses. Appropriate use of intermittent rewards meets the following criteria:

a) The child's overall performance in the task at hand in the session being coded is at or above 90%.

b) The parent rewards a minimum of one response per session and/or per series of responses (i.e., series of 26 letters, 10 numbers, 10 pictures, 6 shapes, 8 blocks).

To code intermittent rewards:

i) for intervals where the parent has not rewarded the child but that are part of an intermittent rewarding sequence: code "n/a" provided all other criteria for intermittent rewarding are met.
ii) for intervals where the parent has rewarded the child at least once as part of an intermittent rewarding sequence: code "+" provided all other criteria for rewards and intermittent rewards are met.

iii) when an incorrect response to a teaching cue is made, the parent must reinforce the next correct child response. If this is not done, code as "-".

iv) if the parent continues to reward intermittently once the child's performance drops to below 90%: code any further lack of reinforcement when appropriate as "-".

*note:* in order to code rewards that are being issued intermittently, observer may have to 1) view the entire session initially, 2) go back and code each interval separately as to the appropriateness of parental rewards.

(10) Rewards must be delivered contingent on appropriate child responses. Rewards given prior to a correct response or for incorrect child responses are coded as "-" (exception: see Shaping).
Prompts:

A prompt is defined here as guiding the child to respond correctly with a stimulus other than the initial cue, emitted by the parent that resembles the target response. Prompts may be verbal, visual, and/or physical.

To be coded as "+" for any given interval, prompts must meet the following criteria:

1. Prompts must be used only when needed

   a) if child responds incorrectly to a teaching cue, (i.e., points to different items in an identification task, produces behavior incompatible with the target response, does not initiate compliance within five seconds of a teaching cue) a prompt must be used. The parent must prompt within two seconds of child's incorrect response.

   e.g. PARENT: "Point to the circle"

   CHILD: Points to the square.

   PARENT: "This is a circle." Parent points to the circle. "Point to the circle". This is coded as "+". If parent fails to prompt in a similar situation, code as ",-".

   b) if parent uses a prompt without allowing the
child to attempt a correct response without prompting, (parent must allow a minimum of three seconds for child to respond before prompting) score as "-".

c) if prompt is not needed and therefore not used, score "n/a".

(2) Prompts must be effective. They should be sufficient to help the child produce an approximation of a correct response or a correct response. If more than one prompt is used in a given trial:

a) score only the last prompt as effective "+" or ineffective "-".

b) score as "-" if two identical ineffective prompts are used consecutively in the same trial.

(3) Prompts should adhere to all guidelines as defined in proper teaching cues.

note: prompts need not adhere to Teaching Cue rule (3) (consistent form).
Shaping:

Shaping is defined here as:

(1) Breaking a task down into smaller steps when such a task is perceived by the parent as being too difficult for the child to produce a correct response.

(2) A parent reinforcing successive approximations to the target response.

To be coded as "+" for any given interval, parental shaping must meet the following criteria:

(1) Each reinforced response should be at least as good as the last one (score shaping with reference only to responses actually observed during the scoring session).

(2) If parent fails to reinforce an approximation to an appropriate response, code as "n/a" unless parent has previously reinforced the same or a poorer response in which case code as "-".

e.g. 1st trial PARENT: "String the bunny".

CHILD: Puts the string through the
hole.

PARENT: "Good work!"

2nd trial PARENT: "Put string in hole."

CHILD: Puts string in Hole.

PARENT: "Pull string through."

This is coded as "-" since the parent failed to reinforce a response that was previously reinforced.

(3) Parental shaping must adhere to all guidelines as defined in proper Teaching Cues.

*note:* shaping need not adhere to Teaching Cue rule

(3) (consistent form).
Ignoring:

Parents are required to ignore all minor forms of inappropriate child behaviour. Inappropriate behaviour is defined here as: Any behaviour produced by the child that interferes with the course of a teaching session. Inappropriate behaviours include:

- failing to orient toward the parent and/or the teaching materials for the duration of a trial
- all non-target out-of-seat behaviour
- disruption of teaching materials
- non-target verbalizations during a trial (i.e., screaming, verbal attention demands)
- aggression (i.e., hitting, biting, throwing, kicking, etc.)
- production of any other verbal or nonverbal distractions by the child (i.e., nonverbal attention bids, laughing inappropriately, self-stimulation, etc.)

Ignoring requires parents to remove all attention from the child when the inappropriate behaviour occurs (i.e., no verbal and/or eye contact). When determination of
parental eye contact is difficult to judge, code Appropriateness of parental ignoring according to verbal behaviour (or lack thereof) and body positioning.

To be scored as "+" for any given interval, parental ignoring must meet the following criteria:

1) Parent must ignore child inappropriate behaviour when it occurs and continue to ignore until it has ceased.

exceptons:

a) parent can call child's name if child is not orienting towards the parent or the teaching materials.

b) parent is not required to ignore child if he or she:

1) leaves the teaching situation

2) is physically aggressive to self or to the parent

3) is in danger of physical harm

note: in all three situations, the parent can either:
i) ignore completely

ii) issue a single "other command" directing the child to return to the teaching situation

iii) return child to the teaching situation while ignoring additional child behaviour
Coding Rules:

(1) Data are recorded by circling the appropriate code for each behaviour category on the Parent Behaviour Data Sheet.

Sample section of the Parent Behaviour Coding Sheet:

<table>
<thead>
<tr>
<th>Teach. Cue</th>
<th>Other Comm.</th>
<th>Trials</th>
<th>Rewards</th>
<th>Prompts</th>
<th>Shaping</th>
<th>Ignor.</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ -</td>
<td>- n/a</td>
<td>+ - n/a</td>
<td>+ - n/a</td>
<td>+ - n/a</td>
<td>+ - n/a</td>
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<tr>
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<td>+ - n/a</td>
<td>+ - n/a</td>
<td>+ - n/a</td>
<td>+ - n/a</td>
</tr>
</tbody>
</table>

For each interval, the observer records the interval number and circles one code for each of the behavioural categories ("+", ",", or "n/a").

(2) Behaviour is coded in the interval in which it occurs.

a) If a decision can be made for a given behaviour category based on information available in the observational interval in question, code accordingly in that interval.
b). If a decision cannot be made until the conclusion of a behavioural sequence, code accordingly in the interval in which the decision can be made. Do not code behaviour in a current or preceding interval based on information obtained in subsequent intervals (exception: see Intermittent Rewards).

(3) Code initial demonstrations by a parent conducted as an introduction to the teaching session as "N/A".

E.g. PARENT: "OK Johnny, we are going to do some counting now." Parent points to each number and counts aloud. "Good! Now put the number on the number." Parent hands child a number to match.

