The Efficacy of Prepared Videoprograms and Personal Conferences in Parent Education for Language Intervention

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THE EFFICACY OF PREPARED VIDEOPROGRAMS AND PERSONAL CONFERENCES IN PARENT EDUCATION FOR LANGUAGE INTERVENTION

by

Candis M. Warner

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the requirements for the Degree of Doctor of Education
Department of Counselor Education and Counseling Psychology

Western Michigan University
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This study was undertaken to examine the effectiveness of using prepared videoprograms and personal conferences to educate parents in the use of indirect language stimulation techniques with children who have delays in speech and language development. The efficacy of three methods to teach mothers to use facilitative communicative behaviors with their children was assessed by analyzing tape recorded language samples of 60 mothers conversing with their preschool children before and after their participation in one of three treatment conditions. The three treatments in the study were: (1) viewing the 30-minute video-program, *Let's Talk: First Steps to Conversation*, (2) viewing the video-program, *Let's Talk: First Steps to Conversation* and participating in a 15-minute follow-up discussion with a professional, and (3) participating in a 30-minute personal conference with a professional regarding the content of the videoprogram viewed by the other two groups. A control group of mothers receiving none of the treatments between the two audiotaped sessions was also included.

The questions explored in this study were:

1. Are prepared videoprograms effective in changing the verbal behavior of mothers with their preschool children who have speech and
language delays?

2. Does the addition of a follow-up discussion increase the effectiveness of a prepared videoprogram in changing the verbal behavior of mothers with their preschool children who have speech and language delays?

3. Is a single personal instructional conference effective in changing the verbal behavior of mothers with their preschool children who have delayed speech and language development?

Mothers who participated in a follow-up discussion with a professional after viewing the videoprogram and mothers who received a 30-minute conference with a professional significantly reduced their use of negative verbal behaviors with their preschool children when compared with a control group. There was no evidence to suggest that the mothers in any of the treatment groups increased their number of positive verbal behaviors. It was concluded that interactions with professionals (e.g., speech language pathologists, psychologists, educators) seem to be critically important to the success of programs designed to promote change in the verbal behaviors of mothers with their preschool children.
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The efficacy of prepared videoprograms and personal conferences in parent education for language intervention

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Western Michigan University, 1993
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CHAPTER I

BACKGROUND AND STATEMENT OF THE PROBLEM

Background of the Problem

Although most children learn to effectively comprehend and use the rules of language, approximately 5% of the total population including about 10% of the children in elementary school have communication disorders of various types and severity (Owens, 1988). The fact that large numbers of children face problems related to delayed or disordered speech and language skills has prompted numerous professionals, including psychologists, speech language pathologists, and educators, to seek causes and to design effective treatment strategies for language disorders (Callanan, 1991).

Importance of Parents in Language Development

Parents or caregivers are considered to be important contributors to the development of speech and language in children (Bell & Ainsworth, 1972; Bernstein & Tiegerman, 1989; Owens, 1988; Schirmer, 1989). There are certain identifiable behaviors parents can use with their children that social interactionist theorists believe facilitate children's language development (Tannock & Girolametto, 1992). For example, the use of open-ended questions (e.g., "Why is he sad?") and expansions of children's utterances are recommended (e.g., child--"fall
down," adult--"the blocks are falling down"). See Chapter II, Optimal Parent-Child Interactions, for further discussion of these behaviors.

**Need for Parent Education in Language Intervention**

Some research has suggested that the communicative environment of children with language delays is different than that of normally developing children (Cramblit & Siegel, 1977; Petersen & Sherrod, 1982; Tannock, 1988; Tiegerman & Siperstein, 1984; Whitehurst, Novack, & Zorn, 1972). These studies suggest that mothers of normally developing children are more responsive when interacting with their children, while mothers of children with language delay are more directive.

Some researchers have suggested that changes in parents' communicative behaviors with their children have impact on the children's subsequent speech and language development (Akhtar, Dunham, & Dunham, 1991; Feldman, Case, Rincover, Towns, & Betel, 1989; Mervis & Mervis, 1988; Morris & Warner, 1986; Scherer & Olswang, 1984). Whitehurst, Falco et al. (1988) reported that when parents increased their use of indirect language stimulation techniques (e.g., expansions and open-ended questions), their children (both normally developing and delayed) showed significant improvement in expressive and receptive vocabulary.

**Effectiveness of Parent Education in Language Intervention**

A number of educational programs to help parents facilitate their children's language development have been recently developed (Banigan & Mervis, 1988; Klein, Briggs, & Huffman, 1988; MacDonald, 1989;
Mahoney & Powell, 1986; Manolson, 1985; Weistuch & Lewis, 1985). Although several studies designed to evaluate the effectiveness of these and other parent education programs have suggested that mothers tend to be more responsive, less directive, and more sensitive to their children following instruction (Tannock & Girolametto, 1992), the effectiveness of parent education programs has not been demonstrated in any systematic manner (Banigan & Mervis, 1988; Fey, 1986).

**Prepared Videotaped Recordings and Parent Education in Language Intervention**

Most programs developed to educate parents to play a role in the habilitation of their children's language development use videoprograms as instructional tools (Banigan & Mervis, 1988; Klein et al., 1988; MacDonald, 1989; Mahoney & Powell, 1986; Manolson, 1985; Weistuch & Lewis, 1985). Other instructional methods used in these programs include lectures, individual and group discussions, and written materials; these methods typically require more time from the clinician than the use of videoprograms for educational purposes.

The use of video continues to increase, given the camcorder, the computer chip, laser technology, and innovations including interactive video. The ability to produce better quality video productions at a lower cost has encouraged more widespread use of advanced technology in research, training, and therapy (Dowrick, 1991). Again, because of their convenience and cost effectiveness, videoprograms have become increasingly popular with administrators and clinicians (Brightman, Baker, Clark, & Ambrose, 1982). It has been assumed by some professionals
that by viewing the videotapes, with or without accompanying training or materials, parents will learn and apply, with their own children, the indirect language stimulation techniques discussed in the video­programs (Banigan & Mervis, 1988; Warner, 1991). However, as for parent education programs in general, little research has been completed to evaluate the effectiveness of prepared videoprograms for parent education in language intervention (Banigan & Mervis, 1988).

Pilot Study

A pilot study led to the development of this project. Three groups of subjects participated in the pilot study. The subjects were parents of children who received speech and language services at the Charles Van Riper Language Hearing Clinic at Western Michigan University in Kalamazoo, Michigan. Their children were from 3 to 6 years of age and were diagnosed with delayed expressive language development; 55% of the children also exhibited delays in the development of articulation skills. The delays in speech and language development could not be attributed exclusively to mental retardation or hearing impairment, and all the children were able to express at least two to three word utterances.

Thirty parents, 7 fathers and 23 mothers, were assigned to two experimental groups and one control group. All parents were audiotaped conversing with their children for 15 minutes on two occasions, 1 week apart. Immediately following the first audiotaped session, Group 1 viewed the videoprogram, Let's Talk: First Steps to Conversation. Group 2 viewed the same videoprogram and also participated in a 15-minute follow-up discussion with a professional regarding the content of
the videoprogram. Group 3, a control group, did not participate in a parent education program between the two audiotaped play sessions. One week after the parents' first audiotaped play session, all parents were again audiotaped conversing with their children for 15 minutes while playing with the same materials in the same room as they did during the initial audiotaped session. A trained observer took contextual notes and used them to assist in the transcription and coding of the language samples collected from the parents during the two audiotaped sessions. The transcripts were coded for 12 verbal behaviors discussed and modeled in the videoprogram. Differences in each of the three groups of parents' frequency of use of the 12 targeted verbal behaviors were statistically analyzed. The parents were aware that the study was designed to assess the effectiveness of two educational strategies; however, there was no evidence to suggest that they significantly changed their verbal behaviors with their children following either of the two treatment conditions used in this pilot study.

This pilot study prompted further questions regarding the medium of video, especially the use of prepared videoprograms, for purposes of parent education in language intervention. The pilot study also stimulated interest in comparing the effectiveness of educational videoprograms in the promotion of skill acquisition with the effectiveness of live delivery of the same educational material.

Importance of the Study

Parent involvement in intervention programs designed to facilitate the development of speech and language skills in children with
communication disorders is considered critical to the success of language intervention programs (Andrews & Andrews, 1990; Manolson, 1985). Therefore, it is important to study how to best educate and involve parents in the intervention process.

Clinical practitioners working with families of children with communication disorders and other disabilities need strategies and tools that have been empirically shown to be effective. The current study was designed to provide psychologists, speech-language pathologists, counselors, educators, and others who are interested in fostering effective parent-child communication with information useful for planning family interventions. Understanding the efficacy of using videoprograms and professional conferences as strategies to facilitate the acquisition of indirect language stimulation techniques may also help service providers determine appropriate combinations of educational interventions with families of children who experience language delays.

Statement of the Problem

The present research was designed to investigate the impact of viewing a prepared videoprogram, with or without follow-up discussions, on the frequency of maternal use of indirect language stimulation techniques with children with language impairments. In addition, the investigation addressed the effects of an individual conference with a professional on the frequency of maternal use of targeted verbal behaviors with their children.
Research Questions

Critical issues regarding the efficacy of videoprograms and the roles of professionals in parent education in language intervention have not been adequately addressed. This research has been designed to address questions which can provide relevant information applicable to the development and implementation of educational programs for parents. The research questions are listed below.

