INREAL (Inter-REActive Learning): Exploring the Use of Modified INREAL Strategies by Parents Through Five Case Studies

Bonnie Baker Lund

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Dean of the Graduate School

July 24, 2003

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And finally, I want to thank our children, Ryan Michael and Olivia Channing, who allowed me the time and patience to pursue this degree. I could have never achieved this huge accomplishment without their help and support.
ABSTRACT

This study was an attempt to further understand how to best teach parents in the language stimulation of their children. It contributes to the understanding of how parents understand and feel about the use of modified INREAL strategies, naturalistic methods to stimulate children's language development. Historically, educators and speech-language pathologists, in particular, have attempted to teach parents effective ways to enhance the language development of children. It is well documented that those children who enter elementary school with strong language skills typically have more success academically than those who do not. Although this study has involved only a small number of families, it provides a look at what may or may not work as interventionists strive to enhance the abilities of parents in the language stimulation of their children.

Two questions guided this study:

1. What happens to the communicative interactions between parents/caregivers and their children after the parents/caregivers are taught the use of modified INREAL strategies for enhancing their efforts as language stimulators?

2. What are the perceptions of parents/caregivers of the modified INREAL methods they were taught to use with their children?

Five families were involved in the study. In each family, at least one child exhibited a diagnosed language delay. Eight parents agreed to participate in the training. I explained how to implement the modified INREAL strategies and demonstrated the
methods in use while playing with each child during every visit with the family. In addition to the recorded interviews, the children and parents were videotaped during 20 minute play interactions. The interviews were audiotaped and transcribed as were the videotaped interactions. The data resulting from 36 interviews and 15 videotaped communicative interactions were analyzed qualitatively. I coded the data and looked for themes and patterns in order to gain insights into the understanding and feelings of the subjects.

This study revealed the parents found the methods beneficial and demonstrated improved communicative interactions with their children while implementing the modified INREAL strategies. This study supports the use of modified INREAL methods to enhance the communicative interactions between parents and their children.
CHAPTER I
INTRODUCTION

The purpose of this study is to further understand how to best teach parents in language stimulation of their children. It has been a long standing belief that parents can play a critical role in supporting speech and language development (Achenbach, Howell, Aoki, & Rauh, 1993; Casto & White, 1993; Cook, Tessier, & Klein, 2000; Fewell & Wheeden, 1998; Greenspan & Wieder, 1998; Mahoney, Boyce, Fewell, Spiker, & Wheeden, 1998). In most cases, children develop adequate communication skills through the stimulation efforts of their parents. Rossetti (1996) explains:

Children do not learn to communicate in a laboratory, but rather through naturalistic interactions with their environment. The process begins early and requires a healthy start, sufficient opportunity, and exposure to a caregiving environment that allows the child’s innate predisposition to learn to communicate ample opportunity to function. (p. 37)

In most cases, parents are with the child more than anyone else, and subsequently provide opportunities for naturally facilitating language development.

For the child who is speech and/or language delayed, it is the goal of the speech-language pathologist to enhance the stimulation techniques of parents in the hopes that the child will benefit from the increased stimulation. Cook et al. (2000) and Rossetti (1996) report that intervention is effective and is most beneficial when caregivers are
active participants in the intervention efforts. Shonkoff and Houser-Cram (1987) explain that when children with special needs receive early intervention before the age of three, the prognosis is better than for those where intervention is delayed. The positive effects of early intervention are well documented for children from families who are economically disadvantaged, children with identified special learning/developmental needs, and children who are at risk from birth due to prematurity or low birth weight (Casto & Mastropieri, 1986; Cook et al., 2000; Ferran, 1990; Guralnick, 1988; Guralnick & Bennett, 1987; Ramey & Ramey, 1992; Shonkoff & Houser-Cram, 1987).

Exactly how language develops naturally in most children has been the focus of much conjecture and research. During the last 50 years, theories of language development have evolved from a behavioral perspective to one supporting social interaction. Skinner (1957), a renown behaviorist, proposed that children learn language through imitation of people in their environment. During this same period, Chomsky (1957) reported that the ability to develop language is innate and that language develops naturally. Chomsky refers to the center in the brain responsible for this natural ability to acquire communicative competence as the LAD (the language acquisition device). Piaget's theory of development, often referred to as constructivism, proposes that children are only able to acquire language when certain concepts are already understood by them (Bowerman, 1985; Piaget, 1954). Bates (1993) explains constructivist ideas by reporting that children who begin using multiple gestures in sequence during dramatic play are frequently the children who are the first to speak using two word utterances. Social interactionist theory is the most current and widely accepted theory of language
acquisition today and supports the notion that both the environment and an innate ability
to learn language influence the development of communicative competence (Cook et al.,
2000; Hoff, 2001; Howard, Williams, Port, & Lepper, 1997; Hulit & Howard, 1997;
Reznick & Goldfield, 1992; Rossetti, 1996).

The theoretical constructs described above have spawned a range of strategies
believed to support the development of language. However, there are basically two types
of intervention implemented by speech-language pathologists and taught by these
professionals to parents in order to enhance the language stimulation of children in the
home environment. The first and more traditional method is behavioral in nature and has
its roots in the operant conditioning model of learning described by Skinner (1957). In
this model, one presents a stimulus (“What is this?”), obtains a response from the child
(“A bird.”), and follows with verbal (“Good job!”) or tangible (an M&M) reinforcement
or punishment. Punishment can also be presented verbally (“No, it’s a ball.”) or tangibly
(taking away an M&M). This form of behavioral learning,
stimulus-response-reinforcement/punishment, can be seen frequently in the stimulation
efforts of parents and educators in many areas of learning as well as language

A second form of stimulation employed by speech-language pathologists is
naturalistic and reflects the social interactionist perspective. A naturalistic approach
views language development as a continually evolving process that begins at birth and
continues throughout life. It is characterized by a philosophy that children develop
language by interacting with their environment in increasingly complex ways through
natural conversations and observation of their “world.” It is characterized by the employment of methods by those in children’s natural settings to maintain and increase conversation.

A naturalistic theory acknowledges that communicative acts must be achieved through conversations and interactions during routine daily activities. It is essential that children develop speech and language skills as they participate in communicative partnerships with many different people in a variety of environments. These conversations give children numerous opportunities to practice language enabling them to expand speech and language development (Hoff, 2001; Howard et al., 1997; Hulit & Howard, 1997; Lightbown & Spada, 2000; Pinder, Olswang, & Coggins, 1997; Piper, 1998; Power & Hubbard, 1996; Rossetti, 1996).

Stimulating communicative development through a conversational or interactive approach allows the greatest opportunity for children to generalize newly acquired language skills across communicative settings. Carryover of target language skills has frequently been reported in the literature as being one of the major drawbacks to behavioral methods (Hoff, 2001; Lightbown & Spada, 1999; Piper, 1998; Power & Hubbard, 1996). Conversational or interactive approaches enhance the probability that children’s communicative competencies are expanded over time, ultimately resulting in more natural language acquisition (Hoff, 2001; Howard et al., 1997; Hulit & Howard, 1997; Lightbown & Spada, 2000; Pinder et al., 1997; Piper, 1998; Power & Hubbard, 1996; Rossetti, 1996).
Naturalistic stimulation refers to methods parents and others use to stimulate a child's language development during natural daily conversations. These methods were found to be commonly used by parents in the frequently cited "Motherese" studies (Hoff, 2001; Lightbown & Spada, 2000; Piper, 1998; Rossetti, 1996; Whitney, 1998). Often speech-language pathologists will attempt to teach parents such methods along with behavioral techniques for use in the home environment while continuing to rely on the behavioral methods in the clinic or school setting. The belief is that children with special needs have not learned language well through naturalistic methods; thus, behavioral techniques are employed.

In naturalistic approaches to language stimulation, speech-language pathologists implement methods designed to expand the communicative attempts of children during conversation. Techniques include the use of parallel talk, self talk, modeling, and expansion. Parallel talk is a strategy in which the stimulator talks about what the child is doing (i.e., "You put the girl in the car"). Self talk describes what the stimulator is doing (i.e., "I colored the ball red"). Modeling can take many forms and can be inclusive of the other methods. Modeling to correct can be used in the natural flow of the conversation (i.e., Child: "Her told me." Adult: "Yes, she told you"). Expansion occurs when the stimulator expands on a child's utterance (i.e., Child: "I found a ball." Adult: "You found a big, red ball").

Proponents of the use of naturalistic methods by speech-language pathologists and parents alike argue that natural methods have not been used with enough frequency or enough refinement to be maximally effective (Peters & Heron, 1992; Powell, 1974;

Within the naturalistic approach one can utilize play-based intervention. “Play based intervention is an approach for enhancing communication skills that involves the child in an enjoyable process designed to increase functional language skills” (Rossetti, 1996, p. 194). One great advantage of play-based intervention is that it can naturally and easily be incorporated into the child and family’s daily routines (Cook et al., 2000; Howard et al., 1997; Rossetti, 1996). These methods allow intervention to be child centered, family focused, peer oriented, culturally and developmentally relevant, and highly pleasurable through natural play routines. On the other hand, traditional behavioral intervention limits growth due to teacher/adult directedness and domination, the segregated nature of the learning environment (the therapy room) making generalization of skills to the natural environment problematic, less pleasurable activities leading to the need for tangible reinforcement, and a skills-driven curriculum based on perceived needs through formal assessment rather than holistic needs perceived through real conversations (Cook et al., 2000; Howard et al., 1997; Linder, 1993; Lucas, 1980; Owens, 1996; Paciorek & Munro, 1996; Rossetti, 1996; Watson, Layton, Pierce, & Abraham, 1994; Wolfgang & Wolfgang, 1999).

In the 1970s, INter-REActive Learning or INREAL, a refined and detailed language learning model, was introduced which includes these natural conversational methods (Weiss, 1981). INter-REActive Learning was developed by Rita Weiss at the
University of Colorado-Boulder in the 1970s. INREAL was a Handicapped Children Early Education Program (HCEEP) funded demonstration model project from 1974-1977. The major goal of the project was to improve, through the use of natural methods, the language development and related learning skills of three to five year old children with special needs and bilingual Spanish speaking children.