Initial demonstration is coded as "N/A". First behaviour coded would be the Teaching Cue "Put the number on the number".
Double Coding:

There are situations where a single observed behaviour will be coded in more than one observational category:

(1) Teaching Cues and Prompts

Any situation where there is a parental Prompt, there is also a real or implied Teaching Cue that is part of that prompt. Therefore, if prompting is observed:

a) code '+' for both Teaching Cue and Prompts if all criteria for both definitions are met.

b) code '-' for both Teaching Cue and Prompts if the behaviour observed does not fulfill all aspects of the definition for Teaching Cues regardless of the appropriateness of the remainder of the prompt.

c) code '+' for Teaching Cue and '-' for Prompts if all aspects of the definition for Teaching Cues are met but one or more aspects of the definition for Prompts is not met.

(2) Teaching Cues and Shaping

Same double coding rule as for Teaching Cue and Prompts.
(3) Teaching Cues and Ignoring

a) If the parent presents a Teaching Cue while child is engaged in inappropriate behaviour:
   code "-" for both Teaching Cue and Ignoring

(4) Ignoring and Rewards

a) If the parent delivers a reward following child inappropriate behaviour or fails to stop rewarding if interrupted by child inappropriate behaviour:
   code "-" for both Ignoring and Rewards

(5) Shaping and Rewards

a) If the parent fails to reward a shaped response as defined in "Shaping":
   code "-" for both Shaping and Rewards

b) If the parent appropriately rewards all shaped responses as defined in "Shaping":
   code "+" for both Shaping and Rewards

(6) Prompts and Rewards

a) If the parent prompts but fails to reward or rewards inappropriately:
   code "+" for Prompts (if all other aspects of the Prompts are correct) and "-" for Rewards
APPENDIX Q

Parent Behaviour Data Sheet
<table>
<thead>
<tr>
<th></th>
<th>SETUP</th>
<th>TEACHING CUE</th>
<th>OTHER COMMANDS</th>
<th>TRIALS</th>
<th>REWARDS</th>
<th>PROMPTS</th>
<th>SHAPING</th>
<th>IGNORING</th>
<th>TOTALS</th>
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</tbody>
</table>

n/a
APPENDIX R

Behavioural Coding System:

Child Behaviour
BEHAVIOURAL CODING SYSTEM: CHILD BEHAVIOUR

**Trial:** Each trial begins with a verbal teaching cue and/or the presentation of stimulus material by the parent.

* e.g. PARENT: "Johnny, find the one that matches."
* e.g. PARENT: Hands the child a block to stack.
* e.g. PARENT: Claps and says "Johnny do."

Each of these examples is coded as one teaching cue.

Each trial can end in one of the following ways:

1. A correct response by the child followed by the presentation of another cue or stimulus by the parent.
   * e.g. CHILD: Has completed correct response.
   * PARENT: "Now stack this block."

Trial ended after correct response and a new trial started with next teaching cue.

* e.g. CHILD: Has completed correct response
* PARENT: Hands child another block.

Trial ended after correct response and a new trial started with presentation of the block.

2. A correct response by the child followed by reinforcement from the parent.

* e.g. CHILD: Has completed correct response
PARENT: "Very good, Sarah."

Coded as end of the trial contingent upon following parent action. If parent then gives another command or stimulus, then it is the start of a new trial and is coded as such.

3. An incorrect response by the child followed by the presentation of another cue or stimulus by the parent without prompting or correction.
   e.g. PARENT: "Put blue on blue."
   CHILD: Gives an incorrect response.
   PARENT: "Johnny, put red on red."
   Coded as one teaching cue, one incorrect response, and a new trial begins with teaching cue "put red on red."

4. An incorrect response by the child followed by a parental prompt and the presentation of a different cue or stimulus by the parent.
   e.g. PARENT: "Johnny, stack the block."
   CHILD: Puts block beside the other one.
   PARENT: "No Johnny, like this." Parent demonstrates one block on top of the other.
   CHILD: Completes correct response.
   PARENT: "Johnny, stack another one."
Coded as one teaching cue, one incorrect response, second teaching cue and one prompt, then a new trial with one teaching cue.

5. An incorrect response by the child followed by a parental prompt, reward and the presentation of different cue or stimulus by the parent.

  e.g. PARENT: "Sarah, put four on four."

          CHILD: Puts the four on the seven.
          PARENT: "No. Put four on four,"
                  and demonstrates. "Now you put four on four."

          CHILD: Puts the four on the four.
          PARENT: "Very good, Sarah. Now put six on six."

          Coded as one teaching cue, one incorrect response, a second teaching cue and a prompted response, then a new trial begins with teaching cue.

Any parent or child behaviour occurring after defined end of trial and prior to defined beginning of next trial is coded in the following trial unless it is part of the reinforcement, in which case it is coded in the previous trial.
Behavioural Categories:

Command:

Teaching:

Any verbalization and/or presentation of a cue or stimulus by the parent directed to the child which indicates to the observer that a task related response is required (task as defined in parental goal sheet).

e.g. PARENT: "Johnny, point to the tree."

e.g. PARENT: "Johnny, put number on number."

e.g. PARENT: Hands child block, with no verbal command.

In this case, a teaching command to stack the block is implied through the presentation of the stimulus.

Note: Chain commands

Only when task requires multiple responses (i.e. three command task) can a chain command be coded as a single teaching command.

e.g. PARENT: "Put the block in the jug, put the jug on the table and sit down."

e.g. PARENT: "Johnny, look at the pennies." This is considered a teaching command because the child is required to produce a task related response.
Other:

Any verbalization and/or presentation of a cue or stimulus by the parent directed to the child which indicates to the observer that a response is required to any non-target behaviour. This can include commands directed towards child's off-task behaviour (see below) and/or commands related to the teaching task but that do not require a targeted response.

e.g. PARENT: "Do you want to do more colours?"

e.g. PARENT: "Johnny, sit in the chair."

e.g. CHILD: Throws a penny on the ground.

   PARENT: "Johnny, pick up the penny."

This is considered to be an "other" command because it is issued after off-task behaviour has occurred.
Correct Response:

For a response to a teaching command to be coded as correct, the child must produce the entire response within the trial interval as defined, or prior to the re-issuing of the initial command (exception see chain command). For a response to an other command to be coded as correct, the child must produce the response prior to the issuing of any additional command (exception see chain command).

E.g. PARENT: "Johnny, point to tree."

CHILD: Points to the picture of the tree.

Code one teaching command and one correct response.
Incorrect Response:

1. The child gives an incorrect response to the parental command (prompted, shaped, or otherwise).
   e.g. PARENT: "Johnny, point to tree."
   CHILD: Points to anything other than the tree.