1. Are videoprograms designed for parent education effective in changing the verbal behavior of mothers with their preschool children who have delayed language development?

2. Does a follow-up discussion with a professional enhance the effectiveness of these videoprograms in changing the verbal behavior of mothers with their preschool children who have delayed language development?

3. Are these videoprograms more effective than an individual conference with a professional in changing the verbal behavior of mothers with their preschool children who have delayed language development?

Research Hypotheses

The focus of the study was to evaluate the efficacy of videoprograms and single instructional conferences with a professional in changing mothers' verbal behavior with their preschool children with language delays. It could be reasonably predicted, based on the literature, that videoprograms would be as effective as other instructional
methods and that the addition of a follow-up discussion with a professional regarding the content of the videoprogram would enhance the effectiveness of the videoprogram in increasing the frequency of maternal use of targeted verbal behaviors.

**Hypothesis 1:** Mothers who viewed a videoprogram designed for parent education in language intervention would use more indirect language stimulation techniques with their preschool children than mothers who did not view the videoprogram.

**Hypothesis 2:** Mothers who viewed the videoprogram and participated in a follow-up discussion with a professional would use more indirect language stimulation techniques with their children than mothers who viewed the videoprogram and did not participate in a follow-up conference with a professional.

**Hypothesis 3:** Mothers who viewed the videoprogram and participated in a follow-up discussion with a professional would use more indirect language stimulation techniques than mothers who participated in a single 30-minute conference with a professional.

**Definition of Terms**

*Indirect language stimulation technique:* A term used for a number of behaviors used by adults to facilitate language development. These behaviors include: (a) commenting on what the child sees or does, (b) using open-ended questions, (c) adding additional relevant words to a child's utterance, and (d) repeating the child's utterance and adding additional relevant words to the utterance. In contrast, demands for responses or a question requiring a single word response would not
normally be considered indirect language stimulation techniques.

Expansion: An indirect language stimulation technique in which the adult expands on the child's utterance with additional relevant words. For example, when the child says, "a bird," the adult says, "a big, brown bird."

Follow-up discussion: A 15-minute session in which the mother and a professional person (a speech-language pathologist, an educator, or a psychologist) discuss the content of the videoprogram, Let's Talk: First Steps to Conversation. There is opportunity for the professional to answer questions or model behaviors for the mother. An outline for the script of the follow-up discussions is contained in Appendix E.

Linguistic environment: The language heard in an individual's surroundings (e.g., home, playground).

Naturally occurring context: Those environments or settings that are most likely to occur naturally without unusual structuring. For example, feeding, bathing, and play activities naturally occur in most children's environments.

Personal individual conference: A 30-minute session in which the mother and a professional person (a speech-language pathologist, an educator, or a psychologist) discuss the content of the videoprogram, Let's Talk: First Steps to Conversation. There is opportunity for the professional to answer questions and model targeted behaviors for the mother. An outline for the script of the personal conference is contained in Appendix D.
CHAPTER II

REVIEW OF RELATED LITERATURE

The purpose of Chapter II is to review literature from several disciplines regarding (a) parents and language development, (b) educational programs for parents of children with language delay, (c) video-programs in adult education and parent education, and (d) video-programs, parents, and language intervention.

Parents and Language Development

Most studies of child development and parent-child interactions have emphasized the importance of the language environment from the time of the child’s birth (Bell & Ainsworth, 1972; Bruner, 1975; Colombo, O'Brien, Mitchell, Roberts, & Horowitz, 1987; Hirsh-Pasek et al., 1987; Kuhl & Meltzoff, 1988; K. Nelson, 1981; Shatz & Gelman, 1973; Snow, Perlmann, & Nathan, 1987). Parents or caregivers are considered important contributors to children’s speech and language development (Hoff-Ginsberg, 1990).

The social-interactionist theories of language development suggest that language is learned in dynamic social interactions involving the children and the mature language users in their environment (Bloom & Lahey, 1978; Bruner, 1975; McLean & Snyder-McLean, 1978). In addition, many researchers argue that certain identifiable behaviors by
parents are important for facilitating their children's language development (Tannock & Girolametto, 1992).

**Optimal Parent-Child Interactions**

Typically, interactions that are optimal for language acquisition include a caregiver willing to interact with the child in a style congruent with and responsive to the child's current focus of attention, interests, and developmental abilities (Tannock & Girolametto, 1992). These interactions, which are controlled by or dependent on the child's behavior, are termed contingent interactions (Dunst, 1981). Contingent speech includes repeating the child's utterances, expanding the child's utterances (e.g., child--"ball," adult--"catch the ball"), and recasting (e.g., child--"he eated it," adult--"he ate it"). Contingent strategies provide opportunities for children to contrast their productions with those of their parents (Hoff-Ginsberg, 1990; K. Nelson, 1981; Snow, 1983). To foster children's development of early communicative, social-interactional, and linguistic skills, several techniques are suggested. They include (a) responding to the child's focus of attention, (b) commenting on activities of the child, (c) using contingent labeling, (d) expanding or extending child's utterances, and (e) decreasing directiveness (Klein et al., 1988; MacDonald, 1989; Mahoney & Powell, 1986; Manolson, 1979).

**Parents of Children With Language Delay**

Some research has suggested that the linguistic environment of children with language delays is different from that of normally...
developing children (Cramblit & Siegel, 1977; Petersen & Sherrod, 1982; Tannock, 1988; Tiegerman & Siperstein, 1984; Whitehurst et al., 1972; Whitehurst, Fischel et al., 1988). These studies suggest that mothers of normal children are more responsive when interacting with their children, whereas mothers of children with language delay are more directive. Tiegerman and Siperstein (1984) noted that approximately 80% of the maternal utterances presented to their language disordered children in a dyadic interaction were not semantically related to the child's vocal, verbal, or nonverbal behavior.

It should be noted that studies attempting to find a correlation between parent input and effect on language delay have not been able to determine the direction of effect (Bates, Bretherton, Breegly-Smith, & McNew, 1982; Schaffer, 1989). According to Tannock and Girolametto (1992), the pattern of effect is circular; the difficulties experienced by children with delays in language acquisition are related to attentional, memory, or other processing deficits which cause the children to give inadequate feedback to their caregivers. These inadequate cues prompt the adult to use interactive techniques which may be less than optimal or facilitative of language acquisition.

Regardless of the causation of the children's language delays, parents are in a critical position to serve as important intervention agents with their young children (Tannock & Girolametto, 1992). Parents or caregivers have more frequent and extensive contact with children than do professionals and are usually highly motivated to help their children develop new skills.
According to N. Nelson (1993), for very young children with disabilities, an important target of the intervention process may be assessment and enhancement of the facilitative characteristics of parental communicative interactions in naturally occurring contexts (e.g., playing, bathing, and eating).

**Parents as Agents of Change in Language Development**

The accordance of child language development with changes in parent-child interactions has been proposed by numerous authors. Whitehurst, Falco et al. (1988) suggested that the normal behavior of most parents is not necessarily optimal. They found that educating parents to use child-directed speech in natural contexts was sufficient to induce expressive language development in normal and language delayed children. Akhtar et al., (1991) also found that maternal directiveness when interacting with very young children is correlated with slow vocabulary development; the frequency of mother’s following the child’s conversational or attentional lead correlated significantly with a productive vocabulary measure taken 9 months later. In addition, Scherer and Olswang (1984) suggested there is an apparent relationship between the use of expansions and imitations by mothers and subsequent use of the models spontaneously by children.

Other researchers have also reported results which indicate adult speech addressed to young children has significant impact on the child’s subsequent language development (Barnes, Gutfreund, Satterly, & Wells, 1983; de Villiers, 1985; Feldman et al., 1989; Mervis & Mervis, 1988; Morris & Warner, 1986).
In summary, parent involvement may be a critical component of effective intervention programs for children experiencing difficulties in language development. Therefore, the question of how to best educate and involve parents in the intervention process with their children is paramount.

Education Programs for Parents of Children With Language Delay

Numerous programs for parents have been developed using a variety of approaches in attempts to help parents develop interactive styles which facilitate development of children's language skills (Banigan & Mervis, 1988; Klein et al., 1988; MacDonald, 1989; Mahoney & Powell, 1986; Manolson, 1985; Morris & Warner, 1986; Weistuch & Lewis, 1985). These programs all include training which encourages the use of the techniques listed previously as optimal parent-child interactions (Tannock & Girolametto, 1992).

Tannock and Girolametto (1992) summarized the results of several studies designed to evaluate the effectiveness of parent education programs which focus on improving parent-child interactions. The findings consistently indicated that following these programs, mothers tended to increase their use of indirect language stimulation techniques.

Fey (1986) also summarized the results of several studies which used parents as interventionists and indicated successful subsequent outcomes for the children's early language development. However, Fey suggested that the effectiveness of parent education in language intervention has not been proven. According to Tannock and Girolametto
(1992), the recent development of these programs is a factor in the uncertainty about efficacy. There is an apparent need to evaluate the effects of treatment and education programs as a whole, as well as to investigate the particular effects of program features on parent and child behavior.