A second goal of the project was to change the traditional interaction style of speech-language pathologists (SLPs) working with preschool through kindergarten age children (Weiss, 1981). Researchers in the area of speech-language pathology report that behaviorism can cause a stilted language system to evolve and, thus, create a child who is language delayed to also be language disordered (Lucas, 1980). Recent research repeatedly supports the use of natural stimulation techniques with all children, with or without special needs (Haring, Neets, Lovinger, Peck, & Semmel, 1988; Koegel, Dyer, & Bell, 1987; Koegel & Johnson, 1989; Owens, 1996; Rossetti, 1996; VanHoorn, Nourot, Seales, & Alward, 1993; Wolfgang & Wolfgang, 1999). Yet, despite these findings, many SLPs continue to rely on behavioral therapy as opposed to natural language stimulation methods.

As a result of the original project which was limited to preschool age children at risk for communication delays, the INREAL model has expanded to include all children in regular and special education classrooms, including children exhibiting severe multiple challenges. In addition to speech-language pathologists, regular and special education personnel and parents have been trained in the intervention methods. As detailed previously, the model began as a language development curriculum for preschoolers.
Early in the 1980s, whole language classroom curriculum was added for elementary educators (*INREAL Specialist Training Packet, 1984*). In recent years, the INREAL model has been applied by me with encouraging success to the aging population with communication impairments. It appears that these methods can be applied successfully to stimulate improved language development and/or rehabilitation with people of all ages exhibiting a wide range of abilities.

In addition to speech-language pathologists, regular and special education personnel and parents have been trained in the intervention methods. Although a parent component to INREAL is currently in place, I find the process too lengthy and complex for parents. It requires parents to learn how to analyze in great detail pragmatic functions and prosodic features of language. Pragmatic functions of language may be described as how we use language to get things done. For example, I could greet someone, inform, request, promise, demand, or respond. Prosody includes many features of speech such as pitch, loudness, duration, pause, intonation, tempo, stress, and rhythm. The process is labor intensive and requires a high level of expertise on the part of the parents which may take away from the natural unfolding of parent/child communication.

From my own experience, language sample analysis by parents does not appear to be necessary or practical. It is my belief that parents can be taught a more simplified, basic strategy with good success. A shorter, less complicated process seems more realistic, especially considering the many demands placed on today’s parents.
Purpose of the Study

In 1996, I designed and implemented, with promising results, a parent component to increase home carryover of the language stimulation methods described in the learning model, INter-REActive Learning or INREAL. I completed a pilot case study in 2000 that also resulted in the successful implementation of the parent component. Further research was deemed necessary. The purpose of this study is to replicate the 2000 case study and expand the population base in the form of five case studies.

One of the implications for research noted in my previous studies was the need to investigate a more diverse sampling of families. In the 1996 study, the participants were middle class Caucasian families. In the 2000 in-depth case study, the participant was a low income, Caucasian, single mother; however, the mother’s parents were middle income white collar workers and very involved with the case study family. For this reason, I chose to expand the criteria in this study. In addition to having a child identified as speech and/or language delayed, I attempted to enlist low income families in which at least one parent identified him/herself as biracial or a minority in this country.

In order to gain a fuller understanding of the use of modified INREAL strategies by parents and caregivers, the following questions will guide the research:

1. What happens to the communicative interactions between parents/caregivers and their children after the parents/caregivers are taught the use of modified INREAL strategies for enhancing their efforts as language stimulators?

2. What are the perceptions of parents/caregivers of the modified INREAL methods they were taught to use with their children?
Methodology

The primary purpose of the research was to explore how parents perceive the application of a recently designed and implemented parent component developed to increase home carryover of the language stimulation methods described in the learning model, INter-REActive Learning or INREAL. In my previous research studies completed in 1996 and 2000, I found qualitative inquiry in the form of the case study method to be an effective method of research to study this phenomenon. This investigation is an attempt to further understand the ability of parents to employ the modified INREAL strategies, the resulting effects on communicative interactions between children and parents, and the parents’ perception regarding the benefits of the model.

Five case studies involving preschool children and their parents were completed. Of the 10 parents, 8 participated in this study. One of the fathers supported the mother’s participation but declined participating himself, and the other nonparticipating parent was a father who lived out of state. I interviewed six parents on five occasions during approximately 30 minute interviews. Due to time constraints and work schedules, one parent was interviewed only four times and one parent was interviewed only twice. The interviews were audiotaped for subsequent analysis.

During the first visit, two interviews were conducted. The initial interviews obtained background information or case histories regarding the children’s developmental and family histories. Following this first interview, each parent was videotaped playing with his/her child for approximately 20 minutes. This taping was
made in order to obtain baseline data concerning how the parent currently stimulated 
his/her child's language development. After this taping was completed, I explained to the 
parent(s) the modified INREAL methods. 

To assist me in my explanation, I gave the parents a handout that I designed for 
use during previous research (Lund, 1996). The handout, entitled "Speech and Language 
Development: Tips for Parents," describes the modified INREAL strategies (see 
Appendix A). It details how children learn to talk by talking and that our goal is to get 
children talking as much as possible. In our efforts to stimulate children to talk, we often 
use too many questions (Cook et al., 2000; Lightbown & Spada, 2000). The handout 
identifies this and gives examples of the kinds of sentences or statements that would be 
developmentally appropriate for the child while facilitating language. In addition, it 
provides suggestions on how to add specific words versus nonspecific words ("the huge, 
gray elephant" versus "it") to these statements in order to make our statements as 
stimulating as possible. I refer to these language rich statements as "loaded" statements 
throughout the study. Finally, the handout details why the use of wait time while talking 
to children is so important and how to implement it. In summary, the modified INREAL 
methods used to enhance the communicative interactions between parents and their 
children were the use of loaded statements, rather than predominantly questions, and the 
use of wait time. 

Immediately following the baseline videotaping, in an attempt to compare 
stimulation styles and the use of the target stimulation methods, the parent(s) then 
videotaped me in their homes interacting through play with his/her child. The second
interview was conducted to discuss my use of the modified INREAL strategies and compare their styles with mine. During the subsequent two visits, each parent and child was videotaped while playing together, and each child and I were videotaped immediately after the parent/child interactions in the same play environment. Following each videotaping session, the parent(s) and I discussed and compared the methods employed by the parent(s) and me and what effect these techniques had on the communicative interactions with the child.

The second, third, and fourth interviews occurred at the times of the first, second, and third videotaping sessions. During the final interviews, each parent was asked to comment about his/her feelings regarding this learning process. (See “Sample Interview Questions,” Appendix B.)

The interviews and videotapes were transcribed and studied by me. The data derived from the 36 interviews and 15 videotaped interactions were analyzed in a qualitative manner. Information was coded and sorted into categories to determine the existence of patterns within and across categories. Through the analysis of comparisons and contrasts within the data sets, themes emerged describing (a) what happens to the communicative interactions between parents and their children after the parents are taught the use of modified INREAL strategies, and (b) what are the perceptions of parents of the modified INREAL methods.

Limitations

The investigation was limited to 29 interviews, 15 videotaped interactions, and 7 final interviews detailing evaluations of the process from parents and children in one state.
in the upper Midwest. Due to the small sample size and the geographic restrictions of the study, the generalizability of the results is subsequently limited. The findings are confined to the experiences of the families involved in the research.

Clarification of Terminology

Throughout the study, terms will be used that could potentially lead to the misinterpretation of information. The following definitions will be implemented to clarify the use of these terms for the purposes of this study:

1. INREAL (INter-REActive Learning): In the 1970s at the University of Colorado-Boulder, Rita Weiss developed INREAL, a language stimulation model based on social interactionist theories. The model is a refinement of natural language stimulation methods implemented by speech-language pathologists during everyday conversations with clients to enhance the client's language development (Weiss, 1981).

2. Behaviorism: The use of behaviorism as a teaching method has influenced the field of speech-language pathology including the area of language development. Behaviorism is based on the concept of operant conditioning whereby a stimulus is presented, a response is elicited, and, depending upon the response, reinforcement or punishment is used to increase or decrease the response. An example of its use in the area of language development is detailed in the following situation. A speech-language pathologist shows a picture of a concept (a red balloon) to a client accompanied by the question, "What color is this?" The client answers, "Red." The speech-language pathologist replies, "Very good!"
3. Social Interactionist Theory: Social interactionist theory, currently the most widely accepted theory of language acquisition, is based on the notion that both the environment and an innate ability to learn language influence the development of communicative competence. Social interactionists believe that children, endowed with this innate capability, learn language through verbal and nonverbal interactions with the people in their environment.

4. Communicative Act: For the purposes of this study, a communicative act is any verbal or nonverbal attempt to communicate information between two or more people.

5. Case Study: Creswell (1998) provides the following definition: A case study is an exploration of a “bounded system” or a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information rich in context. This bounded system is bounded by time and place, and it is the case being studied—a program, an event, an activity, or individuals. (p. 61)

Significance of the Study

The primary intent of the research was to explore what happens to the communicative interactions between parents/caregivers and their children after the parents/caregivers are taught the use of modified INREAL strategies for enhancing their efforts as language stimulators. A second focus was to gain an understanding of the perceptions of parents/caregivers of the modified INREAL training process. Given that children developing language at a rate commensurate with their chronological ages are
more academically successful than those exhibiting language delays, it is paramount that educators find effective ways to teach parents language stimulation methods. The techniques described within this study may assist educators in this endeavor. It is hoped that educators and parents find these methods helpful and easier to implement than more detailed models.
CHAPTER II
REVIEW OF THE LITERATURE

In order to understand what happens to the communicative interactions between parents and their children after being taught the use of modified INREAL strategies and what are parents’ perceptions of the modified INREAL methods to stimulate the language development of their children, it is necessary to examine the research applicable to the issues related to this study. In this chapter, research will be reviewed in the following areas: the efficacy of early intervention, the trend toward the use of naturalistic methods, child directed learning, the importance of play, intervention provided in the least restrictive environment, teaching parents to effectively stimulate their children, and the specific stimulation methods in question.

Efficacy of Early Intervention

For children under the age of three, the most common area of developmental disability is delayed communication development (Rossetti, 1996). Rossetti continues to explain that it is estimated that between 5% and 10% of the birth-three year old population exhibits a delay in the area of speech and language development. The effectiveness of early intervention with children whose special needs are in the area of language development is well documented (Casto & Mastropieri, 1986; Ferran, 1990; Guralnick, 1988; Guralnick & Bennett, 1987; Pinder et al., 1993; Ramey & Ramey, 1992; Rossetti, 1996; Shonkoff & Houser-Cram, 1987). Shonkoff and Houser-Cram (1987)
found that intervention which begins before the age of three is more beneficial than that which begins after the age of three.