2. The child gives no response to the parental command.
   e.g. PARENT: "Johnny, put number on number."
   CHILD: No response is given by child.

3. The child is given no opportunity to respond to the parental command.
   e.g. PARENT: "Johnny, point to the tree, come on, where's the tree? O.K., find the ball."
   In this case, the child is not given sufficient time to find the tree before asked for ball.

4. The child produces a partial response that is not accepted as correct by the parent as a shaped response.
   e.g. PARENT: Claps three successive times in a teaching command.
   CHILD: Claps once in response.
PARENT: Does not acknowledge as a correct response.

5. If the child's verbal and/or motor response is ambiguous as to whether or not it is correct or incorrect, code as incorrect unless it is acknowledged by the parent as correct.

e.g. PARENT: "What's that a picture of?"

CHILD: Responds, but it is not clear to the coder what he/she has said.

If parent acknowledges the verbal response as correct code as a correct response. If the parent gives no indication that the response is correct or indicates that it is wrong, code as an incorrect response.
Prompted Response:

Any correct response by the child where the parent has provided an additional verbal, visual and/or physical cue to the initial teaching or other command.

e.g. Verbal:  PARENT: "Point to the cat."
              CHILD: Gives incorrect response.
              PARENT: "You know, meow."
              CHILD: Points to the cat.

e.g. Visual:  PARENT: "Johnny, put number on number."
              CHILD: Gives incorrect response.
              PARENT: Parent does correct child response by placing the number on the number.
              CHILD: Gives the correct response.

e.g. Physical: PARENT: "Johnny, stack the block."
              CHILD: Gives incorrect response.
              PARENT: Takes child's hand with the block and goes through the correct response guiding the child.
              CHILD: Gives the correct response.

Note: Each initial incorrect response by child is coded as "incorrect".
Shaped Response:

Any correct response by the child to a teaching command that approximates the correct required motor and/or verbal behavior and that is acknowledged by the parent as correct.

e.g. PARENT: "Johnny, say da."
    CHILD: "ah."
    PARENT: "That's pretty close, Johnny.
            Good boy!"

Any correct response by the child to a teaching command where the initial task has been simplified by the parent.

   e.g. The initial task requires the child to hand
        The parent one penny upon request from
        among five pennies placed on a table before
        him or her.
        PARENT: Places only one penny on the table
                and says, "Give me one penny."
        CHILD: Gives parent one penny

   e.g. The initial task requires child to trace a
        circle, square, or triangle using a colored
        pencil.
        PARENT: Draws a series of vertical lines and
                says, "Johnny, trace the line."
CHILD: Traces the line.

Any correct response by the child where both prompting and shaping are observed, is coded as prompted.

e.g. PARENT: "Johnny, sign (shows picture of an apple)".

CHILD: produces sign for ball

PARENT: "No, sign apple (demonstrates sign for apple/visual prompt)

CHILD: produces an approximation to the appropriate sign

PARENT: "That was pretty close, good signing."
On-Task Behaviour: (+)

The child does not produce any off-task or inappropriate behavior as defined below.

Off-Task Behaviour: (-)

The child fails to remain in the teaching situation and/or fails to orient toward the parent and/or teaching material for the duration of the trial. Any inappropriate behaviour by the child during or between trials is also coded as "-" in the trial following the observed behaviour (i.e., hitting, kicking, throwing, screaming, biting, disruption of stimulus material).

e.g. CHILD: Gets up and heads for the door. This is coded as "-" because child has failed to remain in the teaching situation.

e.g. CHILD: Is turned towards the toy chest. PARENT: "Look at Daddy." This is coded as "-" because child has failed to orient toward the parent and teaching materials.

e.g. CHILD: Puts number in his/her mouth instead of on the table. This is coded as "-" because child has disrupted the stimulus material.
Chain Commands:

Any situation where the parent issues a minimum of 2 consecutive teaching and/or other commands with less than a 2 second pause between commands allowing for a response. A response is recorded as correct if the child initiates compliance to any of the commands within 5 seconds of the issuing of the last command in the sequence.

Note: If a sequence of chain commands requires more than one response, then each child response is coded separately (see RECORDING).

e.g. PARENT: "Sarah, point to the cat. Now look at all the pictures and find the cat. Where's the cat? Don't you like the cat? Come on, find the cat."

This is coded as a chain command as the parent has issued more than two commands with less than a two (2) second pause in between for response.

exception: Only when a task requires multiple responses can a chain command be considered a single teaching command (see Teaching Commands).
Recording Data:

Coding of child behaviour is done on a coding sheet with the following information at the top:

Counter: 

Coding Date: Session Date: Page: 

Family No.: Tape No.: Session No.: 

Observer: Task: 

Counter: Coder enters counter number from VCR indicating where session begins on tape.

Coding Date: Coder enters date that particular session is coded.

Session Date: Therapist enters at a later time.

Page: For use if number of trials exceeds one coding sheet such that two or more sheets are necessary.

Family No.: Coder enters family identification number used during the study to maintain confidentiality.
Tape No.: Each video tape used to record data is given a number for identification.

Session No.: Therapist enters at later time.

Observer: Coder enters name or initials for identification.

Task: Coder enters title of task being performed during session.

Sample of completed information section:

Counter: 1245

Coding Date: 20/08/84 Session Date: _______ Page: 1

Family No.: 9 Tape No.: 17 Session No.: _______

Observer: N.S. Task: receptive labeling
Behaviour is coded on data sheets set up as follows:

<table>
<thead>
<tr>
<th>Tr.</th>
<th>Command</th>
<th>/</th>
<th>/</th>
<th>Pr</th>
<th>Shape</th>
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</tbody>
</table>

**TRIAL:** Coder enters number of trial. If number of commands exceeds five (5) continue coding in the next section, with trial number the same as preceding one. (i.e. new trial hasn't begun)
"T": Teaching command, as defined.

"O": Other command, as defined.

COMMAND: Either teaching or other, as defined.

"✓": Correct response, as defined.

"X": Incorrect response, as defined.

"Pr": Prompted response, as defined.

SHAPE: Shaped response, as defined.

"": Appropriate on-task behaviour, as defined.

"−": Inappropriate off-task behaviour, as defined.

1 2 3 4 5: Indicates the number of the command and subsequent response.
e.g. For the following sequence:

PARENT: "Johnny, point to the blue."

CHILD: Points to the red.

PARENT: "No, Johnny, this is blue. Point to blue."

CHILD: Points to the blue

PARENT: "Good boy!"