Existing parent education programs take many forms, including lecture formats, therapist directed groups, individual conferences with therapists, parent manuals, and other written materials and videotapes with and without additional instruction by professionals. Most programs use videotapes as instructional tools to help parents learn to stimulate language development using a more responsive, less directive approach with their children (Tannock & Girolametto, 1992). Although concerns about cost and effectiveness exist (Banigan & Mervis, 1988), there is general professional support for the use of prepared videoprograms in parent education (Warner, 1991).

Videoprograms in Adult Education and Parent Education

Commercially prepared videoprograms have been in use for several decades in various educational settings. Thousands of instructional films and videos have been produced (Clark, 1983). The proclamation that "the medium is the message," widely discussed in the 1960s may now seem irrelevant, although the effect of video technology on society is irrevocable (Dowrick, 1991). Although the efficacy of videoprograms as educational tools as compared with other forms of instruction has been widely studied, systematic evaluation of commercially prepared didactic film or video material has been rare (Dowrick, 1991).
Schramm (1962) noted that when videorecording became available in the 1950s, it was seized upon by educators, with hundreds of studies concluding that learning from video was as effective as face-to-face instruction. More recent studies comparing videotape instruction with other forms of education also indicate that prepared videoprograms are not only an effective means of presenting material to be understood and retained by adults in a variety of learning environments (Levenson & Morrow, 1987; Lipson & Brown, 1991; Schare, Dunn, Clark, Soled, & Gilman, 1991), but also of promoting changes in behavior of the viewers (Mir, Marshall, Evans, Hall, & Duthie, 1984; Price et al., 1991). According to Dowrick (1991), video modeling is well documented in the research literature as a powerful intervention in its own right. Nonetheless, it is typically combined with other educational strategies. Some studies revealed that although videoprograms were effective in education, the addition of other educational treatments enhanced learning by participants (Levenson & Morrow, 1987; Porter, 1991).

Videoprograms are often designed to add to the viewer's knowledge base (e.g., history of psychology), to influence attitudes (e.g., the use of animals in research), and to promote skill development (e.g., counseling techniques; communication techniques for parents) (Dowrick, 1991). According to Dowrick, some videoprograms designed for the promotion of skill development also educate about facts and influence attitudes. The learning of facts, concepts, and problem solving seems to require a different process than the learning of a skill (Gagne, 1965); therefore, the following review is limited to those studies related to promotion of behavior change by means of videoprograms.
Videoprograms and Behavior Change in Adult Education

According to Dowrick (1991), modeling is the process by which an individual (the model) serves to illustrate behavior that can be imitated or adapted in the thoughts, attitudes, or overt behaviors of another individual (the observer). The model may be live, filmed, or described in any other medium. A modeling procedure usually focuses on the skill to be learned, the context for its use, and its consequences.

Bandura (1977) listed four components that affect observational learning: (1) attention to modeled events, (2) retention of what is observed, (3) ability to replicate modeled behaviors, and (4) motivation to reproduce those behaviors. According to Dowrick (1991), the use of similar models, multiple models, and demonstrations of skill performances from beginning to mastery all help promote skill acquisition.

Videoprograms have been used widely in counseling and psychology for training counselors in basic skills of counseling (Ivey, 1983). In addition, prepared videoprograms have had numerous applications in treatment and research, including important work by Kagan and Kagan (1990) and Carkhuff (1987). Some research regarding the use of prepared videoprograms for education in the behavioral sciences has indicated that the status of the individual who is modeling is important in the success of student acquisition of counseling skills. The model's perceived higher status may be a negative factor in the learner's attainment of modeled skills (McCullagh, 1986). For example, a teaching film, Three Approaches to Psychotherapy, with C. Rogers, F. Perls, and A. Ellis each working with "Gloria," the client, typically serves more as
an informational film rather than as one in which skill acquisition is expected from the viewers. The perceived discrepancy between the trainee counselors and the expert therapists used in the film is too great for effective training of skills through modeling, according to Weinrach (1986).

In a prison setting, Hosford, George, Moss, and Urban (1975) conducted a study designed to determine the effects of two types of in-service training, live and videotape instruction, on the subsequent acquisition of knowledge and counseling skills of correctional staff assigned to work with incarcerated adult offenders. The live training proved to be more effective on only one of the five criterion variables; the authors concluded that videotaped training programs should be equally effective as live training sessions for promoting desired counseling skills. Zwick and Attkisson (1985) investigated effectiveness of prepared video-programs used in an orientation of new clients to psychotherapy. The group who viewed the tape showed a greater decrease in self-reported symptoms than the control group after 1 month.

Studies in the medical field have found videotaped demonstrations and instruction to be as effective as live instruction in teaching clinical methods to medical students and nurses (McNaull, McLees, Belyea, & Clipp, 1992; Mir et al., 1984). Schoonover, Bassuk, Smith, and Gaskill (1983) found that dramatic videos were even more effective in influencing skill acquisition than live role plays for training health care personnel to handle psychiatric emergencies. Prepared videoprograms have been found to be as effective as live and written instruction in changing clients' or patients' behaviors in antismoking interventions, general medical

Clearly, videoprograms are widely used in various adult educational contexts and have been found to be valid educational tools. In fact, in some settings, videoprograms surpass other educational strategies, including personal instruction, in effectiveness (McNaul et al., 1992).

**Videoprograms and Behavior Change in Parent Education**

The efficacy of videotapes specifically developed to educate and change the behavior of parents with their families has been studied in a variety of parent-child milieus.

Birchwood, Smith, and Cochrane (1992) compared three methods of delivering an educational intervention for families living with a schizophrenic relative in terms of their efficacy in improving understanding and promoting family and patient well-being. The authors suggested that the significant improvements noted in the social function of all three groups indicates that videoprograms are as effective in increasing knowledge and promoting behavior change as lecture/group discussion or the provision of written information.

Another example of the success of prepared video modeling tapes was demonstrated by O'Dell, O'Quinn, Alford, Bradlyn, and Gibenhaim (1982) in a study designed to compare the effectiveness of a written training manual, a prepared audiotape, and a prepared videoprogram. All training methods were found to be comparably successful. However, the videoprogram demonstrated a superior ability to train parents
possessing a wide range of individual characteristics.

Other research has suggested positive behavior changes following education by means of videoprograms, with or without accompanying professional conferences. For example, Webster-Stratton (1981) studied videotaped modeling as a method of training parents to use effective play techniques, to set appropriate limits, to handle misbehaviors, and to communicate verbally and nonverbally such positive feelings as acceptance, enjoyment, and interest to a child. She reported significant behavioral changes in a group of mothers who attended videotape modeling sessions as compared to a group of mothers who were on a waiting list control group.

Webster-Stratton (1984) also conducted a randomized trial of two parent-training programs for families with children who have conduct disorders. Mothers were assigned to either a videotape modeling group discussion program or an individual therapy program. Both groups of treated mothers showed significant attitudinal and behavioral improvements compared with untreated controls. In addition, the children in the two treatment groups showed reductions in child noncompliance compared with control children. At a 1-year follow-up, no significant differences were found between the treatment groups, the mothers’ changes in behaviors had been maintained, and the children continued to show reduced noncompliant and deviant behaviors. Total therapist time was approximately 251 hours for the entire group receiving individual therapy, while 48 therapist hours were spent for the videotape modeling group. Webster-Stratton suggested that a videotape modeling, therapist led group discussion is a cost effective method to educate and foster
change in parents' behaviors.

Webster-Stratton, Hollinsworth, and Kolpacoff (1989) conducted an additional study to determine the active change-inducing ingredient of a parent training program based on therapist-led group discussion and videotape modeling. They randomly assigned families with conduct-problem children to one of four conditions: an individually self-administered videotape modeling treatment (IVM), a group discussion videomodeling treatment (GDVM), a group discussion treatment, and a waiting-list control group (CON). All three parent training programs were shown to lead to reliable and sustained improvements at least up to 1 year for approximately two-thirds of the sample. Although the GDVM seemed to produce more consumer satisfaction and improvements than the other two treatment approaches, Webster-Stratton et al. noted that the videotape only program (IVM) sustained its effectiveness over time and was comparable to the other two treatment conditions.

Banigan and Mervis (1988) reported the results of a study designed to determine whether mothers are able to implement strategies to stimulate their children's language production after observing a video-program designed to teach the strategies. They reported results which indicated not only are mothers able to implement the language stimulation techniques they have observed in single viewing of a videoprogram, but their children also react by increasing their number of verbal responses. Banigan and Mervis suggested self-instructional videoprograms could serve a crucial role in prevention, early identification, and intervention programs.
Some studies, however, suggest that live delivery of parent education is superior to videoprograms in facilitating behavior change (Houts, Whelan, & Peterson, 1987). In addition, other studies have indicated that parent education including professional consultation is superior to prepared videoprograms without additional professional involvement (Warner, 1991; Webster-Stratton, 1990).

Although prepared videoprograms have obvious advantages over live modeling, including the ability to capture "naturalistic" modeling sequences that would be difficult to create in a live clinical situation, and a greater control of the final product because of the ease of numerous revisions (Fisher, Reardon, & Burck, 1976), questions still exist regarding the relative educational effectiveness of videoprograms compared to live instruction. Inconsistencies between studies suggest further comparative studies are necessary to help service providers select the most efficacious and time efficient means of parent education.