Rossetti (1996) discusses that not only is early intervention in the area of language development beneficial, but it can be preventive as well. “Secondary complications, inherent in later identification, relating to both the child and the family can be minimized with early intervention” (p. 232). Such complications might arise in the area of literacy development and other academic areas including science, social studies, and mathematics. For example, when children have limited comprehension of vocabulary, this can affect their understanding of concepts in all academic subjects. In addition, a child with a communication delay may have difficulty socializing with other children and adults due to the language impairment.

Anything that can be done to improve the age of identification, and anything that might be done to increase the likelihood that parents will be involved in early intervention will generally result in a better level of development for the child. (Rossetti, 1996, p. 232)

Trend Toward the Use of Naturalistic Methods and Child Directed Learning

Traditionally, there have been two contrasting schools of thought influencing the teaching methods used by early childhood educators. Regular educators (i.e., those who were educated to teach typically developing children) have historically promoted natural methods while special educators (those who were educated to use special methods to work with children with special needs) have relied on behavioral methods. The historical
backgrounds of early childhood education and early childhood special education are very distinct and different. These diverse roots explain how the two fields developed along such differing paths.

The beginnings of early childhood education can be seen in the historical recognition of young childhood as a unique period in life that differs in some ways from the life of the older child (Kaufman, 1980; Spodek & Brown, 1993). As early as Comenius (1592-1670), European philosophers have been advocating that children need to be given the freedom to explore their environments through play. Play has been described as the means by which children develop both knowledge and moral values. Adults have been encouraged to provide environments in which children could investigate through their play life's mysteries around them. Many early pioneers in child development including Comenius, Rousseau (1712-1778), and Pestallozi (1746-1827) recommended naturalistic exploration of the environment through play (Morrison, 1997; Shonkoff & Meisels, 1990; Spodek & Brown, 1993).

In the 1890s, John Dewey wrote extensively on the topic of educational reform. He advocated the concept of child centered curriculum or child centered schools (Dewey, 1938/1997; Morrison, 1997). Dewey (1938/1997) explains,

If one attempts to formulate the philosophy of education implicit in the practices of the new education, we may, I think, discover certain common principles amid the variety of progressive schools now existing. To imposition from above is opposed expression and cultivation of individuality; to external discipline is opposed free activity; to learning from texts and teachers, learning through
experience; to acquisition of isolated skills and techniques by drill, is opposed acquisition of them as means of attaining ends which make direct vital appear; to preparation for a more or less remote future is opposed making the most of the opportunities of present life; to static aims and materials is opposed acquaintance with a changing world. (pp. 19-20)

Formal and symbolic education were being questioned, and the need for education to include real life experiences and to allow children to explore their immediate environments in the pursuit of understanding was being emphasized (Spodek & Brown, 1993). Dewey (1938/1997) also advocated that children be taught through group projects in order to improve academic skills as well as social skills such as cooperation, consideration for others, and learning how to work in a group. In today’s early childhood classrooms, active learning and cooperative learning are essential components of the curriculum.

Maria Montessori (1870-1952) developed a curriculum that significantly contributed to the field of early childhood education. Montessori believed in the self direction of learning by children. The teacher’s role was that of a facilitator who arranged the environment to display the specifically designed materials deemed appealing to children’s senses and to demonstrate the use of the materials. As long as children were using the materials in the way in which they were designed, they were free to select and manipulate the materials they desired for as long as they wished (Montessori, 1964). Although additional educational activities have been added to the curriculum, the original
ideas of Montessori remain intact in today’s Montessori programs (Spodek & Brown, 1993).

During the 20th century, the field of child development was a major influence on early childhood programs (Day, 1983; Gesell, 1923; Kami, 1984; Piaget, 1954). New theories of child development influenced ideas about developmentally appropriate methods (Bredekamp, 1987; Bredekamp & Copple, 1997). In the 1920s, these ideas resulted in the development of the nursery school movement in the United States. Play, creativity, and the development of imagination were deemed important educational components of nursery schools. Another aspect of this movement was the involvement of parents in the education of their young children (Shonkoff & Meisels, 1990). In addition to the child directed natural exploration of the school environment through play, the facilitation of the social-emotional needs of children was considered important.

Child directed learning is the opposite of teacher directed learning, which is a more traditional interaction style between teachers and children especially in early childhood special education. A teacher directed activity would be one where the teacher plans the activity such as doing an art project together where each child is to make essentially the same product. Such activities, depending upon how rigid the expectation is that all projects to look the same, limit individual creativity in children and decrease the amount of risk a child will take in creating a work of his/her own design. A similar activity that would be child directed would include an art area filled with a large assortment of art materials where the child is encouraged to make an original creation of his/her own design and subject choice.
Teacher directed learning is a concept often associated with early childhood special education programs. Such programs grew out of the special education movement during the 1970s and 1980s after the idea of early intervention was deemed effective as a means of minimizing the effects of handicapping conditions on young children (Howard et al., 1997; Safford, 1978). Traditional special education methods have their roots in behavioral psychology, contrary to the natural development basis for early childhood education (Hulit & Howard, 1997; Kaufman, 1980).

In the mid 1900s, behavioral psychologist Skinner (1957) described the theory that human behavior was not innate but resulted virtually completely from influences in the environment. Behavioral theorists explained that learning resulted from operant conditioning in which appropriate behavior was rewarded and inappropriate behavior was punished or no longer reinforced. Education was summarized as a series of skills that could be learned through reinforcement of desired responses.

Richey and Wheeler (2000) describe the use of behavioral methods in learning environments when they describe “positive behavioral supports.” They explain,

Positive behavioral supports seeks to modify environmental events that precipitate challenging behaviors, called setting events, to minimize the occurrences of such behaviors as well as actively teach positive alternative skills. Proponents of positive behavioral supports do not support the use of punitive procedure of any kind. (p. 182)

Richey and Wheeler (2000) assert that all of the members of the educational team must agree with this philosophy and commit themselves to its use. These methods have
reportedly been successfully implemented with children exhibiting a variety of skill level including those with severe special needs including Autistic Spectrum Disorders (Dunlap & Fox, 1996; Fox, Dunlap, & Philbrick, 1997; Turnbull & Ruef, 1996; Turnbull & Turnbull, 1996).

Richey and Wheeler (2000) describe a typical day in an inclusive classroom employing positive behavioral supports. Within the schedule are times during the day when children are removed from the group to work on prescribed skills. A task analysis describing the levels of skills needed to master a particular objective is an integral part of this approach. Richey and Wheeler (2000) outline a task analysis:

I. Objective/Outcomes

A. Provided with the opportunity to regularly scheduled meal times,

   Josh will use his spoon to eat 100 percent of the time for five consecutive sessions. (This is consistent with the routines-based component of activities-based intervention.)

B. Provided with the opportunity Josh will:

   1. Pick up and grasp the spoon.
   2. Scoop the food.
   3. Raise the spoon to his mouth.
   4. Remove food from the spoon, chew, and swallow the food.
   5. Repeat steps (1) through (5) until finished eating. (p. 191)

In the 1980s, child psychologists, Lovaas and his colleagues, wrote extensively about the use of behavioral methods to treat children with severe special needs including
Autistic Spectrum Disorders (Lovaas, 1987; Lovaas et al., 1981; Lovaas & Smith, 1988). The results of their initial work have sparked a resurgence of the implementation of behavioral methods with children and adults with special needs. These specific methods have been named Applied Behavior Analysis or ABA (ABA, 2001). Some of the same techniques described in the positive behavioral supports (PBS) methods are identified in ABA. One difference is that contrary to PBS, ABA supports the use of minimal amounts of punishment to condition the individual to learn the desired behavior (Maurice, Green, & Luce, 1996). The following dialogue is an example of a teacher directed activity based on Applied Behavior Analysis methods. In this scenario, the teacher is attempting to teach the naming of colors to a child. The teacher pulls John away from his play at the sand table, s/he takes John to a secluded area in the room (often blocked off by classroom dividers of some type), requires John to sit at a table with him/her, and presents a number of colored blocks.

Teacher (holding up a red block): “John, what color is this?”
John: “Red.”
Teacher (smiling): “Yes, John, very good.”
Teacher (holding up a blue block): “Now, John, what color is this?”
John: “Green?”
Teacher (holding up the blue block): “No, John. This is a blue block. Say ‘blue,’
John.”
John: “Blue.”
Conversely, following a child’s lead when the teacher, parent, or other child care provider is attempting to stimulate the child’s language development is interactional or conversational depending on where the child chooses to play and what the child speaks about (Cook et al., 2000). Not only is the child directing the type and location of the play, but s/he is also directing the topic of conversation. A sample dialogue follows to illustrate this concept:

Child: “Oh, look, the water table is open today.”
Adult: “That sure looks like great fun.”
Child: “Yeah, let’s go play there first.”
Adult: “I can’t wait to use the new, red water wheel.”
Child: “Can I play with it when you’re done? Maybe I can use this measuring cup to pour the water into the water wheel while you hold it?”
Adult: “That sounds like a wonderful idea. I’d be happy to hold the red water wheel steady for you.”

The adult is responding to the child’s lead in conversation and play. Children are much more likely to talk if the topic of conversation is theirs rather than the adult’s (INREAL Specialist Training Packet, 1984). Embedded within the adult’s utterances are systematically targeted language concepts (red, water wheel, great, new, wonderful, steady) and language form (I’d [future tense], can’t [negation], sounds [present tense]) to stimulate the receptive and expressive language development of the child during play.

Linder (1993), Owens (1991), Owens (1996), Paciorek and Munro (1996), and Wolfgang and Wolfgang (1999) refer to intervention that follows the child’s lead. This
type of intervention provides opportunities for the clinician to model and expand the child’s utterances in a natural environment (Watson et al., 1994). By following a child’s lead, children are allowed and encouraged to personally direct their learning through play.

Importance of Play

It is common knowledge in the field of early childhood development that play is children’s work (Bruner, 1966; Day, 1983; Gesell, 1923; Kami, 1984; Montessori, 1964; Piaget, 1954). Researchers also agree that play is an essential element in children’s lives to develop intellectual growth. Play provides excellent hands-on experiences in manipulating, exploring, and creating within their environment (Dorrell, 2002).

Play offers children opportunities to master their environment. When children play, they are in command; they use their imagination and power of choice to determine the conditions of play. In an environment where children are allowed to discover independently, at their own pace and in their own unique way, they are more likely to become enthusiastic, inquisitive learners. (Dorrell, 2002, p. 75)

What is the definition of play? Play is easy to recognize, but difficult to define. Searches of common literature provide a variety of definitions. However, Zeece and Graul (1990) have identified the following six characteristics that appear to be consistent in researchers’ thoughts about play:

1) Play involves attention to means rather than the end.
2) Play is intrinsically motivated.
3) Play is dominated by the child.
4) Play is related to the instrumental behavior.