Code like this:

<table>
<thead>
<tr>
<th>Tr.</th>
<th>Command</th>
<th>✓</th>
<th>X</th>
<th>Pr</th>
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<tr>
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<td></td>
</tr>
</tbody>
</table>
OF/DE
e.g. Correct response

**PARENT:** "Put the block in the box."

**CHILD:** Does correct response.

**PARENT:** "Put the truck in the box."

Code like this:

<table>
<thead>
<tr>
<th>Tr.</th>
<th>Command</th>
<th>✓</th>
<th>.X</th>
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<th>Shape</th>
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<td>T 1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
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<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5 -</td>
</tr>
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<td>1 2 3 4 5</td>
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<td>1 2 3 4 5</td>
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</tr>
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<tr>
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<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5 -</td>
</tr>
</tbody>
</table>

Trial two cannot be completed until child has responded.
e.g. Incorrect response

PARENT:  "Johnny, point to the tree."

CHILD:  Points to the house.

PARENT:  "No."

Code like this:

<table>
<thead>
<tr>
<th>Tr.</th>
<th>Command</th>
<th>✓</th>
<th>X</th>
<th>Pr</th>
<th>Shape</th>
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<tr>
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<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

e.g. Prompted response

PARENT:  "Point to the cat."

CHILD:  Gives incorrect response.

PARENT:  "You know, meow."

CHILD:  Points to the cat.

Code like this:

<table>
<thead>
<tr>
<th>Tr.</th>
<th>Command</th>
<th>✓</th>
<th>X</th>
<th>Pr</th>
<th>Shape</th>
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<tbody>
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<td>1 2 3 4 5</td>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
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<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Second command is implied.
e.g.: Shaped response

PARENT: "Say da."

CHILD: "ah."

PARENT: "That's pretty close. Good for you!"

Code like this:

<table>
<thead>
<tr>
<th>Tr.</th>
<th>Command</th>
<th>✓</th>
<th>X</th>
<th>Pr</th>
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<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
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<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

e.g.: Incorrect response followed by a correct response

PARENT: "Sarah, give me the blue."

CHILD: Gives no response.

PARENT: "Sarah, Mom said give me the blue."

CHILD: Gives Mom the blue.

Code like this:

<table>
<thead>
<tr>
<th>Tr.</th>
<th>Command</th>
<th>✓</th>
<th>X</th>
<th>Pr</th>
<th>Shape</th>
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<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
e.g. Teaching and other commands and subsequent responses

PARENT: "Give me three pennies."

CHILD: Throws pennies on the ground.

PARENT: "No. Pick them up."

CHILD: Picks up the pennies.

PARENT: "Now sit down and give me three pennies."

CHILD: Sits down and counts out three pennies.

Code like this:

<table>
<thead>
<tr>
<th>Tr.</th>
<th>Command</th>
<th>✓</th>
<th>X</th>
<th>Pr</th>
<th>Shape</th>
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<td>1 2 3 4 5</td>
<td>✓</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

If parent then asks for the child to count out more pennies, a new trial would begin.
Chain Commands:

Chain commands can be either teaching or other, as defined.

e.g. For the following sequence:

PARENT: "Point to the tree, find the tree, where's the tree."

CHILD: Points to the tree.

Code like this:

<table>
<thead>
<tr>
<th>Tr.</th>
<th>Command</th>
<th>✓</th>
<th>X</th>
<th>Pr</th>
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<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

e.g. For the following sequence:

PARENT: "Come here and sit down, it's time for work isn't it? Now point to the blue."

CHILD: Sits on the chair and points to the blue.
Code like this:

<table>
<thead>
<tr>
<th>Tr.</th>
<th>Command</th>
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<th>X</th>
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<tr>
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<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
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The "-" is coded here due to the child's off-task behaviour away from the teaching area.

Totals:

Totals by command type are calculated for each category at the bottom of each sheet as follows:

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The total of each column is added and entered in the space provided.
APPENDIX S

Child Data Sheet
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**Trial 1:**

**Total:**

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APPENDIX T

Sample Parent Stress Index

Profile Sheet
## Parenting Stress Index

*Profile Sheet and Norms—Form B*

R. R. Abidin—University of Virginia

<table>
<thead>
<tr>
<th>Raw Score</th>
<th>Percentile Ranks</th>
<th>N</th>
<th>800</th>
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</table>

### Total Stress Score

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<th>Child Domain Score</th>
<th>Percentile Ranks</th>
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</table>

#### Child Domain Score

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<th>Adaptable</th>
<th>Acceptability</th>
<th>Demandingness</th>
<th>Mood</th>
<th>Distress/Hyperactivity</th>
<th>Reinforces Parent</th>
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<td>6 8 10 12 12 14 15 16 17 18 19 20</td>
<td>8 10 12 14 14 15 16 17 18 19 20 21</td>
<td>8 10 12 12 13 13 14 15 16 17 18 19</td>
<td>12 16 18 20 21 22 23 24 25 26 27 28</td>
<td>8 9 10 11 12 13 15 15 16 18 18 18</td>
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</table>

#### Parent Domain Score

<table>
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<th>Attachment</th>
<th>Restrict of Role</th>
<th>Sense of Competence</th>
<th>Social Isolation</th>
<th>Reliab Spouse</th>
<th>Parent Health</th>
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<td>1 2 3 4 5 6</td>
<td>1 2 3 4 5 6</td>
<td>1 2 3 4 5 6</td>
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</table>

#### Life Stress

(Optionalal Scale)

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</tr>
</tbody>
</table>

*When two raw scores were equidistant from the percentile interval, the higher number was selected.

*Abidin 1983*
APPENDIX U

Posttraining Parent Satisfaction Questionnaire
BEHAVIOURAL PARENT TRAINING PROJECT

POSTTRAINING PARENT SATISFACTION QUESTIONNAIRE

Parent's Name: ___________________________ Date: __________

Child's Name: ___________________________

The following questionnaire is part of our evaluation of the training that you have received. It is important that you answer as honestly as possible. The information obtained will help us to evaluate and continually improve the training we offer. Your cooperation is greatly appreciated.

A The overall program

Please circle the response that best expresses how you honestly feel

1. My ability to teach my child following the completion of the training program was/is:
   considerably worse slightly worse the same slightly improved greatly improved

2. At this time, my feelings about my child's progress are that I am:
   very dissatisfied slightly dissatisfied neutral slightly satisfied very satisfied

3. To what degree has the training program helped with other general, personal, or family problems not directly related to your child:
   hindered hindered hindered neither helped helped helped very much
   more than helped slightly helped

4. I feel that the approach to teaching my child in the home by using this type of parent training program is:
   very inappropriate slightly inappropriate neutral slightly appropriate very appropriate
   inappropriate inappropriate appropriate appropriate

5. Would you recommend this program to a friend or relative:
   strongly recommend slightly neutral slightly not recommend strongly not recommend
   recommend recommend recommend recommend recommend


6. How confident are you in your ability to effectively teach your child the tasks chosen for this program in your home:

very confident somewhat neutral somewhat unconfident very unconfident

7. How confident are you in your ability to effectively teach future behaviours in the home using what you have learned from this program:

very unconfident fident unconfident somewhat confident very confident

8. My overall feeling about the training program for my child, myself and my family is:

very negative somewhat neutral slightly positive very positive

B The teaching format

a) Difficulty:

In this section, we'd like to get your ideas of how difficult each of the following types of teaching was for you to follow. Please circle the response that most closely describes your opinion.