Videoprograms, Parents, and Language Intervention

In recent years, commercially prepared videotapes have increasingly been used in parent education programs in hospitals, clinics, and schools (Rimmerman, Levy, Levy, & Zeger, 1990). Administrators have contended that using videotapes is a cost effective way to provide services for families (Brightman et al., 1982). According to O'Dell et al. (1982), such videotapes provide parents with consistent and condensed information, offer a medium around which professionals and parents can interact comfortably, and serve as a focal point for discussion. In some settings clinicians use videoprograms to teach parents language
stimulation techniques without planned additional training (Banigan & Mervis, 1988). Most programs which use prepared videoprograms to help parents more effectively manage behaviors or interact with children have been evaluated positively by parents and service providers (Banigan & Mervis, 1988; Currie, 1976; Evans & Taylor, 1980; Golub, 1987; Morlan, 1976; Morreau, 1972; Rimmerman et al., 1990). For some service providers, however, the initial purchase price of many prepared videoprograms may seem prohibitive (Warner, 1991). If, however, these videotape productions could be proven to effectively provide valuable treatment components, such as parent education, without significant time requirements from professional staff, they would likely appeal to many service providers.

In summary, this review of related literature regarding (a) parents and language development, (b) educational programs for parents of children with language delay, (c) videoprograms in adult education and parent education, and (d) videoprograms, parents, and language intervention indicates a need for further empirical studies in each of these areas. The review also lends support to the following statements which lead to the conclusion that further study of the effectiveness of videoprograms for parent education in language intervention is warranted.

1. Parents and caregivers are important contributors to children's language development.

2. There is a widespread belief that adult interactions which are child-oriented, include language modeling, and use indirect language stimulation techniques can facilitate communication and language development in children.
3. Without appropriate training, many parents do not effectively use these interactive techniques believed to foster language development, especially those parents of children with delayed language skills.

4. Numerous parent education programs have been developed and many have been shown to be effective in helping parents provide intervention for their children.

5. Commercially prepared videoprograms are elemental to several of these parent education programs.

6. In many educational settings, videoprograms are as effective as several other means of instruction. However, inconsistencies exist between studies regarding the comparative effectiveness of video instruction.

7. In spite of questions from service providers regarding the cost effectiveness and validity of the use of commercially prepared videoprograms, there has been little research on the efficacy of using videoprograms for parent education in language intervention.
CHAPTER III

METHODOLOGY

The purpose of this study was to examine the effectiveness of using videoprograms and individual conferences to change mothers' verbal behavior with their preschool children who have language delay. The method and procedures used in this study are described in Chapter III. Included are sample and population, setting, data collection instrument, training of observers, interrater reliability, and procedures.

Sample and Population

Eighty-nine mothers whose preschool children, ages 36 to 59 months, were enrolled for speech and language therapy at the Charles Van Riper Language, Speech, and Hearing Clinic at Western Michigan University in Kalamazoo, Michigan, were contacted at the clinic; 2 mothers declined to participate and 60 completed the study. Subjects participating in this study were white, had at least a high school education, resided in western Michigan, were between the ages of 25 and 39, and had between 1 and 6 children. All subjects were from monolingual homes where Standard English is spoken; they all possessed a valid Michigan driver's license, and were judged by a speech-language pathologist to have normal communication skills. Thirty-nine of the 60 preschool children receiving speech and language services were males and 21 were females; the average age of the children was 49 months. All of
the children were diagnosed with slow expressive language development; 65% of the children also had delays in the development of normal articulation skills. The delays in speech and language development could not be attributed exclusively to mental retardation or hearing impairment and all of the children in the study were able to express at least two to three word utterances.

Setting

The Charles Van Riper Language, Speech, and Hearing Clinic is located on the campus of Western Michigan University and is a university training clinic associated with the Department of Speech Pathology and Audiology in the College of Health and Human Services. Western Michigan University is a large coeducational, state-supported research institution located in Kalamazoo, Michigan. Each year approximately 1,800 clients receive speech-language-hearing services at the Charles Van Riper Language, Speech, and Hearing Clinic.

Data Collection Instrument

The data collection instrument was derived from the content of the videoprogram and the written facilitator's guide published with and designed to accompany the videoprogram (Sharp, 1987). The educational content of the videoprogram and the guide is consistent with the social-interactionist theories of language development which suggest that parents' behaviors are important in the facilitation of their children's language development (Tannock & Girolametto, 1992). A number of the behaviors believed to be particularly facilitative of children's language
development are directly discussed, modeled, and recommended for parent use in the 30-minute videoprogram, *Let's Talk: First Steps to Conversation*. Ten of these verbal behaviors were selected for observation in the study. The frequency of these 10 targeted verbal behaviors used by mothers in the four study groups were coded and tallied on the data collection instrument are contained in Appendix C. The behaviors and the descriptions used by the trained observers are presented in Table 1.

### Table 1
Behaviors and Descriptions Coded by Trained Observers

<table>
<thead>
<tr>
<th>Behaviors</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Comment regarding what child sees</td>
<td>Adult acts as a broadcaster. Adult observes what child sees and describes it to the child without expecting or demanding a response.</td>
</tr>
<tr>
<td>2. Comment regarding child's actions</td>
<td>Adult observes action of child and describes it. 1 and 2 are termed Information Talk in <em>Let's Talk: First Steps to Conversation</em>.</td>
</tr>
<tr>
<td>3. Repetition of child's utterance/correct model</td>
<td>A repetition of the exact utterance of child with correct articulation (child: &quot;a tat,&quot; mother: &quot;a cat&quot;)</td>
</tr>
<tr>
<td>4. Addition to child's utterance</td>
<td>The adult responds to a child's utterance with additional relevant words. (child: &quot;Car goes fast,&quot; mother: &quot;and far&quot;)</td>
</tr>
<tr>
<td>5. Repetition plus expansion of child's utterance</td>
<td>Adult uses child's words in a more complete phrase or sentence (child: &quot;down,&quot; mother: &quot;Yes, the puzzle piece fell down&quot;)</td>
</tr>
</tbody>
</table>
### Table 1--Continued

<table>
<thead>
<tr>
<th>Behaviors</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Open-ended question</td>
<td>Question that has many possible answers. A question that encourages children to respond with more than one word and stimulates thinking. (May begin with &quot;I wonder,&quot; &quot;How,&quot; or &quot;Tell me about&quot;)</td>
</tr>
<tr>
<td>7. Demand for a response</td>
<td>The adult says, &quot;Say . . .&quot;</td>
</tr>
<tr>
<td>8. Closed question</td>
<td>Question that elicits one or two word response. Adult typically knows answer. (Mother: &quot;What's this?&quot;)</td>
</tr>
<tr>
<td>9. &quot;No&quot; in response to child's speech errors</td>
<td>Adult says &quot;No,&quot; in response to a child's speech error (child: fee tookies, mother: &quot;No, three cookies&quot;)</td>
</tr>
<tr>
<td>10. Interruption of child's speech to correct</td>
<td>Adult doesn't allow child to complete utterance, but interrupts with correct speech model (child: &quot;Him go to . . . ,&quot; mother inserts: &quot;He goes to&quot; before child is finished speaking)</td>
</tr>
</tbody>
</table>

### Training of Observers

Six master's level graduate students (three pairs) in speech pathology who were familiar with the transcription of language samples received additional training for the observation, transcription, and coding processes used in the study. The students received written coding instructions (see Appendix F) and participated in two group practice sessions involving the use of videotapes, audiotapes, and live modeling designed to enhance the reliability of the coding of the transcripts on the data collection instrument.
All maternal utterances and all child utterances judged by trained observers as necessary for coding during the two play sessions were transcribed along with contextual notes. Since the observers worked in pairs, 80% of the transcripts were fully reviewed by a trained transcriber prior to analysis. In addition, two of the trained observers independently coded 50% of the transcripts on the data collection instrument attached as Appendix C; the remaining 50% were independently coded by three trained observers.

Reliability

Reliability coefficients were obtained for 40% of the coded transcripts that cover each of the 10 categories of verbal behaviors. From 84% to 100% of coding judgments were found to be in agreement by pairs of trained observers. Table 2 reports these reliability coefficients.