5) Play is not bound by formal rules.

6) Play requires active participation. (pp. 14-15)

Play is a major avenue of learning and can be an excellent environment in which to stimulate the speech and language development of children.

Early educators diligently work to make the preschool environment one that is inviting to children and filled with toys and interesting materials with which to create. In such an environment, following a child's lead means that the teacher acts as a facilitator of learning and literally plays what and where the child desires to play. Teachers model desired skill development during child directed play such as modeling language structure ("That's a difficult puzzle you're working on, Sarah."), concepts ("The square, red block is behind the orange book."), social skills ("Thanks for finding the baby stroller for me."), and motor skills ("I'm going to slide down the tall, curvy slide."). Snow (1979) also supports this style and describes an increased motivation on the part of the child to participate in the therapeutic (classroom, home) setting.

Play is characterized by activities such as dramatic play; block; art/writing; sand, water, and other mediums; reading; writing; manipulatives, games, and puzzles; and computer. In addition, daily routines in the play environment, whether it be a home or child learning center, are frequently seen by children as play such as washing hands or dishes, sweeping, dusting, gardening, and bathing.

During dramatic play, children are doing more than pretending; they are re-enacting what they have seen at home and in the community and making connections
to the adult world. Given materials to write, children can practice being readers, writers, and mathematicians while composing a grocery list, making a newspaper, reading a patient’s chart, adding up grocery prices, making price tags, composing store signs (lemonade stand, post office, open/closed, men’s/women’s, exit/entrance), and addressing letters to mail. Taylor (1999) identifies the following list of skills learned in dramatic play:

1) To cooperate, take turns, and be productive members of society;
2) To experience different types of curricula: art, music, language, etc.;
3) To experiment with different roles;
4) To communicate: social skills, negotiation, expressing ideas;
5) To exercise imagination and ideas;
6) To interact with other children, develop personal relationships and accept differences of others;
7) To take responsibility (roles, preparation, clean up);
8) To develop initiative, accountability, and social competence;
9) To understand others: gender roles, cultures, privileges, responsibilities, and empathy;
10) To find positive ways to release energy and ideas;
11) To play with other children, regardless of developmental delays of behavior enhancement. (p. 185)

The play children engage in is meaningful to them as they demonstrate problem solving and life skill strategies.
The scenario below exemplifies what I hope an observer in a home or classroom in which I am a parent or teacher would observe and perceive. You may note that this is an environment where children developing typically and children developing at rates that are not commensurate with their chronological ages are playing together.

An outside observer walks into the classroom/home and glances around the room. In scanning the room, this individual observes children and adults engaged together in a variety of activities. The observer notes that there are children with special needs and those who appear to be developing at a rate commensurate with their chronological ages. Karen, Bonnie (EC:SE teacher), and Ross are building a city; Jessica, Billy, Paul, and Scott (PT/OT) are playing on the classroom platform that has stairs and a slide; Johnny, Suzy and Colleen (SLP) are creating works of art in the art area filled with a large variety of supplies; Kathy, Ryan, and Olivia (EC teacher) are playing in the water table experimenting with various water toys, making scientific notations (teacher dictated or invented spellings) about what they are learning as they go; and Brian, Sally, and Carol (teacher assistant) are busy writing numbers on post it notes to be placed on grocery items as price tags, while Julia is designing signs that say “Open” and “Closed” in preparation for playing “store” (Carol adds sign language pictures under the words on the signs and price tags). One interesting thing the observer notes is that in each group the members are talking to each other, engaging in real conversations about the play or other events in their lives. Also noted is the components of the conversations: Mostly statements are used; expressive utterances are present (“Wow!,” “I like
green glue.”); questions are functional requests for clarification or unknown information needed to continue the play or conversation. This is new to the observer. Usually teachers, parents, and caregivers are asking many questions as a teaching tool (testing), such as “What’s this?,” and children are less verbal. The observer is beginning to understand what the teachers are talking about when they say, “Play is children’s work.”

Currently in the field of early childhood special education, many educators are embracing a more natural approach to early childhood education (Cook et al., 2000; Howard et al., 1997). The fields of early childhood and early childhood special education are slowly merging in terms of philosophical basis. Behaviorism is receiving much less attention while the concept of child directed discovery learning is gaining in popularity. The teacher is accepted more as a facilitator of learning rather than a director of learning.

Howard et al. (1997) summarize principles that have become generally accepted within the early intervention profession:

1. The quality of a child’s physical and social environment has a significant influence on the child’s behavior and long-term development.
2. Early intervention is effective in reducing the impact of disabling conditions.
3. Parent involvement is essential for appropriate early intervention.
4. Early intervention is most effective when professionals work together as an interdisciplinary team.
5. Clinicians should teach to a child’s strengths rather than focusing on the child’s deficits.
6. Intervention must be developmentally based.

7. Individualized assessment is a necessary prerequisite to effective intervention.

8. Skills taught to children with disabilities do not generalize to other contexts unless specific planning and training is designed for such carryover. (p. 299)

They continue to elaborate: “If the current best practices in early childhood education could be summed up in one descriptive word, that word would be natural” (p. 299).

Changing from a behaviorist to an interactionist can be difficult. Moore-Brown (1991) explains how this process can be less stressful for the speech-language pathologist working in a school setting. She describes that frequent discussions detailing why change is needed are paramount. Essential to this communication is administrative support and understanding (Achilles, Yates, & Freese, 1991; Moore-Brown, 1991). It is recommended by Moore-Brown (1991) that one begin a change process with your “best friend” in the system. This can be applied to parents as well. Choosing a parent with whom the educator has developed a positive, friendly relationship, I have found, will make the process initially less threatening and more comfortable for both the educator and the parent.

**Intervention Provided in the Least Restrictive Environment**

A recent philosophical change in early childhood special education has been the idea of natural environments and/or least restrictive environments. Certainly, the most natural environment for a child is his/her home. In terms of the least restrictive environment (LRE), it would seem that a child’s home would be the LRE of choice in many cases. Howard et al. (1997) define least restrictive environment as “the legal term
used to define the rights of children with disabilities to be educated in settings where they are not segregated from children without disabilities” (p. 6). They continue to explain the LRE concept by citing the specific federal law:

... to the maximum extent appropriate, handicapped children, including children in public or private institutions or other care facilities, are educated with children who are not handicapped, and that special classes, separate schooling, or other removal of handicapped children from the regular educational environment occurs only when the nature or severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily [Section 612(5)B of (P. L. 94-142]. (p. 6)

For preschool children, the “regular educational environment” would often be the home environment or, in the case of a child placed in child care, the day care environment. It could also be a park, church, store, car, or wherever the child happens to be at the time.

There have been many roadblocks reported to providing intervention in a child’s home.

While the dates may be arguable up until the mid-1980s, and with the passage of Part H (now Part C) of PL 99-457 (Education of the Handicapped Act Amendments of 1986), family-centered early intervention delivered in natural settings (including homes) was the exception. (Richey & Wheeler, 2000, p. 109)

In terms of family-centeredness, professionals referred to parents, not families, as a unit. Professionals realized the importance of parents in the carryover of intervention techniques in the home; however, their role was seen as supplemental rather than
instrumental. "Parents were often expected to be compliant, appreciative learners, not collaborators and partners" (Richey & Wheeler, 2000, p. 109).

Home intervention was frequently viewed as troublesome by many professionals. Goals and objectives were written by the interventionist with little understanding of the needs of families. Thus, parents who had little or no say in what was written and how it was written in terms of goals and objectives were seen as uncommitted to the process.

Home-based early intervention was and still is uncomfortable to many early interventionists and other professionals because their training and experience often tells them they must be experts in a setting (maybe a center, classroom, or clinic) over which they have more control. (Richey & Wheeler, 2000, p. 109)

Teaching Parents to Effectively Stimulate Their Children

Over the past two decades, many home-based intervention models have been successfully implemented helping to pave the way. With the full implementation of PL 99-457 and its reauthorization in PL 101-476 (IDEA), the legislature has mandated the inclusion of home-based services as part of a comprehensive system of service delivery. In addition, the Division of Early Childhood (DEC) of the Council for Exceptional Children (CEC) has reinforced the concept that home-based services is recommended practice. Richey and Wheeler (2000) detail four recommendations (SDM—Standard Developmental Method) of the Report of the DEC Task Force on Recommended Practices specifically designated for home-based services:

SDM 11. Staff base the nature, delivery, and scope of intervention upon activities of daily living (e.g., bathing, feeding, play, bedtime, etc.). SDM 12. Intervention
includes all family members (family members being defined by the family) who wish to be involved. SDM 13. The level of intensity and range of services match the level of need identified by the family. SDM 14. Staff base their communication with family members upon principles of mutual respect, caring, and sensitivity. (p. 111)

Howard et al. (1997) describe four advantages to providing services in the home environment:

First, learning takes place in children’s natural environments, eliminating the problem of transfer from school to the home. Secondly, there is direct and constant opportunity to intervene on behavior as it occurs naturally. Thirdly, behaviors learned in the natural environments tend to be maintained more easily. Finally, training parents gives them the skills to deal with new behaviors as they occur. (p. 363)

Additional research supports the trend toward natural environments and methods in early intervention. Howard et al. (1997) explain,

The major goals of early intervention today revolve around a philosophy of normalization. Teachers, parents, and clinicians work toward the child’s acquisition of developmentally appropriate skills, they provide services in the natural setting of the home or in integrated classrooms with typical peers, and they emphasize teaching that utilizes normal routines, play activities, and natural contingencies. (p. 300)
Broen and Westman (1990); Fey, Krulik, Loeb, and Proctor-Williams (1999); Girolometto, Weitzman, Wiigs, and Pearce (1999); and Polmanteer and Turbiville (2000) describe programs to assist parents in learning effective ways to stimulate speech development in children in the home setting. Although Broen and Westman’s (1990) emphasis is on speech versus language development, they describe some points that are applicable to this study. All discuss the reality that parents are physically in the presence of their children much more than speech-language pathologists and/or other educators, making them inherently the best educators for children. Also having parents take their natural role as the speech and language stimulator allows the child to stay at home for intervention which, in special education terms, would be the “least restrictive environment,” the preferred method of providing special services.