1. Verbal presentation of information by the therapist:

extremely easy somewhat neutral somewhat difficult extremely difficult

2. Written material you were asked to read:

extremely easy somewhat neutral somewhat difficult extremely difficult

3. Demonstration of skills by the therapist:

extremely easy somewhat neutral somewhat difficult extremely difficult

4. Practice of skills in the clinic with the therapist (roleplay):

extremely easy somewhat neutral somewhat difficult extremely difficult
5. Practice of skills in the clinic with your child:

extremely easy somewhat neutral somewhat difficult extremely difficult
easy somewhat neutral somewhat easy somewhat difficult extremely
easy neutral somewhat difficult extremely easy difficult

difficult extremely easy
difficult easy

6. Practicing teaching at home:

b) Usefulness:

In this section, we'd like to get your ideas of how useful each of the following types of teaching was for you immediately following training. Please circle the response that most clearly describes your opinion.

1. Verbal presentation of information by the therapist:

extremely not somewhat neutral somewhat useful extremely useful
not useful not useful not useful not useful

2. Written material you were asked to read:

extremely not somewhat neutral somewhat useful extremely useful
not useful not useful not useful not useful

3. Demonstration of skills by the therapist:

extremely not somewhat neutral somewhat useful extremely useful
not useful not useful not useful not useful

4. Practice of skills in the clinic with the therapist (roleplay):

extremely not somewhat neutral somewhat useful extremely useful
not useful not useful not useful not useful

not useful not useful not useful not useful
5. Practice of skills in the clinic with your child:

   extremely not somewhat neutral somewhat useful extremely
   useful not useful not useful useful useful

6. Practicing teaching at home:

   extremely not somewhat neutral somewhat useful extremely
   not useful not useful useful useful

7. Other homework assignments (i.e., recording and graphing):

   extremely not somewhat neutral somewhat useful extremely
   not useful not useful useful useful

8. Videotape feedback:

   extremely not somewhat neutral somewhat useful extremely
   not useful not useful useful useful

C Specific parenting techniques

In this section we'd like to get your idea of how difficult it was to do each of the following techniques immediately following completion of the training program. Please write the response that most closely describes how difficult the technique was for you to do.

a) Basic parent training:

1. Choosing and operationally defining goals for child tasks:

   extremely easy somewhat easy neutral somewhat difficult extremely
easy easy easy neutral difficult difficult difficult

2. Setting up teaching sessions:

   extremely easy somewhat easy neutral somewhat difficult extremely
easy easy easy neutral difficult difficult difficult

3. Appropriate use of cues:

   extremely easy somewhat easy neutral somewhat difficult extremely
easy easy easy neutral difficult difficult difficult

4. Discrete trials:

   extremely easy somewhat easy neutral somewhat difficult extremely
easy easy easy neutral difficult difficult difficult
5. Rewards:
- extremely easy somewhat neutral somewhat difficult extremely difficult
- extremely easy somewhat neutral somewhat difficult extremely difficult

6. Ignoring minor inappropriate behaviour:
- extremely easy somewhat neutral somewhat difficult extremely difficult
- extremely easy somewhat neutral somewhat difficult extremely difficult

7. Prompts:
- extremely easy somewhat neutral somewhat difficult extremely difficult
- extremely easy somewhat neutral somewhat difficult extremely difficult

8. Shaping:
- extremely easy somewhat neutral somewhat difficult extremely difficult
- extremely easy somewhat neutral somewhat difficult extremely difficult

9. Recording and graphing data:
- extremely easy somewhat neutral somewhat difficult extremely difficult
- extremely easy somewhat neutral somewhat difficult extremely difficult

10. The overall group of basic training techniques:
- extremely easy somewhat neutral somewhat difficult extremely difficult
- extremely easy somewhat neutral somewhat difficult extremely difficult

b) Self-management training:

1. Choosing and defining goals for your own behaviour:
- extremely easy somewhat neutral somewhat difficult extremely difficult
- extremely easy somewhat neutral somewhat difficult extremely difficult

2. Using visual cues as a reminder (i.e., happy face):
- extremely easy somewhat neutral somewhat difficult extremely difficult
- extremely easy somewhat neutral somewhat difficult extremely difficult

3. Self-Instructions (reading goals and summary sheet before teaching sessions):
- extremely easy somewhat neutral somewhat difficult extremely difficult
- extremely easy somewhat neutral somewhat difficult extremely difficult
4. Self-monitoring, self-recording and self-assessment:

<table>
<thead>
<tr>
<th>extremely easy</th>
<th>easy</th>
<th>somewhat neutral</th>
<th>difficult</th>
<th>extremely difficult</th>
</tr>
</thead>
</table>

5. The overall group of self-management techniques:

<table>
<thead>
<tr>
<th>extremely easy</th>
<th>easy</th>
<th>somewhat neutral</th>
<th>difficult</th>
<th>extremely difficult</th>
</tr>
</thead>
</table>

In this next section, we'd like to have your opinion of how useful each of the following techniques was to you in improving your ability to teach your child immediately following the completion of the training program. Please write the response that most closely describes how useful you found each technique.

a) Basic parent training:

1. Choosing and operationally defining goals for child tasks:

<table>
<thead>
<tr>
<th>extremely not useful</th>
<th>somewhat useful</th>
<th>neutral</th>
<th>somewhat useful</th>
<th>useful</th>
<th>extremely useful</th>
</tr>
</thead>
</table>

2. Setting up teaching sessions:

<table>
<thead>
<tr>
<th>extremely not useful</th>
<th>somewhat useful</th>
<th>neutral</th>
<th>somewhat useful</th>
<th>useful</th>
<th>extremely useful</th>
</tr>
</thead>
</table>

3. Appropriate use of cues:

<table>
<thead>
<tr>
<th>extremely not useful</th>
<th>somewhat useful</th>
<th>neutral</th>
<th>somewhat useful</th>
<th>useful</th>
<th>extremely useful</th>
</tr>
</thead>
</table>