Procedures

Subsequent to approval by Western Michigan University’s Human Subjects Institutional Review Board (HSIRB), attached as Appendix A, participants were recruited through direct contact with faculty clinical supervisors at the Charles Van Riper Language, Speech, and Hearing Clinic. The clinical supervisors received a letter explaining the study and requesting that they discuss it with their clients appropriate to the research (i.e., mothers of preschool children who have speech and language delay). The supervisors provided a list of clients who agreed to be contacted by phone regarding the study. The researcher contacted those clients by phone and explained the purpose and procedures of the
Table 2
Percentage Reliability Coefficients by Pairs

<table>
<thead>
<tr>
<th>Behaviors</th>
<th>Pair A %</th>
<th>Pair B %</th>
<th>Pair C %</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Comment regarding what child sees</td>
<td>87</td>
<td>92</td>
<td>84</td>
<td>88</td>
</tr>
<tr>
<td>2. Comment regarding child's actions</td>
<td>88</td>
<td>91</td>
<td>84</td>
<td>88</td>
</tr>
<tr>
<td>3. Repetition of child's utterance/correct model</td>
<td>94</td>
<td>90</td>
<td>92</td>
<td>92</td>
</tr>
<tr>
<td>4. Addition to child's utterance</td>
<td>85</td>
<td>84</td>
<td>89</td>
<td>86</td>
</tr>
<tr>
<td>5. Repetition plus expansion of child's utterance</td>
<td>95</td>
<td>97</td>
<td>96</td>
<td>96</td>
</tr>
<tr>
<td>6. Open-ended question</td>
<td>93</td>
<td>97</td>
<td>98</td>
<td>96</td>
</tr>
<tr>
<td>7. Demand for a response</td>
<td>100</td>
<td>97</td>
<td>96</td>
<td>98</td>
</tr>
<tr>
<td>8. Closed question (requiring a single word response)</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>9. &quot;No&quot; in response to child's speech errors</td>
<td>100</td>
<td>97</td>
<td>92</td>
<td>96</td>
</tr>
<tr>
<td>10. Interruption of child's speech to correct</td>
<td>93</td>
<td>87</td>
<td>98</td>
<td>93</td>
</tr>
<tr>
<td>Totals</td>
<td>93</td>
<td>93</td>
<td>92</td>
<td>93</td>
</tr>
</tbody>
</table>

study and the participants were asked to participate on a voluntary basis. Arrangement for the administration of the research procedures were made. Each participant read instructions to participants and signed an informed consent form describing the study attached as Appendix B.
Each participant was randomly assigned to one of four groups of mothe
ers as listed in Table 3.

Table 3
Randomly Assigned Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td>15</td>
<td>Viewed 30-minute videoprogram, Let’s Talk: First Steps to Conversation.</td>
</tr>
<tr>
<td>Group B</td>
<td>15</td>
<td>Viewed 30-minute videoprogram, Let’s Talk: First Steps to Conversation and participated in a 15-minute discussion with a speech-language pathologist.</td>
</tr>
<tr>
<td>Group C</td>
<td>15</td>
<td>Participated in a 30-minute personal conference with a speech-language pathologist regarding the content of the videoprogram.</td>
</tr>
<tr>
<td>Group D</td>
<td>15</td>
<td>Control group—no treatment.</td>
</tr>
</tbody>
</table>

Each participant was asked to play and converse naturally with her child for 15 minutes on two occasions, 1 week apart. During the two play sessions, the conversations between the mothers and children were audiotaped. A trained observer viewed the conversations through a one-way mirror in order to provide accurate contextual notes to assist in the coding of the language samples. Immediately following the first audiotaped play session, one group of mothers viewed a 30-minute videoprogram entitled, Let’s Talk: First Steps to Conversation.” The second group of mothers viewed the videoprogram and immediately following the viewing, engaged in a 15-minute discussion of the content in the videoprogram with a speech-language pathologist. A third group
of mothers did not view the videoprogram, but discussed the content of the program with a speech-language pathologist in a 30-minute individual conference. A fourth group of mothers was placed in a control group receiving no parent education program between audiotaping sessions. All participants were given the opportunity to view the videoprogram and consult with a speech-language pathologist following the second audiotaped session with their child.

For all participants, 1 week subsequent to the first audiotaped play session, the second 15-minute mother-child play session was audiotaped. The time of day, place, and materials used were consistent through the two play sessions for all participants.

The format of the conference for the participants who did not view the videoprogram but instead participated in a 30-minute individual conference with a speech-language pathologist was consistent in content; an outline of the script used with these individuals (Group C) is attached as Appendix D. An outline of the script followed with the group of subjects who viewed the videoprogram and engaged in a 15-minute discussion with a speech-language pathologist is attached as Appendix E. However, the discussions with the individual subjects in this group (Group B) were often guided by questions introduced by the individual subjects regarding the content of the videoprogram. Therefore, these discussions were not consistent in content for all subjects.

Trained observers transcribed all maternal utterances from the two audiotaped sessions and included on the transcripts all contextual information obtained during the observations. The children's utterances were also transcribed when judged necessary for accurate coding by the
trained observers. Two sample coded transcripts are attached as Appendix G.
CHAPTER IV

REPORTING OF FINDINGS

The purpose of this study was to examine the effectiveness of using prepared videoprograms and personal conferences for educating mothers to use indirect language stimulation techniques with children who have speech and language delays.

Results of the Hypotheses

Null Hypothesis 1: There will be no difference between the number of indirect language stimulation techniques used by mothers who view the videoprogram and the number of indirect language stimulation techniques used by mothers who do not view the videoprogram.

A one-way analysis of variance indicated no significant difference ($p \leq .05$) in total numbers of indirect language stimulation techniques used by mothers who viewed the videoprogram and those mothers who did not view the videoprogram (see Table 4).

The indirect language stimulation techniques (positive verbal behaviors) measured are as follows: (a) comment regarding what child sees, (b) comment regarding child's actions, (c) repetition of child's utterance, (d) addition to child's utterance, (e) repetition plus expansion of child's utterance, and (f) open-ended question.

In addition, no significant differences ($p \leq .05$) were found in the total numbers of negative verbal behaviors used by mothers who viewed...
Table 4
One-Way Analysis of Variance of the Four Groups' Total Number of Positive Language Stimulation Techniques

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of squares</th>
<th>Mean square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups</td>
<td>3</td>
<td>806.850</td>
<td>286.950</td>
<td>2.06</td>
<td>.1162</td>
</tr>
<tr>
<td>Error</td>
<td>56</td>
<td>7320.400</td>
<td>130.721</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected total</td>
<td>59</td>
<td>8127.25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The videoprogram and mothers who did not view the videoprogram. The negative verbal behaviors are as follows: (a) demand for a response, (b) closed question (requiring a single word response), (c) use of "no" in response to child's speech errors, and (d) interruption of child's speech.

The null hypothesis was supported by the findings. The means and standard deviations of each of the verbal behaviors coded are shown in Table 5.

Null Hypothesis 2: There will be no difference in the number of indirect language stimulation techniques used by mothers who view the videoprogram and the number of indirect language stimulation techniques used by mothers who view the videoprogram and also participate in a follow-up conference with a trained professional.

A one-way analysis of variance indicated no significant difference ($p \leq .05$) between these groups for either the positive verbal behaviors or the negative verbal behaviors, supporting the acceptance of the null hypothesis.
Table 5
Means and Standard Deviations by Frequency of Maternal Use of 10 Coded Behaviors by Group
Pretreatment and Posttreatment

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Group A</th>
<th>Group B</th>
<th>Group C</th>
<th>Group D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Mean</td>
<td>7.07</td>
<td>7.24</td>
<td>7.73</td>
<td>8.01</td>
</tr>
<tr>
<td>SD</td>
<td>0.74</td>
<td>0.26</td>
<td>0.67</td>
<td>1.05</td>
</tr>
<tr>
<td>Mean</td>
<td>1.27</td>
<td>1.58</td>
<td>0.67</td>
<td>1.05</td>
</tr>
<tr>
<td>SD</td>
<td>0.07</td>
<td>0.26</td>
<td>0.13</td>
<td>0.35</td>
</tr>
<tr>
<td>Mean</td>
<td>0.00</td>
<td>0.00</td>
<td>0.27</td>
<td>0.46</td>
</tr>
</tbody>
</table>
Null Hypothesis 3: There will be no difference in the number of indirect language stimulation techniques used by mothers who view the videoprogram and also participate in a follow-up conference with a professional and the number of indirect language stimulation techniques used by mothers who do not view the videoprogram, but participate in a single individual 30-minute consultation with a trained professional regarding the information presented in the videoprogram.

A one-way analysis of variance did not support a significant difference ($p > .05$) between these groups for the positive verbal behaviors and no significant difference ($p > .05$) for the negative verbal behaviors was indicated. This null hypothesis is supported.

Results of Research Questions

The first question in this study asked whether videoprograms designed for parent education are effective in changing the verbal behavior of mothers with their preschool children who have delayed language development. The results indicated no significant difference ($p > .05$) in the total numbers of specific verbal behaviors used by mothers who viewed the videoprogram and the total numbers of specific verbal behaviors of mothers who did not view the videoprogram.

The second research question asked whether a follow-up discussion with a professional enhances the effectiveness of videoprograms in changing the verbal behavior of mothers with their preschool children who have delayed language development. The results of a one-way analysis of variance indicated that there was no significant difference ($p > .05$) between the group of mothers who viewed the videoprogram
and those who viewed the videoprogram and also participated in a follow-up discussion with a professional in the number of indirect language stimulation techniques used.

The final research question asked whether or not videoprograms designed for parent education in language intervention are more effective than an individual conference with a professional in changing the verbal behavior of mothers with their preschool children with delayed speech and language development. Again, no significant difference was revealed on a one-way analysis of variance ($p \leq .05$) between the total number of specific verbal behaviors used by mothers who viewed a videoprogram and those who participated in an individual conference with a professional.

The one-way analysis of variance did indicate a significant difference ($p \leq .05$) between the groups of mothers in the total number of negative verbal behaviors used with their children as reported in Table 6.