Even the amount of time children spend with their parents in the car supports the notion that parents normally have more time to interact with children making them potentially the most effective teachers (Marvin, 1994). Marvin (1994) describes that children tend to be very verbal while riding in the car and this provides a perfect opportunity for parents to stimulate their development. In today’s working world where both parents are frequently employed outside of the home, “car talk” is an important way for families to interact.

Minuchin (1974) defined the family systems theory describing the family as a social system in which whatever impacts one family member will ultimately impact other family members. Applying a family systems theory reinforces the change from school or agency oriented programs to family-centered programs. Many programs have
successfully implemented family systems models. Project Dakota is one example of a successful family oriented model. Although its beginnings were the result of federally funded demonstration monies, Project Dakota is currently a private, non-profit agency serving children, birth through age 3, exhibiting developmental delays or disabilities in Dakota County, Minnesota (McLean, 1998).

Another example of a similar successful program is AVANCE Family Support and Education Program. It, too, is a private, non-profit organization. The original main objective of AVANCE was to support and strengthen Latino families. Currently it is available to all families living within the designated area being served by an AVANCE program. Results of the evaluations of AVANCE indicate that parents demonstrate improved parenting skills, think more of themselves as the first teachers of their children, expressed greater nurturing attitudes toward their children, and put more value in lifelong education (Cohen, 1994; Rodriguez & Cortez, 1988).

The Minnesota Early Childhood Family Education (ECFE) program is designed to enhance the skills of parents in many areas of child rearing. Sandell (1998) explains, “The mission of ECFE is to strengthen families and support the ability of all parents to provide the best possible environment for the healthy growth and development of their children” (p. 177). In 1984, the Minnesota Legislature ensured that any school district could establish an ECFE program. Licensed teachers lead a variety of classes which include parent/child interaction activities, parent education issues, father/child interaction activities, single parents’ issues, and early childhood education topics.
In East Cleveland, Ohio, Cleveland State University began the Families Are Student and Teachers (FAST) Project. School improvement is enhanced through increased parent involvement, multiyear assignments for children, improved teaching strategies for all children, and a summer enrichment program. A unique aspect of FAST is that parents and teachers together build three year plans for their children in order to increase stability and continuity (Barbour & Barbour, 2001).

During the pilot study I completed in 1996, I was able to successfully design a parent component for INREAL that seemed more realistic than the original INREAL parent component in terms of time and need. Four parent/child groups were studied and evaluated according to the effectiveness of the model as described by the parents. At the conclusion of the pilot study, I made a recommendation to assess the application of the strategies to a larger, diverse population as all of the participants in the pilot study were middle class, from two parent families, and the parents were college educated.

INREAL or INter-REActive Learning was an HCEEP funded demonstration model project from 1974-1977. The major goal of the project was to improve, through the use of natural methods, the language development and related learning skills of three to five year old children with special needs and bilingual Spanish speaking children.

Weiss' (1981) research on the original INREAL project was conducted in the following three ways:
1. an experimental study to assess language development;

2. a longitudinal, experimental study to research the effectiveness of identifying and intervening with children exhibiting language delays at a young age in order to prevent later language related learning difficulties; and

3. an efficacy study of longitudinal data to demonstrate cost effectiveness.

These methods were applied to the entire subject pool and to the bilingual Spanish speaking children as well. In the third year of the original INREAL project (1976-77), matched experimental and control group results revealed that language improvement in the experimental INter-REActive Learning (INREAL) group was highly significant as a result of INREAL intervention. Over three years (1977-80), longitudinal data were gathered after the INREAL intervention had ended. Results revealed that implementation of the INREAL methods significantly lessened the need for follow-up, remedial services and later grade retention (Weiss, 1981).

Specific INREAL strategies for enhancing receptive and expressive language development are outlined in the following list:


2. Mirroring–nonverbally imitating what the child does (i.e., playing with cars on a roadway beside a child who is playing in the same way). (The intent of this strategy is to enter the child’s world in a nonthreatening way, a particularly helpful method for dealing initially with the nonverbal child.)

3. Self Talk–saying what you, the adult, are doing; for example, “I’m drawing a house.”
4. Verbal Monitoring and Reflecting

   a. Imitated–repeating exactly what the child said; for example, child: “Man drive car,” adult: “Man drive car.”

   b. Restated–repeating what the child has said in a nonpunitive, corrected manner; for example, child: “That goed in there,” adult: “That went in there.”

5. Expansion

   a. Elaborated–adding to what the child said; for example, child: “Shoe,” adult: “David’s shoe.”

   b. Restated–adding and correcting what the child said; for example, child: “We goed to Grandma’s,” adult: “We went to Grandma’s yesterday.”

6. Parallel Talk–saying what the child is doing; for example, adult: “You are building a tower.”

7. Modeling–responding to the child’s utterance without repeating what the child has said; for example, child: “I have a new dress,” adult: “It is a very colorful dress.”

8. Wait Time or Latency–allowing at least 2 to 3 seconds after the child speaks and after the adult speaks. Often when one waits after the child speaks, the child will elaborate on what s/he has said. The adult needs to wait after s/he speaks in order to give the child sufficient processing time to respond (The INREAL Trainers’ Handbook, n.d.).

Speech-language pathologists, classroom teachers, and paraprofessionals were trained how to implement these techniques. In the mid 1980s, I was taught INREAL during a three credit university inservice course resulting in the attainment of an INREAL specialist certification. I continued the advanced graduate courses and am currently an
INREAL trainer myself. Such training courses continue today across the country and internationally. They are offered in the form of preservice and inservice university classes. One course requirement is for the students to videotape themselves during communicative interactions with children or young adults, ages birth to 21. Students are required to transcribe these language samples (the videotaped conversations or communicative interactions) verbatim. Along with their peers and the instructor, the student subsequently leads the group through an analysis of the conversation.

Conversations (communicative interaction) are composed of many communicative acts. A communicative act consists of one person taking a turn communicating either verbally or nonverbally and the other person responding. Each partner in the conversation is said to take a communicative turn or in some cases not take a communicative turn (e.g., ignore his/her partner) within a communicative act. The language sample is analyzed one communicative act at a time (The INREAL Trainers' Handbook, n.d.; Weiss, 1981).

In addition to analyzing the use of the specific stimulation methods explained on the previous page that a communicative partner might use during his/her conversational turn, pragmatic functions are also examined. Pragmatics refers to what we say in order to get things done in conversations. These include the following functions taken from the taxonomies of Searle (1970): responsives, regulatives, requestives, performatives, expressives, informatives, and commissives (The INREAL Trainers' Handbook, n.d.). (See Appendix C.) Described in more understandable terms, pragmatic functions are answers, controllers (“Hey, you!”), questions, demands, attitudes (i.e., apologizing,
congratulating, exclaiming, or deploring), statements, and promises. Thus, each communicative act is analyzed using all of the above described parameters. Analyzing one communicative act alone can take as long as 10 minutes depending upon the specific needs and severity of the conversational partner with a disability. This extensive, in-depth training is extremely helpful to the speech-language pathologist, but perhaps not necessary in every case for other educators and parents.

Specific Stimulation Methods in Question

I noted in the 1996 study that two areas of need, once improved, made a significant difference in the quality of communicative interactions between caretakers and children (Lund, 1996). The most frequent pragmatic problem educators and parents exhibit is the excessive use of questions. The other area is limited or no use of latency, often referred to as wait time (Cook et al., 2000; Hulit & Howard, 1997; Power & Hubbard, 1996; Weiss, 1981). Cook et al. (2000) describe the use of these methods: “increased wait time to encourage communicative initiation and turn taking and certain language modeling techniques, including describing what the child is doing, repetition of key words and phrases, and syntactically and semantically expanding the child’s utterances” (p. 295). They expand on the idea of asking an abundance of questions. “Avoid one sided conversations. Questions asked one after another do not constitute conversation. In fact, just as with adults, too many questions result in no conversation” (Cook et al., 2000, p. 311).

The reasons these areas are so important have to do with allowing children the time and the opportunity to practice using language. It is a given that children learn to
talk by talking, just as someone learns to swim by swimming. Often parents and educators use one word answer questions to initiate conversations with children. Most frequently children answer using one or two words. One or two words does not allow for much language practice. A modeled statement can be made in order to elicit the same kind of information one is attempting to obtain with a question. The following dialogue exemplifies this phenomenon:

   Adult: (Instead of saying, “What did you have for lunch today?”)

   “I had spaghetti and meatballs for lunch.”

   Child: “We had peanut butter and jelly sandwiches.”

   (The adult pauses, implementing wait time.)

   “And you know what, Mom, we had cookies for dessert.”

By using a modeled statement, the child’s response is complete. S/he has the opportunity to practice more language.

In addition, concept and vocabulary development can be enhanced through the use of “loaded”sentences. By that, I mean that the sentence can include many adjectives and a variety of vocabulary to expose children to new words and concepts through natural conversations. Often we fail to do this and use nonspecific words as in the following:

   Parent (nonspecific sentence): “It’s over there.”

   Parent (loaded sentence): “The small, red ball is behind the green caterpillar.”

(See “Speech and Language Development: Tips for Parents,” Appendix A.)

In the area of latency, the time factor arises. If wait time is not given for children to respond to our comments, they lose the valuable opportunity to practice talking. It is
important for the adult to wait after s/he speaks (wait time 1) and also after the child speaks (wait time 2). Given wait time 1, communication partners have time to process information and to formulate a response. Given wait time 2, people will often elaborate on what they have said by verbally expanding their thoughts. These principles are also true for children and create more opportunities for them to practice language. Too often we do not give the time needed for conversational partners to talk or, after they have responded verbally to us, we interrupt people of all ages in their attempts to verbally elaborate (Cook et al., 2000; Hargrove & McGarr, 1994; Hulit & Howard, 1997; INREAL Specialist Training Packet, 1984; Leamnson, 1999; McKinnis & Thompson, 1999; Power & Hubbard, 1996; Rowe, 1987; Weiss, 1981).

Allowing children and adults sufficient wait time is particularly essential for people with disabilities. Whereas most typically developing children and adults need between 3 and 5 seconds of wait time, some people with severe physical challenges as in the case of cerebral palsy need as much as 45 seconds of wait time. Once given enough wait time consistently, over time people with disabilities require less wait time (C. Hueblein, personal communication, November 1985).

With experts recommending the use of natural language stimulation techniques for all learning environments in the home and school, this is an opportune time to teach parents effective use of them. The home is not only the "least restrictive environment," but it is the most cost efficient as well. Other benefits of intervention provided in the home are described by Rossetti (1996):
1. Parents feel more comfortable in their own home and, therefore, act more naturally.