4. Discrete trials:

<table>
<thead>
<tr>
<th>extremely not useful</th>
<th>somewhat useful</th>
<th>neutral</th>
<th>somewhat useful</th>
<th>useful</th>
<th>extremely useful</th>
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</table>

5. Rewards:

<table>
<thead>
<tr>
<th>extremely not useful</th>
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6. Ignoring minor inappropriate behaviour:

<table>
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<th>extremely not useful</th>
<th>somewhat useful</th>
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<th>somewhat useful</th>
<th>useful</th>
<th>extremely useful</th>
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</thead>
</table>
7. Prompts:

8. Shaping:

9. Recording and graphing data:

10. The overall group of basic parent training techniques:

b) Self-management training:

1. Choosing and defining goals for your own behaviour:

2. Using visual cues as a reminder (i.e., happy face):

3. Self-instructions (reading goals and summary sheet before teaching sessions):

4. Self-monitoring, self-recording and self-assessment:

5. The overall group of self-management techniques:
D Therapist

In this section we'd like to get your ideas about your therapist. Please circle the response to each question that best expresses how you feel.

1. I feel that the therapist's teaching was:
   
   very poor | fair | average | slightly above average | high average | superior

2. The therapist's preparation was:
   
   very poor | fair | average | slightly above average | high average | superior

3. Concerning the therapist's interest and concern in me and my child, I was:
   
   extremely dissatisfied | slightly dissatisfied | neutral | slightly satisfied | extremely satisfied

4. At this point, I feel that the therapist in the training program was:
   
   extremely helpful | not helpful | slightly helpful | neutral | slightly not helpful | extremely not helpful

5. Concerning my personal feelings toward the therapist:
   
   : dislike | I dislike | I dislike | neutral | : like | : like | : like
   him/her | him/her | him/her | him/her | him/her | him/her | him/her
   very much | slightly | not | helpful | helpful | helpful | helpful

E Continued use of the skills learned during the program

In this section we'd like to get your ideas about the application of the skills you learned during training in your present home situation.

1. Are you presently working at home with your child in a structured teaching situation:
   
   not at all | rarely | occasionally | frequently | very frequently
   (less often than | just as often | more often than
   during training) | during training) | during training)

2. Are you using the teaching skills presented in the training program:
   
   not at all | rarely | occasionally | frequently | very frequently
   (less often than | just as often | more often than
   during training) | during training) | during training)
3. Are you presently using the self-management techniques presented during the training program:

not at all    rarely    occasionally    frequently    very frequently
(less often than) (just as often) (more often than) (during training) (during training)

4. How likely are you to continue to carry out the procedures now that the training program is over:

very unlikely    unlikely    not sure    likely    very likely

5. Have you used the skills presented during training with tasks other than the six chosen for the program. If so please indicate approximately how many new tasks you have worked on:

no new tasks    1 new task    2-3 new tasks    4-5 new tasks    more than 5 new tasks

6. If you are continuing to work with your child in a structured teaching situation and if you are still using the skills presented during training, please describe what aspect of the program or what you have done that has been most effective in helping you to continue:

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

F Your opinion please

1. What part of the program was most helpful to you?

_____________________________________________________________________

2. What did you like most about the program?

_____________________________________________________________________

_____________________________________________________________________
3. What did you like least about the program?

4. What part of the program was least helpful to you?

5. How could the program have been improved to help you more?

Thank you for your time and assistance. If you have any additional comments please enclose them with this questionnaire in the attached envelope and drop it in the mail at your earliest convenience.
APPENDIX V

Follow-Up Parent Satisfaction Questionnaire
BEHAVIOURAL PARENT TRAINING PROJECT

FOLLOW-UP PARENT SATISFACTION QUESTIONNAIRE

Parent's Name: ______________________  Date: __________

Child's Name: ______________________

The following questionnaire is part of our evaluation of the training that you have received. It is important that you answer as honestly as possible. The information obtained will help us to evaluate and continually improve the training we offer. Your cooperation is greatly appreciated.

A The overall program

Please circle the response that best expresses how you honestly feel

1. My ability to teach my child right now compared to before my involvement in the program is:

   considerably worse  worse  slightly worse  the same  slightly improved  greatly improved

2. At this time, my feelings about my child's progress are that I am:

   very dissatisfied  slightly dissatisfied  neutral  slightly satisfied  very satisfied

3. To what degree has the training program helped with other general, personal, or family problems not directly related to your child:

   hindered more than helped  hindered slightly helped  hindered slightly more than helped  neither helped nor hindered  helped  slightly helped  very much

4. I feel that the approach to teaching my child in the home by using this type of parent training program is:

   very inappropriate  slightly inappropriate  neutral  slightly appropriate  very appropriate

5. Would you recommend this program to a friend or relative:

   strongly recommend  slightly recommend  neutral  slightly not recommend  not recommend  strongly not recommend


6. How confident are you in your ability to effectively teach your child the tasks chosen for this program in your home:

<table>
<thead>
<tr>
<th>very confident</th>
<th>somewhat confident</th>
<th>neutral</th>
<th>somewhat unconfident</th>
<th>unconfident</th>
<th>very unconfident</th>
</tr>
</thead>
</table>

7. How confident are you in your ability to effectively teach future behaviours in the home using what you have learned from this program:

<table>
<thead>
<tr>
<th>very unconfident</th>
<th>somewhat unconfident</th>
<th>neutral</th>
<th>somewhat confident</th>
<th>confident</th>
<th>very confident</th>
</tr>
</thead>
</table>

8. My overall feeling about the training program for my child, myself and my family is:

<table>
<thead>
<tr>
<th>very negative</th>
<th>somewhat negative</th>
<th>neutral</th>
<th>slightly positive</th>
<th>positive</th>
<th>very positive</th>
</tr>
</thead>
</table>

B Specific parenting techniques

In this section we'd like to get your idea of how difficult it is to do each of the following techniques right now. Please write the response that most closely describes how difficult the technique was for you to do.

a) Basic parent training:

1. Choosing and operationally defining goals for child tasks:

<table>
<thead>
<tr>
<th>extremely easy</th>
<th>easy</th>
<th>somewhat easy</th>
<th>neutral</th>
<th>somewhat difficult</th>
<th>difficult</th>
<th>extremely difficult</th>
</tr>
</thead>
</table>

2. Setting up teaching sessions:

<table>
<thead>
<tr>
<th>extremely easy</th>
<th>easy</th>
<th>somewhat easy</th>
<th>neutral</th>
<th>somewhat difficult</th>
<th>difficult</th>
<th>extremely difficult</th>
</tr>
</thead>
</table>