Table 6
One-Way Analysis of Variance of the Four Groups' Total Number of Negative Verbal Behaviors

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of squares</th>
<th>Mean square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups</td>
<td>3</td>
<td>1465.516</td>
<td>488.5055</td>
<td>2.94</td>
<td>.0407*</td>
</tr>
<tr>
<td>Error</td>
<td>56</td>
<td>9289.733</td>
<td>165.8880</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected total</td>
<td>59</td>
<td>10755.250</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p $\leq .05$. 

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Because a significant difference was indicated between at least two groups in the total number of negative verbal behaviors used, a pairwise method, least squares means (see Table 7) was performed to ascertain the different groups. The pairwise comparison test revealed statistically significant differences ($p \leq .05$) between Group B and Group D and between Group C and Group D in the total number of negative verbal behaviors used by the mothers with their children. The mothers in Group D increased the number of negative verbal behaviors with their children in the pre- and posttreatment samples, while the mothers in Group B and Group C decreased their use of the negative verbal behaviors. There were no significant differences ($p \leq .05$) found between any of the three treatment groups for this set of behaviors. However, Group A was the only treatment group which was not found to be significantly different from the control group in the total number of negative verbal behaviors used.

Table 7

<table>
<thead>
<tr>
<th>Group</th>
<th>Differences in means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td>-0.266</td>
</tr>
<tr>
<td>Group B</td>
<td>-5.533</td>
</tr>
<tr>
<td>Group C</td>
<td>-6.866</td>
</tr>
<tr>
<td>Group D</td>
<td>5.660</td>
</tr>
</tbody>
</table>
CHAPTER V

DISCUSSION AND CONCLUSIONS

The purpose of this study was to examine the effectiveness of using prepared videoprograms and personal conferences for educating parents to use indirect language stimulation techniques with children who have delays in speech and language development. Sixty mothers of children receiving speech and language therapy were randomly assigned to one of four groups. All mothers were audiotape recorded for 15 minutes while conversing with their children during two play sessions one week apart, at the Charles Van Riper Language Speech and Hearing Center on the campus of Western Michigan University in Kalamazoo, Michigan. The language samples collected from the mothers during the two audiotaped play sessions were transcribed and coded for 10 verbal behaviors discussed in the videoprogram. Immediately following the first audiotaped play session, the three groups of mothers received the following treatments, while Group D participated as a control group with no intervening parent education program.

Group A viewed a 30-minute videoprogram, Let's Talk: First Steps to Conversation.

Group B viewed the 30-minute videoprogram and subsequently discussed, for 15 minutes, the content of the videoprogram with a speech-language pathologist.
Group C participated in a 30-minute conference with a speech-language pathologist regarding the content of the videoprogram.

Differences for each group in the frequency of mothers' use of targeted verbal behaviors with their children during the two audiotaped play sessions were statistically analyzed.

Discussion

Statistical analyses performed on the total sample revealed no significant differences among any of the groups in the acquisition of the six indirect language stimulation techniques. However, mothers who received some personal instruction from a professional decreased the number of verbal behaviors termed negative in this study. These negative verbal behaviors included: (a) demanding a response (e.g., "Say dog"), (b) saying "No" in response to a child's verbal attempts, (c) asking questions which require a one word response (e.g., "What's that?"), and (d) interrupting the child's speech. The mothers in Group A, who viewed the videoprogram only, did not alter the number of positive or negative verbal behaviors used with their children in the pre- and posttreatment samples. Therefore, these results suggest that to make even small changes in the verbal behaviors of mothers with their preschool children, personal professional conferences with the mothers is cardinal.

In spite of the encouragement through the videoprogram and the personal conferences for the mothers to increase the number of six indirect language stimulation techniques with their children, the mothers did not increase their use of any of the six strategies. Although the
videoprogram provides instruction in the use of these techniques and provides models for their use with young children, it also notes that adults usually need to practice in order to include them naturally into conversations with children. The week separating the viewing of the videoprogram or the personal conferences and the second audiotaped recording allowed time for the mothers to practice the techniques with their children. It is possible that the techniques demonstrated were too difficult to learn and apply after only one instructional session. This is an especially important finding as more complex language stimulation techniques than addressed in this study are often recommended in parent education programs in language intervention (Fey, 1993).

In addition, the mothers were aware that the purpose of the study was to determine the effectiveness of videoprograms and personal conferences in helping parents communicate more effectively with their children who have speech and language delays. All mothers were attentive while watching the videoprogram; all said they enjoyed viewing it and described the videoprogram as helpful. Consequently, the limited amount of change in the mothers of children with delayed speech and language development is not likely to be related to the quality of the videoprogram. It is possible, however, that the videoprogram and, thus, the follow-up discussion and 30-minute conference, recommended too many behavioral changes for the mothers to easily recall, differentiate, and apply after only one session. In addition, the mothers' comments suggested that they valued the techniques стратегий demonstrated in the videoprogram.
According to Whitehurst, Falco et al. (1988), most parents do not use an optimal number of indirect language stimulation techniques with their children. Therefore, the suggestion that these mothers may have already been using a maximal number of indirect language stimulation techniques is improbable. The fact that some of the mothers may have been using a normal number of the positive verbal behaviors does not preclude an increase in their use of the techniques as instructed in the three treatments in this study. Also, the behavior of the mothers indicated they were motivated to help their children improve their speech and language skills (e.g., transporting them to a clinic for 50-minute therapy sessions twice a week and volunteering for a study requiring their time). Thus, of Bandura's (1977) four components mediating observation learning: (1) attention to modeled events, (2) retention of what is observed, (3) ability to replicate modeled behaviors, and (4) motivation to reproduce those behaviors, only retention and ability to replicate modeled behaviors seem applicable to the results of this study.

According to these results, a single attempt to educate mothers to increase their use of indirect language stimulation techniques by means of a videoprogram, a videoprogram with a personal discussion, or a personal professional conference may not be sufficient to facilitate the changes. The decreases in the number of negative verbal behaviors with their children by only those mothers who had personal instructions from a professional indicate that personal professional conferences must be an integral component of parent education programs in language intervention.
Limitations of the Study

One possible limitation of the study involved the method of data collection. As discussed in Chapter III, audiotape recordings were used to collect the language samples from the mother-child dyads. Contextual notes by an observer were used to supplement the audiotape recording to assist in the coding process. The use of audiotape was chosen to allow for a more natural play situation, following two attempts to use videotape recording in which the mothers were obviously distracted by and concerned about the videotaping process. A videotaped language sampling procedure could have allowed more thorough analysis of the parent-child interactions including eye contact and physical positioning; however, coder reliability was high for the audiotaped verbal behaviors selected in this study.

Generalization of the results to other prepared videoprograms is difficult because of the impact of content on the effectiveness of video training programs. Also, different populations may reveal varied results; the videoprogram addresses parents, teachers, and caregivers. For example, verbal interactions between certain family members, especially mothers and children, may be more difficult to alter than interactions between fathers, teachers, or caregivers with children.

An additional limitation of the study is a lack of long-term follow-up data. It is unknown how the significant effects of the treatments will last over time.
Implications for Further Research

Strategies for interventions with families of children with speech and language delays have rarely been studied (Fey, 1993). Efficacy studies of parent education programs in language intervention should be common. If a 30-minute professional conference and a videoprogram have limited impact on mother’s verbal behaviors, questions still exist regarding what strategies will better help mothers learn and apply positive techniques with their children. The amount of time and practice required of parents to learn and apply new language intervention techniques with their children is still unknown. The resources necessary to provide optimal parent education in this area also need further exploration.

The results of this study illustrate that even though a treatment strategy may appear to be well developed and is evaluated positively by the recipients of the treatment, it may not be effective in changing targeted behaviors. Questions regarding the effectiveness of written, audiotaped, or videotaped training materials for parent education in language intervention should be addressed. To be assured that their efforts are effective, service providers need empirically proven tools and strategies to use with families of children with disabilities. Also, the differences found in the decreased use of negative verbal behaviors by the mothers who received a personal conference with a professional indicate a need for further comparisons of personal instruction with other technological or written instructional methods.
Summary and Conclusions of the Study

Significant differences were found to exist in the number of negative behaviors used between the mothers in the control group and the mothers in the two groups receiving personal instruction from a speech language pathologist. The mothers in the two treatment groups decreased their use of negative verbal behaviors while the control group increased their use of negative verbal behaviors in the second language sampling. While there may be other mitigating factors that influence the use of positive verbal behaviors in mother-child interactions, the decrease in negative behaviors may allow for more opportunity for positive behaviors to occur. In addition, those mothers who rarely use negative verbal behaviors may be more receptive to increasing their range of positive verbal interaction skills. The group of mothers only viewing the videoprogram did not alter their use of negative verbal behaviors.

The findings indicate that a single viewing of a videoprogram designed for parent education in language intervention may not provide a major impact on increasing the use of positive verbal behaviors of mothers with their preschool children who have delayed speech and language development. Also, the addition of a follow-up discussion with a professional does not seem to enhance the effectiveness of the videoprogram in facilitating the acquisition of positive verbal behaviors by mothers with their preschool children. There was also no evidence to support that a single 30-minute conference with a professional regarding the content of the videoprogram resulted in significant differences in the verbal behaviors of mothers from those of mothers in the other two treatment
groups.