2. Similarly, children are more likely to perform better in their own home. It affords a more naturalistic setting in which to elicit behaviors and provide intervention activities.

3. A child’s health is better protected. This may be of particular importance for those children who are medically fragile.

4. Parent and child routines are not interrupted. As a result, a more accurate sample of parent-child routines may be observed.

5. There is a greater likelihood of gaining helpful insights, as other family members are present. (pp. 174-175)

If children are stimulated in the home using “state of the art” methods, fewer children will require special services through the schools and other agencies.

As discussed previously, a solid foundation in the area of language development is essential to academic success. Children who begin elementary school with delayed language skills have a hard time catching up. It is argued by many researchers in the area of linguistics that a critical period between the ages of birth and 8 or 9 exists and, if language development is not virtually complete by the early elementary years, it is very difficult, if not impossible, to become a proficient language user (Hoff, 2001; Lightbown & Spada, 2000; Power & Hubbard, 1996). Thus, positively impacting the attempts made by parents to stimulate the communication development of their children has numerous benefits to children, adults, and the society at large.
CHAPTER III

METHODOLOGY

Effective stimulation of the language development of children has repeatedly been detailed in the literature as being paramount to academic success. Rossetti (1996) elaborates on this idea: “Among all childhood behaviors, communication skills provide the highest predictive correlation with later intelligence attainment and school performance” (p. 1). Thus, looking at how effective parents are in their attempts to stimulate the communication development of their children is of particular interest to parents and educators alike.

In this chapter, I explain my use of qualitative design to study the use of modified INREAL methods by parents to stimulate the speech and language development of their children. The following aspects of research are identified: steps to studying a problem, why qualitative design was chosen, the goal of qualitative research, grounded theory, insider’s perspective, interviewing as a qualitative tool, and the use of case study method. Following this review of qualitative research design, I describe the data collection process which includes the setting, the criteria for subjects, the subject selection process, how I negotiated entry, and the specific procedures I used to collect information through observations, interviews, and reviewing documents.

There are many ways to answer research questions. Dewey (1938/1997) describes the scientific method in the study of education reform. Almy and Genishi
(1979), two prominent researchers in early childhood education, apply his principles and describe how to proceed when studying a problem. This set of strategies for problem solving seemed relevant to my research questions.

Step 1. Identify the problem.

Step 2. Develop hunches about its cause and how it can be solved.

Step 3. Test one or more of the hunches.

   a) Collect data, evidence about the situation. Some hunches held initially or tentatively may have to be rejected when more of the facts of the situation are known. Hunches that seem reasonable after careful consideration become the hypotheses of scientific investigations.

   b) Try out the hunches in action. (The try out may be in a test tube or a classroom.)

   c) See what happens (collect more data or evidence).

   d) Evaluate or generalize on the basis of evidence. (p. 3)

In this research, the existing problem was to extend the work of my previous studies in working with parents in the effective stimulation of language development (Lund, 1996, 2000). Parents tend to ask far too many questions and give children little wait time in their stimulation attempts. Evidence from my previous pilot studies in 1996 and 2000 suggested that demonstration and videotaping parents attempting to implement the methods were perceived by parents as being effective ways of learning the methods. Further evidence was needed to demonstrate the effectiveness of the training with diverse populations, to “evaluate on the basis of evidence” (Almy & Genishi, 1979, p. 3).
Lancy (1993) stated that “the qualitative paradigm is ideal for phenomena that are patently complex and about which little is known with certainty” (p. 9). Although educators know a great deal about promoting language development, recommending the use of statements versus questions and wait time is relatively new. One finds references to the use of statements far more frequently than the use of wait time, but I have not to date found literature, with the exception of INREAL Specialist Training Packet (1984) and Cook et al. (2000), in which the concepts are discussed together. Qualitative research design is implemented to make meaning of the minute details of phenomena that are hard to research using quantitative methods (Strauss & Corbin, 1998). Therefore, qualitative methods were deemed appropriate in this investigation.

In qualitative research, the grounded theory method allows for themes or patterns to emerge as data are collected, analyzed, and sorted. “A grounded theory is one that is inductively derived from the study of the phenomenon it represents” (Strauss & Corbin, 1998, p. 23). Assertions that are generated are grounded as closely as possible to the environment and the phenomena being studied. Strauss and Corbin (1998) identify six distinguishing traits which characterize a grounded theorist:

1. The ability to step back and critically analyze situations
2. The ability to recognize the tendency toward bias
3. The ability to think abstractly
4. The ability to be flexible and open to helpful criticism
5. Sensitivity to the words and actions of respondents
6. A sense of absorption and devotion to the work process. (p. 7)
It was important during this study to continually analyze the data as insights and themes emerged.

The goal of a qualitative researcher is understanding rather than prediction. As I began posing questions for this investigation, I was hoping to eventually understand how parents make meaning of the language stimulation methods implemented. It was not my intent to confirm or verify theories regarding language stimulation, but to gain insights into the perspectives of parents. "It is not the researcher's perception or perspective that matters but rather how research participants see events or happenings" (Strauss & Corbin, 1998, p. 47). I was not seeking the outsider's thoughts, rather the insider's insights to gain an understanding of how parents perceive the stimulation techniques. Peck and Furman (1992) explain in the following quote:

The personal perspectives, beliefs, and interpretations of the world held by individuals define the experiences of their lives in fundamental ways. Thus achieving an adequate understanding of the lives led by children, teachers, and families demands introduction of personal voice. (p. 7)

As the majority of language stimulation is carried out in the home, parents must believe in the benefits of a given method if they are to consistently implement the strategies. "In qualitative research, objectivity does not mean controlling the variables. Rather it means openness, a willingness to listen and to 'give voice' to respondents, be they individuals or organizations" (Strauss & Corbin, 1998, p. 43). Interviewing parents several times during the course of the investigation is planned to gain understanding through their personal voice. "At the root of in-depth interviewing is an interest in
understanding the experience of other people and the meaning they make of that experience” (Seidman, 1998, p. 3). Glesne and Peshkin (1992) elaborate on the topic: “The opportunity to learn about what you cannot see and to explore alternative explanations of what you do see is the special strength of interviewing in qualitative inquiry” (p. 65).

Strauss and Corbin (1998) summarize the need for listening intently to participants:

Doing microanalysis compels the analyst to listen closely to what the interviewees are saying and how they are saying it. This means that we are attempting to understand how they are interpreting certain events. This prevents us from jumping precipitously to our own theoretical conclusions, taking into account the interviewees’ interpretations. It helps us to avoid laying our first interpretations on data, forcing us to consider alternative explanations. Also, if we are fortunate, then participants will give us in vivo concepts that will further stimulate our analyses. (p. 65)

In an effort to gain further understanding in this area, case study method involving preschool children and parents was implemented. Creswell (1998) explains the case study method:

A case study is an exploration of a “bounded system” or a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information rich in context. This bounded system is bounded by time and place,
and it is the case being studied—a program, an event, an activity, or individuals.  

(Creswell 1998) defines “multiple sources of information” as “observations, interviews, audio-visual material, and documents and reports” (p. 61) Stake (1995) refers to methods in which more than one case is studied as a collective case study. Given these definitions, this research method could be described as a collective case study.

Gay (1992) describes the reason for completing case study research. “The primary purpose of a case study is to determine the factors, and relationships among the factors, that have resulted in the current behavior or status of the subject of the study. In other words, the purpose of a case study is to determine why, not just what” (p. 236). The why as I see it in this situation is parents’ frequent use of questions and lack of wait time when stimulating the language development of their children. The what would be the fact that their children are not developing language in an optimal fashion or at a rate commensurate with their chronological ages.

Gay (1992) cautions readers that there can be problems with the case study method. Observer bias or the researcher seeing something s/he wants to see rather than what is actually there can result. “Explaining your possible biases and how you will deal with these is a key task of your research proposal” (Maxwell, 1996, p. 91). To decrease the chances of this happening, I requested that another speech-language pathologist view the data as well, someone who was not familiar with the techniques and who would give an unbiased opinion about the results. In addition, Gay (1992) warns that it is difficult, if
not impossible, to generalize the results of a single case study. Replicating a case study or completing a collective case study may increase generalizability.

The case study method is well respected in the field of qualitative and quantitative research. One can find case studies in many disciplines. There have been numerous case studies in psychology, in education, in medicine in terms of problem analysis of a case study, in law as in case law, and in political science where case reports are common, to name a few. This may be why many researchers choose case study method because of its familiarity (Creswell, 1998; Stake, 1995).

When choosing cases, Creswell (1998) recommends selecting those that are “most promising and useful.” He further explains, “I prefer to select cases that show different perspectives on the problem, process, or event I want to portray, but I also may select ordinary cases, accessible cases, or unusual cases” (p. 62). Given that advice, I chose cases that represent different family constellations. In the first pilot study (Lund, 1996), the families were two parent, middle income, Caucasian families; while in the second pilot study (Lund, 2000), a family of one single mother and her child was studied in the form of a case study. To expand the population base for this research, I studied single parent families, those representing different cultures and those identified as low income.

Data Collection

The Setting

The setting of this investigation was an urban community in an upper Midwest region of the United States of America. The community has a population of approximately 60,000. The community is largely populated by Caucasians, mostly
Scandinavian and western European in background, and predominantly Catholic and Lutheran. There is a major university and an Air Force base in the community which bring a small amount of diversity to the region. Diversity is further enhanced by a nearby Indian reservation from which Native Americans come to this urban area to obtain additional education and other forms of economic development. The setting was selected because it offers some diversity in an area not known for diversity. The setting was also chosen because it contains numerous early childhood programs including university sites, Head Start centers, institutional and home child care centers, and preschools from which one might find children with special needs in the area of language development. Lastly, the setting was chosen because I was very familiar with many educators in the area who were able to recommend potential families from which subjects may be recruited.

Subjects and Selection Criteria

Members from five families, each including at least one parent and her/his child with a language delay/disorder, served as subjects. The subjects were not limited to parent/child dyads. In cases where other family members wanted to participate, they were encouraged to do so; however, the parents were the target of training in the specific methods. Four criteria were used for the selection of subjects. The first criterion was that the parent was voluntarily participating in the study. Every effort was made to ensure that the parents felt comfortable about the process and the idea of being considered research subjects. As required by the university’s Institutional Review Board (IRB), subjects need to understand that participation is purely voluntary and can be terminated at
any time during the course of the study. This is clearly defined in the permission form approved by the IRB for use in this study (see Appendix D).