3. Appropriate use of cues:

<table>
<thead>
<tr>
<th>extremely easy</th>
<th>easy</th>
<th>somewhat easy</th>
<th>neutral</th>
<th>somewhat difficult</th>
<th>difficult</th>
<th>extremely difficult</th>
</tr>
</thead>
</table>

4. Discrete trials:

<table>
<thead>
<tr>
<th>extremely easy</th>
<th>easy</th>
<th>somewhat easy</th>
<th>neutral</th>
<th>somewhat difficult</th>
<th>difficult</th>
<th>extremely difficult</th>
</tr>
</thead>
</table>
5. Rewards:

<table>
<thead>
<tr>
<th>Extremely easy</th>
<th>Easy</th>
<th>Somewhat easy</th>
<th>Neutral</th>
<th>Somewhat difficult</th>
<th>Difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
</table>

6. Ignoring minor inappropriate behaviour:

<table>
<thead>
<tr>
<th>Extremely easy</th>
<th>Easy</th>
<th>Somewhat easy</th>
<th>Neutral</th>
<th>Somewhat difficult</th>
<th>Difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
</table>

7. Prompts:

<table>
<thead>
<tr>
<th>Extremely easy</th>
<th>Easy</th>
<th>Somewhat easy</th>
<th>Neutral</th>
<th>Somewhat difficult</th>
<th>Difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
</table>

8. Shaping:

<table>
<thead>
<tr>
<th>Extremely easy</th>
<th>Easy</th>
<th>Somewhat easy</th>
<th>Neutral</th>
<th>Somewhat difficult</th>
<th>Difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
</table>

9. Recording and graphing data:

<table>
<thead>
<tr>
<th>Extremely easy</th>
<th>Easy</th>
<th>Somewhat easy</th>
<th>Neutral</th>
<th>Somewhat difficult</th>
<th>Difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
</table>

10. The overall group of basic training techniques:

<table>
<thead>
<tr>
<th>Extremely easy</th>
<th>Easy</th>
<th>Somewhat easy</th>
<th>Neutral</th>
<th>Somewhat difficult</th>
<th>Difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
</table>

b) Self-management training:

1. Choosing and defining goals for your own behaviour:

<table>
<thead>
<tr>
<th>Extremely easy</th>
<th>Easy</th>
<th>Somewhat easy</th>
<th>Neutral</th>
<th>Somewhat difficult</th>
<th>Difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
</table>

2. Using visual cues as a reminder (i.e., happy face):

<table>
<thead>
<tr>
<th>Extremely easy</th>
<th>Easy</th>
<th>Somewhat easy</th>
<th>Neutral</th>
<th>Somewhat difficult</th>
<th>Difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
</table>

3. Self-instructions (reading goals and summary sheet before teaching sessions):

<table>
<thead>
<tr>
<th>Extremely easy</th>
<th>Easy</th>
<th>Somewhat easy</th>
<th>Neutral</th>
<th>Somewhat difficult</th>
<th>Difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
</table>
4. Self-monitoring, self-recording and self-assessment:

<table>
<thead>
<tr>
<th>extremely easy</th>
<th>easy</th>
<th>somewhat neutral</th>
<th>somewhat difficult</th>
<th>extremely difficult</th>
</tr>
</thead>
</table>

5. The overall group of self-management techniques:

<table>
<thead>
<tr>
<th>extremely easy</th>
<th>easy</th>
<th>somewhat neutral</th>
<th>somewhat difficult</th>
<th>extremely difficult</th>
</tr>
</thead>
</table>

In this next section, we'd like to have your opinion of how useful each of the following techniques is for you in working with your child. Please write the response that most closely describes how useful you found each technique.

a) Basic parent training:

1. Choosing and operationally defining goals for child tasks:

<table>
<thead>
<tr>
<th>extremely not useful</th>
<th>not useful</th>
<th>neutral</th>
<th>somewhat useful</th>
<th>useful</th>
<th>extremely useful</th>
</tr>
</thead>
</table>

2. Setting up teaching sessions:

<table>
<thead>
<tr>
<th>extremely not useful</th>
<th>not useful</th>
<th>neutral</th>
<th>somewhat useful</th>
<th>useful</th>
<th>extremely useful</th>
</tr>
</thead>
</table>

3. Appropriate use of cues:

<table>
<thead>
<tr>
<th>extremely not useful</th>
<th>not useful</th>
<th>neutral</th>
<th>somewhat useful</th>
<th>useful</th>
<th>extremely useful</th>
</tr>
</thead>
</table>

4. Discrete trials:

<table>
<thead>
<tr>
<th>extremely not useful</th>
<th>not useful</th>
<th>neutral</th>
<th>somewhat useful</th>
<th>useful</th>
<th>extremely useful</th>
</tr>
</thead>
</table>

5. Rewards:

<table>
<thead>
<tr>
<th>extremely not useful</th>
<th>not useful</th>
<th>neutral</th>
<th>somewhat useful</th>
<th>useful</th>
<th>extremely useful</th>
</tr>
</thead>
</table>

6. Ignoring minor inappropriate behaviour:

<table>
<thead>
<tr>
<th>extremely not useful</th>
<th>not useful</th>
<th>neutral</th>
<th>somewhat useful</th>
<th>useful</th>
<th>extremely useful</th>
</tr>
</thead>
</table>
7. Prompts:

   extremely not somewhat neutral somewhat useful extremely
   not useful not useful not useful useful useful

8. Shaping:

   extremely not somewhat neutral somewhat useful extremely
   not useful not useful not useful useful useful

9. Recording and graphing data:

   extremely not somewhat neutral somewhat useful extremely
   not useful not useful not useful useful useful

10. The overall group of basic parent training techniques:

   extremely not somewhat neutral somewhat useful extremely
   not useful not useful not useful useful useful

  b) Self-management training:

1. Choosing and defining goals for your own behaviour:

   extremely not somewhat neutral somewhat useful extremely
   not useful not useful not useful useful useful

2. Using visual cues as a reminder (i.e., happy face):

   extremely not somewhat neutral somewhat useful extremely
   not useful not useful not useful useful useful

3. Self-instructions (reading goals and summary sheet before teaching sessions):

   extremely not somewhat neutral somewhat useful extremely
   not useful not useful not useful useful useful

4. Self-monitoring, self-recording and self-assessment:

   extremely not somewhat neutral somewhat useful extremely
   not useful not useful not useful useful useful

5. The overall group of self-management techniques:

   extremely not somewhat neutral somewhat useful extremely
   not useful not useful not useful useful useful
C. Continued use of the skills learned during the program

In this section we'd like to get your ideas about the application of the skills you learned during training in your present home situation.