In conclusion, this study provided data indicating the use of personal professional interactions with mothers of children with speech and language delays is central to the delivery of effective parent education in language intervention. The potential use of videoprograms as a modality for parent education in this area seems to have merit when coupled with parent-professional interactions. Service providers, in their quest for the most time efficient means for educating parents, should proceed with caution. It is important to avoid assumptions that parents have learned to apply behaviors targeted by various educational methods. Parents may express satisfaction with teaching strategies and indicate knowledge about targeted verbal behaviors, yet find application of the behaviors difficult. Careful assessment of the parents' acquisition of targeted skills with their children and ongoing parent-professional collaboration through frequent interactions may be requisite to ensure meaningful changes.

Quality videoprograms may provide stimulating educational content, as indicated by the subjects' positive reviews of the videoprogram in this sample. Parent-professional conferences may then allow for reiteration, clarification, and problem solving regarding generalization of principles learned from the videoprogram but not specifically demonstrated in it. Webster-Stratton (1990) reported that professional conferences helped customize the tailoring of the principles demonstrated in the video and allowed for the best fit in addressing the unique problems and needs of each family.
According to Fey (1993), parents can be trained to use specific speech and language intervention techniques with impressive subsequent results in gains in expressive language skills by the children. The parent intervention program used in Fey’s research included parent observation of clinician demonstration, participation in role play exercises, involvement in group discussions in 12 weekly group sessions, and three professional home visits. The parents also received individual conferences with professionals to receive feedback and have opportunity for follow-up discussions. In spite of the time necessary for the professionals to plan and implement such a highly comprehensive parent education program, Fey concluded a parent treatment program can be an extremely cost-effective means of language intervention.

Another model of effective language intervention could include a family systems approach, in which psychologists or counselors and speech language pathologists meet regularly with families of children who have delays in speech and language development (Andrews & Andrews, 1990; Morris & Warner, 1986). In this model not only can the child’s speech and language needs be a focus of parent-professional collaboration, but also issues can be addressed which are not typically considered within the professional boundaries of the speech-language pathologist, but which have direct impact on the child’s speech and language development (e.g., marital, sibling, mental health, vocational problems). Videoprograms may be among the tools used by the psychologists or speech-language pathologists to help facilitate positive behavioral changes. This model also requires a significant amount of commitment from professionals and parents, but may be a time and cost

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effective means of language intervention if gains are accelerated when compared with a traditional clinician treatment program with less parent involvement.

Finally, the cost and time effectiveness of treatment methods in education and health care seem to be of high national interest. Educating parents to provide needed therapeutic interventions has been shown to be a cost-effective, valid means to help children develop language skills (Fey, 1993; MacDonald, 1989). To ensure that parents are effectively educated to perform these therapeutic functions, this study supports a need for the development and empirical testing of parent education methods in language intervention.
Appendix A

Approval Letter From Western Michigan University
Human Subjects Institutional Review Board
Date: June 23, 1993
To: Candis Warner
From: M. Michele Burnette, Chair
Re: HSIRB Project Number 92

This letter will serve as confirmation that your research project entitled "The effectiveness of consultation and prepared videoprograms in parent education" has been approved following full review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the approval application.

You must seek reapproval for any changes in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: June 23, 1994

xc: Morris, CECP
Appendix B

Instructions to Participants and Informed Consent Form
THE EFFECTIVENESS OF CONSULTATION AND VIDEOPROGRAMS IN PARENT EDUCATION

PRINCIPLE INVESTIGATOR: CANDIS WARNER
OFFICE PHONE NUMBER: 387-8063

INSTRUCTIONS TO PARTICIPANTS
To be read to potential participants prior to showing them the Informed Consent

We are conducting a study to determine the effectiveness of a videoprogram designed to teach parents strategies to stimulate their child's language development. We are also attempting to study the effectiveness of an individual consultation session with a speech language pathologist for teaching language stimulation techniques. We are attempting to learn how professionals can best help parents promote their children's speech and language development.

Participants will be asked to play with their child for fifteen minutes on two occasions, one week apart. During these two play sessions an audiotape recorder will record the parent-child conversations. We ask parents to play and converse with their child as they do normally.

No participant will be identified by name. We will assign numbers to each participant. While we might write about the study, only group information will be reported and names will never be used.

Between the two taping sessions, some parents will view a 30 minute videotape recording entitled "Good Talking With You: First Steps to Conversation"; some parents will meet with a speech language pathologist for 15 to 30 minutes to discuss how families can best help children develop language skills. All participants are invited to view the videotape program and consult with a speech language pathologist following their second audiotaped play session with their child. You may withdraw from the study at any time without penalty.
Dear Participant,

This study involves research on the effectiveness of videoprograms and conferences with professionals. All participants will view the videoprogram, "Good Talking With You: First Steps to Conversation", which is designed to educate parents in the use of indirect language stimulation techniques with their young children. Some participants will participate in a follow-up discussion or a conference with a professional regarding the content of the videoprogram. You will be audiotaped playing with your child for fifteen minutes on two occasions, one week apart. Results of the study will have implications for speech-language pathologists and other clinicians who work with families and children.

Participants will be at no risk. You will not be asked to identify yourself by name. Participants will be identified by number. Data from this study will be reported in group form to further ensure that individual participants will not be identified. Your participation is voluntary and you may discontinue your participation at any time without penalty. Refusal to participate in the study will not involve any negative consequences or affect your services at this clinic in any way.

If you have questions regarding your participation in this study, please contact the investigator at 387-8063.

Sincerely,

Candis Warner, M.A.
Assistant Professor
Principal Investigator

I, _______________________________, have read this statement, have had all my questions answered, and agree to participate.

Date: ________________________________
Appendix C

Data Collection Instrument
DATA COLLECTION INSTRUMENT

<table>
<thead>
<tr>
<th>Behaviors</th>
<th>Pretest</th>
<th>Total</th>
<th>Posttest</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Comment regarding what child sees</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Comment regarding child's actions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Repetition of child's utterance/correct model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Addition to child's utterance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Repetition plus expansion of child's utterance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Open-ended question</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Demand for a response</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Closed question (requiring a single word response)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. &quot;NO&quot; in response to child's speech errors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Interruption of child's speech to correct</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUBJECT #_________  GROUP _____  DATE _________
Appendix D

Outline/Script of Personal Individual Conferences--Group C, 30 Minutes
I. Introduce Importance of Adults and Child Language Skills

Parents are important especially for their child's language development in the preschool years. Children need to be quite proficient in language skills for success in the early years of elementary school. Our educational system is built around language proficiency. School will be easier for those who can talk and express themselves clearly, follow rules, and know how to use language to get along with each other. Children need language skills to learn to read and write.

Conversations are an on-the-job training for language development. All conversations are considered language laboratories. You can talk about normal daily activities. Through conversations children can learn how sentences are put together. They learn new vocabulary to describe their world. Kids love conversations with adults. They often just light up when adults show real interest through conversations with them. Children learn to negotiate and use words to solve problems through conversations.

II. Discuss Conversations

A. Get on child's level (demonstrate)
   1. Eye contact
   2. Facial expressions, voice, and gestures signal interest

B. Focus on child's present activity
   1. The example described a busy mother taking time out to sit down with child's toys and show interest
   2. Children know when we are giving cursory interest
   3. Information talk: describe what child sees and does
      a. Give no pressure for child to talk
      b. Say the words for what child is doing
      c. Do not expect or demand a response
      d. Accept silence
      e. Use play to help child learn language
Children do not need to respond verbally to benefit from our verbalizations, especially if they are absorbed in play or do not have the words to respond.

Children who speak well can get our attention and engage us in conversation. Children who have limited speech need our conversations even more to help them develop the skills.

C. Limit closed questions
   1. Questions requiring single word responses
   2. Answer is not goal
   3. Conversation is goal

D. Encourage indirect corrections
   1. All children make language and speech errors.
   2. Direct corrections can stop conversations
      a. Articulation direct correction ("No. not thun, sun")
      b. Language form direct correction ("No, not her do it, she does it")
   3. Indirect modeling can facilitate language development
      a. Articulation model
      b. Sentence structure model

E. Restate general principles
   1. Show your interest
   2. Describe what child is doing or seeing
   3. Limit closed questions
   4. Use open ended questions
   5. Describe what child is doing
   6. Use indirect correction
III. Restate positive verbal behaviors
   A. Comment regarding what child sees
   B. Comment regarding child's actions
   C. Repetition of child's utterance
   D. Addition to child's utterance
   E. Repetition plus expansion of child's utterance
   F. Open-ended question

IV. Restate negative verbal behaviors
   A. Demand for a response
   B. Closed question (requiring a single word response)
   C. Use of "NO" in response to child's speech errors
   D. Interruption of child's speech

V. Respond to questions from participants
Appendix E

Outline/Script for Follow-up Discussion--
Group B, 15 Minutes
OUTLINE/SCRIPT FOR FOLLOW-UP DISCUSSION--SUBJECT GROUP B
15 MINUTES

I. Request for questions
   A. Content of videoprogram
   B. Personal application
   C. Value of techniques

II. Restatement of positive verbal behaviors
   A. Comment regarding what child sees
   B. Comment regarding child’s actions
   C. Repetition of child’s utterance
   D. Addition to child’s utterance
   E. Repetition plus expansion of child’s utterance
   F. Open-ended question

III. Restatement of negative verbal behaviors
   A. Demand for a response
   B. Closed question (requiring a single word response)
   C. Use of "NO" in response to child’s speech errors
   C. Interruption of child’s speech
Appendix F

Written Coding Instructions
Coding of the transcripts requires contextual notes. Be sure to take thorough notes regarding the physical positions of the mother and child during the speaking sequences; the child's attention is most important for accurate coding. It is important to document whether the mother is trying to redirect the child from what the child is doing or seeing or whether she attends and responds to the activity chosen by the child. Behaviors 1 and 2 are behaviors which require special attention to the physical details of the communicative interaction. Is the mother saying, "I like the green shirt" when the child is playing with a truck on the floor, or is she commenting on a shirt they both see in a book? Do they have joint attention? Is the mother following the child's lead and giving attention to the child's play.