The second criterion was that the family be low income. As explained previously, subjects in the 1996 pilot study were from middle income, Caucasian families, and the one family studied in the 2000 pilot study was a single, low income mother, but again Caucasian with middle class, supportive, involved parents. By including a criterion of low income, I hoped to expand the population base to families other than middle class, Caucasian families.

Since some of the families have children who were enrolled in Head Start, low income was defined according to the 2001-2002 Family Income Guidelines for Head Start Programs (see Appendix E). Each school year these guidelines are revised by the federal government.

To understand the possibilities for future implications, more diversity in the sample population was desirable. Considering this need, the third criterion for subject selection was ethnicity. Cultural and/or ethnic differences may lead to varying results in the ways people interact with their children. Lastly, the fourth criterion was that the child be preschool age and in need of language intervention as determined by informal and formal evaluations conducted by speech-language pathologists.

Maxwell (1996) describes this kind of sampling as “purposeful sampling.” He explains, “This is a strategy in which particular settings, persons, or events are selected deliberately in order to provide important information that can’t be gotten as well from other choices” (p. 70). Maxwell compares “purposeful sampling” to more
random sampling methods found in quantitative research methods such as probability sampling and convenience sampling.

“In our society, with its history of racism, researchers and participants of different racial and ethnic backgrounds face difficulties in establishing an effective interviewing relationship” (Seidman, 1998, p. 83). Seidman also cautions about crossing gender and class boundaries as well. He explains that it is not impossible, however, to establish effective relationships given these societal differences. But extra care is needed to accomplish this.

Interviewers and participants of good will who are from different racial backgrounds can create a relationship that runs counter to prevailing social currents. Maintaining sensitivity to issues that trigger distrust as well as exhibiting good manners, respect, and a genuine interest in the stories of others can go a long way toward bridging racial and ethnic barriers. (pp. 83-84)

With these four criteria in mind, I sought subjects through contacts with area speech-language pathologists and an early childhood special education teacher currently serving preschool populations. Prior to discussing the possibilities with them, I needed to gain entry through their employers. Many of these clinicians I knew personally. For those with whom I was not acquainted, I contacted an early childhood special education teacher working in the local school district. She was able to recommend additional potential subjects from the families she is currently working with or those she has worked with in the past.
Negotiating Entry

The first step in gaining entry was obtaining approval for the study from the Institutional Review Board (IRB). At this point in time, this university also requires, prior to submitting an IRB application, the successful completion of an examination to prove a researcher’s understanding of ethical research procedures. I successfully passed the examination and received approval by the IRB to conduct the study.

Glesne (1999) defines the process of negotiating entry in the following passage:

Access is a process. It refers to your acquisition of consent to go where you want, observe what you want, talk to whomever you want, obtain and read whatever documents you require, and do all of this for whatever period of time you need to satisfy your research purposes. If you receive full and unqualified consent, then you have obtained total access. If your access is qualified somehow, then you must explore the meaning of the qualifications for meeting research expectations: Should you redefine your research? Should you select another site? (p. 39)

Gaining access as Glesne describes can be a difficult task or relatively easy. However, one must follow the proper steps in order to be successful or risk being denied entry in the end. Seidman (1998) explains the dangers of negotiating an easy entry:

Beginning interviewers, like running water, tend to look for the easiest path to their goal, their potential participants. They often want to select people with whom they already have a relationship: friends, those with whom they work, students they teach, or others with whom they have some tangential connection.
This is understandable but problematic. My experience is that the easier the access, the more complicated the interview. (p. 14)

In an attempt to gain access to participants who the interviewer does not know, researchers frequently must negotiate entry through gatekeepers. Some gatekeepers are described in the literature as legitimate and people to be respected, others are self proclaimed and need to be avoided, while the rest fall somewhere in between (Glesne, 1999; Seidman, 1998).

In this research, it was necessary to gain access through the gatekeepers of a variety of institutions such as the public schools, Head Start, area day care providers, and preschools. Glesne (1999) cautions that this can be a tricky proposition especially in institutions with several layers of gatekeepers such as in a public school system where there are a school board, a superintendent, principals, coordinators, and teachers, to name a few. She continues to explain that starting at the top has its risks because those ranking below the top may feel pressured to abide by the decision from the top. But starting at a lower level also has its own dangers because a decision to participate or recommend possible participants may be negated at the top.

Glesne (1999) explains that it is helpful to know an insider who knows the policies and is familiar with those gatekeepers at the top. This individual can assist the researcher in knowing how to best proceed and whom to avoid along the way. In addition, Glesne recommends that the researcher have the known insider who is respected by her/his superiors act as an intermediary who introduces you to the gatekeeper(s). With respect to this research, I knew many speech-language pathologists and special education
coordinators who were knowledgeable and respected insiders for gaining useful information and were able to assist me in negotiating entry.

Glesne (1999) further suggests that when the researcher meets the gatekeeper(s), one must be fully prepared to discuss many aspects of the investigation. One must be able to summarize the proposal and answer specific questions to put gatekeepers at ease. One must make certain that the gatekeepers understand the procedures for protecting confidentiality and obtaining consent. It is important that gatekeepers understand the benefits to the participants and society at large in addition to any potential risks.

In order to gain access through the gatekeepers, I individually contacted and met with the appropriate administrators in whose programs or public school buildings the potential participants were being served or previously served. I explained the purpose of the research and the specific methods planned including the processes being implemented to protect subjects’ identity and well-being. Administrators were assured that participants could withdraw from the study at any time without fear of reprisal. I was encouraged to begin the process and given approval to recruit subjects affiliated with their institutions.

Once access was achieved, potential participants were identified. Seidman (1998) advises that the researcher personally make the initial contact. Although it may be useful to be accompanied by the insider closest to the participant, it is important that the researcher be present to explain the research in depth and be available to answer any questions a potential subject may have. “Building the interviewing relationship begins the moment the potential participant hears of the study” (Seidman, 1998, p. 39).
Given this advice, an insider and I made the initial contacts together. In four of the five families, either a speech-language pathologist or an early childhood special education teacher made the initial contacts with me. In the fifth case, an early childhood special education teacher recommended the family. However, due to the close relationship that one of the families (already identified as participants) had with a potential family, the mother of the first family discussed the study with the second family. Prior to any contact I had made with the second family, the mother of the first family had been explaining the methods with the mother of the second family who consequently became very interested in participating as well. Thus, prior to my knowledge, a subject made the initial contact with the family of the fifth case. This obviously made gaining access to the last family very convenient and easy.

Seidman (1998) elaborates that an initial “contact visit” is a time consuming, but important, step in building relationships with participants:

By taking the time to make a separate contact visit to introduce him- or herself and the study, an interviewer is saying implicitly to the potential participants, “You are important. I take you seriously. I respect my work and you enough to want to make a separate trip to meet with you to explain the project.” (p. 40)

In this research as demonstrated in the pilot study (Lund, 1996), it was important to meet at least once with each family in order for us to establish a comfortable, trusting relationship between the family and myself, just as importantly, between the child and myself. If the investigator is to be successful in a play situation with the child while
demonstrating language stimulation techniques to the parent, the researcher must spend some time establishing rapport with each child.

Observations, Interviews, and Documents

Creswell (1998) discusses the following four major categories of data collection: observations, interviews, documents, and audio-visual materials. Of these four, the qualitative methods of observation, interview, and document review were implemented in this research. Since one of the criteria for subject selection was that the child be language delayed or disordered, there were documents in the form of assessment reports, individual education plans, staffing reports, and reviews that were useful to me in understanding the individual needs of each child. Permission to obtain access to this information was obtained from the parents as needed.

Maxwell (1996) explains the importance of the use of observation in qualitative research:

Participant observation provides the opportunity for acquiring the status of "trusted person." Through participant observation—through being a part of a social setting—you learn first hand how the actions of research participants correspond to their words; see patterns of behavior; experience the unexpected, as well as the expected; and develop a quality of trust with your others that motivates them to tell you what otherwise they might not. (p. 43)

Not only are the benefits outlined above possible, but Maxwell elaborates to inform the researcher that interview questions may arise from participant observation from behavior that is seen by the researcher.
Various forms of observation are available to the researcher. These vary according to the amount of participation the observer chooses to have with the culture being studied. In some instances, the researcher may find it beneficial to be an “insider” or active participant in the environment throughout the study. On the other end of the spectrum, s/he may decide to remain an “outsider” and observe having as little contact as possible with the participants (Creswell, 1998).

For the purposes of this present research, I collected the data in a relationship where I was more of an active participant than an observer. I planned to do this for two reasons. First, it allowed me the opportunity to actively model for parents effective language stimulation methods. Secondly, it supported the development of a trusting relationship with both the parents and the child. As a participant observer, I tape recorded interviews and videotaped parent/child interactions and researcher/child interactions. This gave me the freedom to not have to take field notes as we talked/interacted and risk missing important information.

As a participant observer of the culture studied, I hoped to be able to gain information from the parents and children that I would not be able to obtain through observation alone. The parents and children were encouraged to talk freely to me and I to them throughout the observations/interactions. These conversations answered questions and supplied details/issues that I would otherwise have missed. Some examples included specific questions from the parents and explanations about specific instances of stimulation as they occurred. If I were to observe from afar (e.g., in a clinic observation
room or across the room or in another room of the home), I might have missed a great deal.

The final method of qualitative research employed was interview. Glesne (1999) explains the reason for interview:

What is the origin of the interview question? In qualitative research, the experience of learning as participant observer often precedes interviewing and is the basis for forming questions. The things you see and hear about the people and circumstances of interest to you therefore become the nuggets around which you construct your questions. (p. 69)

As I observed how parents were implementing the stimulation methods with their children, questions arose about how they made sense of the interactions and how these events and behaviors compared to mine based on their understanding of my demonstrations of effective language stimulation techniques.

Seidman (1998) has important advice for qualitative interviewers. "Listening is the most important skill in interviewing. The hardest work for most interviewers is to keep quiet and to listen actively" (p. 63). Seidman continues to explain that there are three levels of interviewing. The first level involves listening to what the participant says. The second level involves listening for what might indicate there is more to what the participant is saying underlying his/her actual words, or an inner voice. By listening intently for clues to the inner voice, a researcher can probe further to obtain access to these inner thoughts. Simply asking for clarification or repeating back what one thinks has been said can help to release these inner voices. The third level of listening involves
the investigator being conscious of the process of interviewing. The researcher must keep in mind how long the interview has lasted, what information is left to cover, and, most importantly, the participant’s saturation level or fatigue.