1. Are you presently working at home with your child in a structured teaching situation:
   - not at all
   - rarely
   - occasionally (less often than during training)
   - frequently (just as often as during training)
   - very frequently (more often than during training)

2. Are you using the teaching skills presented in the training program:
   - not at all
   - rarely
   - occasionally (less often than during training)
   - frequently (just as often as during training)
   - very frequently (more often than during training)

3. Are you presently using the self-management techniques presented during the training program:
   - not at all
   - rarely
   - occasionally (less often than during training)
   - frequently (just as often as during training)
   - very frequently (more often than during training)

4. How likely are you to continue to carry out the procedures now that the training program is over:
   - very unlikely
   - unlikely
   - not sure
   - likely
   - very likely

5. Have you used the skills presented during training with tasks other than the six chosen for the program. If so please indicate approximately how many new tasks you have worked on:
   - no new tasks
   - 1 new task
   - 2-3 new tasks
   - 4-5 new tasks
   - more than 5 new tasks

6. If you are continuing to work with your child in a structured teaching situation and if you are still using the skills presented during training, please describe what aspect of the program or what you have done that has been most effective in helping you to continue:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
D Your opinion please

1. What part of the program was most helpful to you?

2. What did you like most about the program?

3. What did you like least about the program?

4. What part of the program was least helpful to you?

5. How could the program have been improved to help you more?

Thank you for your time and assistance. If you have any additional comments please enclose them with this questionnaire in the attached envelope and drop it in the mail at your earliest convenience.
APPENDIX W

Family Involvement Record
<table>
<thead>
<tr>
<th>Date</th>
<th>DMO session</th>
<th>Home visit</th>
<th>Phone contact (from ther.)</th>
<th>Phone contact (to ther.)</th>
<th>Home program [project rel.]</th>
<th>Home program [other rel.]</th>
<th>Travel time</th>
<th>Other time (specify)</th>
<th>TOTAL</th>
</tr>
</thead>
</table>
APPENDIX X

Detailed Breakdown of Average Costs for Each Family Participating in the Training Program
Detailed Breakdown of Average Costs Per Family Participating in the Training Program

<table>
<thead>
<tr>
<th>Source of Cost</th>
<th>Training Basic</th>
<th>Training Self-Mngt</th>
<th>Training Total</th>
<th>Research</th>
<th>Overall Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinic Sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual</td>
<td>257.14</td>
<td>265.72</td>
<td>522.86</td>
<td>617.14</td>
<td>1140.00(19.00)</td>
</tr>
<tr>
<td>Group</td>
<td>81.43</td>
<td></td>
<td>81.43</td>
<td></td>
<td>81.43( 1.36)</td>
</tr>
<tr>
<td>Home Visits</td>
<td>210.00</td>
<td></td>
<td>210.00</td>
<td></td>
<td>210.00( 3.50)</td>
</tr>
<tr>
<td>Home Programming</td>
<td>963.71</td>
<td>17.14</td>
<td>980.86</td>
<td></td>
<td>980.86(16.35)</td>
</tr>
<tr>
<td>Phone Contacts</td>
<td>39.29</td>
<td></td>
<td>39.29</td>
<td></td>
<td>39.29( 0.65)</td>
</tr>
<tr>
<td>Travel Time</td>
<td>441.43</td>
<td>337.14</td>
<td>778.57</td>
<td>843.57</td>
<td>1622.14(27.04)</td>
</tr>
<tr>
<td>Other Time</td>
<td>99.00</td>
<td>30.00</td>
<td>129.00</td>
<td></td>
<td>129.00( 2.15)</td>
</tr>
<tr>
<td>Total Time(^a)</td>
<td>2092(34.87)</td>
<td>650(10.83)</td>
<td>2742(45.70)</td>
<td>1461(24.35)</td>
<td>4202.71(70.05)</td>
</tr>
<tr>
<td>Travel Expenses(^b)</td>
<td>$ 13.68</td>
<td>$ 16.37</td>
<td>$ 30.05</td>
<td>$ 32.58</td>
<td>$ 62.63</td>
</tr>
</tbody>
</table>

\(^a\) average time spent, minutes(hours)
\(^b\) average actual monetary expenses by family
APPENDIX Y

Detailed Breakdown of Therapist Time
Spent Per Family Participating
in the Training Program
### Detailed Breakdown of Therapist Time Spent Per Family Participating in the Program

<table>
<thead>
<tr>
<th>Source of Cost</th>
<th>Training Basic</th>
<th>Training Self-Mngt</th>
<th>Training Total</th>
<th>Research</th>
<th>Overall Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinic Sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual</td>
<td>265.71</td>
<td>274.29</td>
<td>540.00</td>
<td>634.29</td>
<td>1174.29(19.57)</td>
</tr>
<tr>
<td>Group</td>
<td>21.43</td>
<td></td>
<td>21.43</td>
<td></td>
<td>21.43( 0.36)</td>
</tr>
<tr>
<td>Home Visits</td>
<td>210.00</td>
<td></td>
<td>210.00</td>
<td></td>
<td>210.00( 3.50)</td>
</tr>
<tr>
<td>Phone Contacts</td>
<td>39.29</td>
<td></td>
<td>39.29</td>
<td></td>
<td>39.29( 0.65)</td>
</tr>
<tr>
<td>Travel Time</td>
<td>110.00</td>
<td></td>
<td>110.00</td>
<td></td>
<td>110.00( 1.83)</td>
</tr>
<tr>
<td>Other Time</td>
<td>96.43</td>
<td>66.43</td>
<td>162.86</td>
<td>154.29</td>
<td>317.15( 5.29)</td>
</tr>
<tr>
<td>Total Time&lt;sup&gt;a&lt;/sup&gt;</td>
<td>743(12.38)</td>
<td>341( 5.68)</td>
<td>1084(18.06)</td>
<td>779(13.14)</td>
<td>1872.14(31.20)</td>
</tr>
</tbody>
</table>

<sup>a</sup> average time spent per family by the therapist, minutes(hours)
APPENDIX Z

List of Therapist Materials Used

During the Training Program
List of Therapist Materials Used During the Program

Materials Per Family

Stationary / Copying
  envelopes (2 small, 4 large)
  consent forms (5 pages)
  demographic questionnaire (3 pages)
  homework sheets (4 pages per week in program)
  data sheets (4 pages per week in program)
  parent satisfaction questionnaires (14 pages)
  PSI (2 summary sheets, 2 answer sheets)
Parent Manual (parent handouts; 22 pages)
Postage (initial letter + return postage, 2 satisfaction questionnaires + return postage)

Parking Permits
Task Materials
Telephone Charges
Travel (2 home visits per family)
Cue Cards
Videotapes (1 for training; 2 for research)