The transcripts should include all of the mothers' utterances. The child's utterances necessary for coding should also be transcribed as they occur. You will find that you can do some preliminary coding as you observe and take notes to help you with the final coding of the transcripts.

Each utterance will not be coded. Only those utterances which qualify for coding under the criteria discussed below or during your training can be coded. Some utterances may have two codes. For example, if the child says "cow down", and the mother says, "You pushed the cow down", this statement could qualify for coding on Behavior 1 and Behavior 5.

Coding instructions for the 10 Targeted Behaviors

Behavior 1-Criteria for coding

1. The adult acts as a broadcaster. She describes what the child observes without expecting or demanding a response. Behaviors 1 and 2 are termed Information Talk in the videoprogram. These two behaviors are commonly called self talk or parallel talk.

2. The difference between Behavior 1 and Behavior 2 is that to be coded as Behavior 1, the utterance must be about what the child observes versus what the child does. For example, "The dog is wearing a hat" while both are looking at a book would be coded as Behavior 1. Another example might be, "Wow, there are so many toys to play with" as the child examines the toy room.

Behavior 2-Criteria for Coding

1. The mother again acts as a broadcaster. She describes what the child is doing. She may say, "You are running around the table, I'll bet you are getting tired." Other examples might be, "Oh, your truck is going very fast." or "I'm glad you slowed your truck down." "I was afraid it might crash."

2. The mother must not redirect the child's attention, such as, "Come over here, I have a nice book to read", unless the child asks for help in deciding what to do. The mother must comment on what the child has chosen to do.

Behavior 3-Criteria for Coding

1. Repetition of child's utterance exactly as spoken by the child. Articulation errors should be modeled correctly. For example, if the child says "a yam", mother says "a lamb". No additions are allowed for coding on Behavior 3.
Behavior 4-Criteria for Coding
1. The mother adds additional words to the child's utterance without repeating the utterance. She shows she comprehends child's meaning and has something to add. If the child says "eat cookie", the mother may say "all gone" or "fast".

Behavior 5-Criteria for Coding
1. Repetition plus expansion of child's utterance. A combination of Behaviors 3 and 4. The mother listens to the child's utterance and then uses the child's words in a more complete phrase or sentence. For example, if the child says, "Blocks fall down", the mother says, "Yes, the blocks are falling down."

Behavior 6-Criteria for Coding
1. Open ended questions require more than a one-word answer. They may begin with such words as How..., Tell me about..., I wonder., What would happen if... These questions can produce more than one kind of response.

Behavior 7-Criterion for Coding
1. Demand for a response. The mother says, "Say______.

Behavior 8-Criteria for Coding
1. Closed questions elicit a one word response. They do not keep a conversation going. Adults usually know the answers to closed questions. For example, "What color is______" is a closed question.

Behavior 9-Criteria for Coding
1. The mother says "No" in response to a child's speech error. For example, if the child says, "Baby eated", the mother might say, "No, the baby ate." This is only coded when the "No" is related to the correction of a speech or language error. This category is not coded for other uses of "No" such as in discipline or in responding to a question.

Behavior 10-Criteria for Coding
1. The mother does not allow the child to complete an utterance before providing a correct speech model. For example, if the child says, "Doddie bark at____", the mother inserts "Doggie" before the child is finished speaking. To be coded here, the mother's utterance must start clearly before the child is finished speaking and must contain a correction. Both mother and child speaking in tandem does not qualify for coding, unless the mother is obviously attempting to correct the child.
Appendix G

Samples of Coded Transcripts
### SAMPLES OF TRANSCRIPTS WITH CODES

**SAMPLE 1**

**COLUMN 1-**TAPE RECORDER COUNTER NUMBER  
**COLUMN 2-C=CHILD UTTERANCE, M=MOTHER UTTERANCE  
COLUMN 3-**UTTERANCE  
**COLUMN 4-**CONTEXTUAL INFORMATION (IN CAPS AND PARENTHESES)  
**COLUMN 5-CODE FOR DATA COLLECTION INSTRUMENT (BEHAVIORS 1-10) OR NC FOR NO CODE-NR=NO REDIRECTION OF ATTENTION

Child's C.A.=3.0

<table>
<thead>
<tr>
<th>Time</th>
<th>Code</th>
<th>Utterance</th>
<th>Contextual Information</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>002</td>
<td>C</td>
<td>Play with toy?</td>
<td>(LOOKING AROUND ROOM)</td>
<td></td>
</tr>
<tr>
<td>002.5M</td>
<td>M</td>
<td>You want to play with the toys. These are nice toys. What do you want to play with first?</td>
<td>5, 1</td>
<td></td>
</tr>
<tr>
<td>005</td>
<td>C</td>
<td>Puzz--</td>
<td>(PICKS UP PUZZLE)</td>
<td></td>
</tr>
<tr>
<td>006</td>
<td>M</td>
<td>The puzzle looks hard to do. I hope I can do it.</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>009</td>
<td>C</td>
<td>Do it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>010</td>
<td>M</td>
<td>Don't fall off the chair. Maybe we can do it together.</td>
<td>2, 5</td>
<td></td>
</tr>
<tr>
<td>011</td>
<td>M</td>
<td>Oh, Oh!</td>
<td>(C KNOCKS TOYS OFF TABLE)</td>
<td>NC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We can pick them up. You're good at picking up.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(C RETRIEVES TOY)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>015</td>
<td>C</td>
<td>Block stuck.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>016</td>
<td>M</td>
<td>Its stuck under the chair. We need to find all the puzzle pieces. What color is this one? It's red. I like the red pieces. (C LOOKING OUT WINDOW, MOTHER ATTEMPTING TO BRING CHILD BACK TO TABLE) Let's play with all these nice toys. How about if we read a book? (CHILD LOOKS AT BOOK-RETURNS TO MOTHER'S SIDE).</td>
<td>1, 8, NC</td>
<td></td>
</tr>
<tr>
<td>025</td>
<td>M</td>
<td>See the cows and pigs. (CHILD ATTENDS TO BOOK)</td>
<td>1, 5</td>
<td></td>
</tr>
<tr>
<td>026</td>
<td>C</td>
<td>Moo and Oink</td>
<td></td>
<td></td>
</tr>
<tr>
<td>027</td>
<td>M</td>
<td>Yes, the cows moo and the pigs oink. You can say your animal sounds.</td>
<td>5, 2</td>
<td></td>
</tr>
<tr>
<td>028</td>
<td>M</td>
<td>Let's look over here at these pages. (REDIRECTION)</td>
<td>NC</td>
<td></td>
</tr>
<tr>
<td>029</td>
<td>C</td>
<td>Dogs bite.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>030</td>
<td>M</td>
<td>Those dogs aren't biting, they are barking at the cats.</td>
<td>1, 5</td>
<td></td>
</tr>
</tbody>
</table>
Okay, We forgot to do the puzzle. Let's try. (CHILD INVOLVED IN PUZZLE)

Let's try this piece right here.

You see a place for it, right there. Good job, you did it.

Okay, there, see.

You can turn it around.

It's a really hard piece. Turn it around, maybe.

Okay, that goes there.

I think it goes there. What do you think? (CHILD GIVES NO RESPONSE)

Maybe goes there.

That was a big sneeze. Are you okay? (CHILD SNEEZED)

You got me all wet.

Runny nose.

I'll say you have a runny nose. (HANDS CHILD TISSUE)

Let's wipe it again.

There.

Duck.

Truck.

You want to play with the truck now. Okay.
Sample 2

Child's C.A. 4 years 9 months

003 M What chair do you want? 8
007 M Let's look at this book. Don't suck on your hair. NC, 2
009 C I don want to.
010 M You don't want to what? 8
012 M I think you'll like to play with these toys. 1
013 M The sun is bright on our eyes. 1
014 M What color is the sun? 8
015 M See the pictures in this book (ATTEMPTS TO GET CHILD TO SHARE FOCUS-CHILD LOOKING AT DOLL)NC
016 C I know ^ doll.
017 M What's the doll's name? 8
018 M What color is her hair? 8
045 M What is the doll's name? 8
046 C Ary.
047 M No, Mary. Her name is Mary 9, 5
049 M What are you playing with? (DOLL) 8
050 C Ary.
051 M No, Mary. 9
057 M What color is Mary's dress? 8
059 M What color is Mary's hair? 8
069 M Put Mary down now and let's work on our sounds with this book. (CHILD TURNS AWAY FROM MOTHER AND CONTINUES TO PLAY WITH DOLL SILENTLY) NC
BIBLIOGRAPHY