Rubin and Rubin (1995) explain how theory can be evaluated through the interviewing process:

You can build and test the theory step by step. The testing helps winnow ideas, so the weaker ones and the ones not supported by the interviews drop out. The testing also helps modify the theory so it fits new cases or additional situations, making the theory more tightly linked to the evidence and more generalizable. You continue the study by examining other settings to see how the implications of the emerging theory work out. If the implications work out as you expect, you gain confidence in the theory. If not, you modify the theory to accommodate what you have learned in the new setting. (p. 62)

Six parents were interviewed on five occasions during approximately 30 minute interviews. The first interview was conducted to obtain background information or a case history regarding the child’s developmental and family history. In an attempt to compare stimulation styles and the use of the target stimulation methods, each parent and child was subsequently videotaped on three separate occasions while playing together, and the child and I were videotaped immediately following the first two parent/child interactions in the same play environment. During and after the videotaping process at each visit, the parents present at the time were interviewed regarding their understanding of the process. In the three cases in which the fathers were actively or partially involved, one father was
present and videotaped at play with his child on every occasion. The second father was unable to attend the third videotaped session; however, he sent his evaluation of the process to me which constituted his final interview. The third father was present on two occasions and preferred to be more of a participant observer during the videotaped play sessions. The second, third, and fourth interviews occurred at the times of the first, second, and third videotaping sessions. During the final fifth interview, seven parents evaluated the learning process.

I asked the same basic interview questions of all of the parents (see "Sample Interview Questions," Appendix B). However, parts of the interviews were unique to each family, based on their questions or what was observed in the videotape.

The first videotaping of the parents and children was completed to obtain baseline data. I needed to know what methods the parents currently were using at stimulating the language development of their children. Following this videotaping, I explained the techniques I was going to subsequently demonstrate to them through the use of a handout I composed, entitled “Speech and Language Development: Tips for Parents” (see Appendix A). During and after the videotapings of the child interacting with me, the parents and I discussed how I was using the intervention methods. These taped discussions constituted the second, third, and fourth interviews.

In order to accommodate parents’ schedules and comfort levels, parents were given choices as to where the sessions would take place. I was open to any setting that would provide a play environment for the children. The setting chosen by all of the families was the child’s home. A home setting is the least restrictive environment and
where most language stimulation will occur throughout the day, so I was hopeful that this would be the case. Rossetti (1996) lists some of the benefits of working with families in the home environment:

1. Parents feel more comfortable in their own home and, therefore, act more naturally.
2. Similarly, children are more likely to perform better in their own home. It affords a more naturalistic setting in which to elicit behaviors and provide intervention activities.
3. A child’s health is better protected. This may be of particular importance for those children who are medically fragile.
4. Parent and child routines are not interrupted. As a result, a more accurate sample of parent-child routines may be observed.
5. There is a greater likelihood of gaining helpful insights, as other family members are present. (pp. 174-175)

The home environment refers to the place where the particular activity would naturally occur. This natural home environment could have been the backyard, a park, a grandparent’s home, or wherever else the activity would normally take place.

The interviews were audiotaped and transcribed verbatim at a later date. In addition, parent/child interactions and researcher/child interactions were videotaped and subsequently transcribed. Many researchers agree that this method is preferable to only taking notes during an interview. The reasons appear obvious that one would obtain better data given the actual transcripts and video clips versus written notes. Certainly
memory alone is a factor. Audio or video taping also allows the interviewer to record virtually every detail including nonverbal information (i.e., vocal tone, sarcasm, volume, and body movements) (Creswell, 1998; Seidman, 1998).

Following the transcribing of interviews and the typing of observation field notes, the process of more specific analysis began as described by Creswell (1998). Initially, I read all of the field notes and transcriptions to gain an overall perspective and to look for emerging themes. While reading, notes were written in the margins to mark questions for further inquiry and thoughts about patterns and possible hypotheses. This process allowed me to return to the field with additional questions for interviews and potential themes to substantiate or deny.

Data Analysis

Coding Procedures

Over 1,500 communicative acts were compiled during the 36 interviews, while approximately 3,300 communicative acts were recorded during the 15 play interactions. Coding the pages of data was the next step. My initial process included coding almost every word. As I became more familiar with the procedure, I was able to restrict my coding to what seemed most useful. Even though major themes began to emerge through the coding, I continued to code incidental information I thought might be needed.

Seidman (1998) advises,

At this point in the reading, marking, and labeling process it is important to keep labels tentative. Locking in categories too early can lead to dead ends. Some of the categories will work out. That is, as the researcher continues to read and mark
interview transcripts, other passages will come up that seem connected to the same category. On the other hand, some categories that seemed promising early in the process will die out. New ones may appear. Categories that seemed separate and distinct will fold into each other. Others may remain in flux almost until the end of the study. (p. 108)

Coding may be completed by hand or through the use of qualitative coding software. By hand, as themes or categories arise, it is recommended that separate files per category be created to store pieces of the data which fit into a category (Creswell, 1998; Glesne, 1999; Maxwell, 1996; Rubin & Rubin, 1995; Seidman, 1998; Strauss & Corbin, 1998). In the end, I chose to code manually as it was more convenient and less costly for me. (If I had used a computer program for coding, I would have needed to spend many hours at a university computer lab.)

Once the analysis of the data was complete, interpretation of the data began and a diagram was generated to display the results in a systematic form. Patterns or themes emerged and assertions were made. Frequently, researchers present their findings in a diagram similar to the one on the next page followed by a listing of the assertion(s) that arise(s). Creswell (1998) explains, “Finally, the researcher develops naturalistic generalizations from analyzing the data, generalizations that people can learn from the case either for themselves or for applying it to a population of cases” (p. 154).

Major Themes and Patterns

Formal and informal interview data were transcribed, coded, and sorted into categories. Formal interview data included the Case History Interview; Interviews
Numbers 1, 2, and 3 conducted during each visit before, during, and after the videotaping process; and the Final Process Evaluation Interview. Informal interview data consisted of conversations between the parents and me throughout the visits that occurred during the videotaping process and at the end of each visit.

In the end, 14 subcodes were identified, from which 3 major codes or categories emerged. The following diagram outlines these results.

<table>
<thead>
<tr>
<th>History</th>
<th>Process</th>
<th>Process Evaluation</th>
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<tbody>
<tr>
<td>Family</td>
<td>Feelings</td>
<td>Mothers' Responses</td>
</tr>
<tr>
<td>Ethnicity/Culture</td>
<td>Understanding of Methods</td>
<td>Fathers' Responses</td>
</tr>
<tr>
<td>Speech-Language Dev.</td>
<td>Dedication to Process</td>
<td>Children's Responses</td>
</tr>
<tr>
<td>Interaction Style</td>
<td>Practice of Methods</td>
<td>Ease of Application</td>
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<td>Special Services</td>
<td></td>
<td>Interaction</td>
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Figure 1. Codes and subcodes.

During the interviewing and videotaping process and the coding of results, the following patterns became apparent:

1. The parents were concerned about the speech and language development of their children.

2. The parents wanted professional help to deal with the speech and language delays of their children.

3. With the exception of one family, whose affect was hard to decipher, the families appeared enthusiastic about participating in the study.

4. There appeared to be cultural differences in the amount of wait time parents use naturally with their children.
5. Implementing the strategies took practice. The amount of practice necessary varied from parent to parent, depending upon the baseline use of the strategies.

6. During the videotaped sessions, the children talked more when the parents and I followed their lead in play and in conversation.

7. During the videotaped sessions, the children talked more frequently and in longer utterances when statements were modeled and wait time was implemented.

8. The parents reported that they believed the videotaping process was helpful in learning the modified INREAL strategies.

9. With the exception of one parent who wanted shorter, more frequent sessions, the parents reported that they believed the number of sessions and the amount of time spent during each session was helpful to the training process.

10. Videotaping appeared to be an effective tool to assist parents in the improvement of communicative interactions with their children.

From these patterns and the analysis of the data, the subsequent assertion was formed: The parents believed that learning the modified INREAL strategies positively impacted communicative interactions with their children.

In Chapter IV, Results, I will extensively describe the research process and the patterns or themes and relationships among the categories that emerged. Direct quotations from the interviews and play sessions will be cited to gain the personal voice or point of view of those who were studied. The range of types of responses will be included to show the patterns of distribution and to demonstrate generalizations within the body of data.
CHAPTER IV
RESULTS

The major purpose of this study was to further understand what happens to the communicative interactions between parents/caregivers and their children after the use of modified INREAL strategies for enhancing their efforts as language stimulators. Another focus was to gather the perceptions of parents/caregivers of the modified methods. It has been a long standing belief that parents play a critical role in supporting speech and language development. In most cases, children become proficient in communication skills through the stimulation efforts of their parents. However, in other cases due to issues such as disability, neglect, and/or a parent’s lack of knowledge regarding stimulation methods, children exhibit delayed receptive and expressive language development.

To begin this chapter, I describe how the families were selected and how they are identified throughout the text. All of the families met the criteria for subject selection. First, they voluntarily participated in the research as required by the Institutional Review Board and discussed in Chapter III. Second, each family was considered low income as defined in Chapter III according to the 2001-2002 Family Income Guidelines for Head Start Programs (see Appendix E). Third, within each family at least one of the parents was a person of color or biracial. Finally, at least one child in each family was identified as speech and language delayed.
Families are identified in the following way. Families are referred to by number and position within the family. For example, the first family is cited as F-1. The mother is referred to as F-1-M, the father as F-1-F, and the child as F-1-C.

In the second section of this chapter, each family and the results from the interviews and home visits are described. I include descriptions of the visits and quotations from the interviews and videotaped language samples.

Results From the Family Visits

The data consisted of transcriptions of the interviews and videotaped intervention sessions from the case studies as described in Chapter III. I planned to interview each parent on five occasions during approximately 30 minute interviews. With all five mothers and three fathers (one father was only able to be interviewed four times and one father was only able to be interviewed twice) participating in the interviews, a total of 36 interviews was conducted. In the families where both parents were participating, I interviewed the mothers and fathers at the same time. In addition, the children and parents were videotaped during 20 minute play interactions 15 times and the children and I were videotaped during 20 minute play interactions 15 times. This made the number of videotaped interactions total 30. Over 1,500 communicative acts were compiled during the interviews, while approximately 3,300 communicative acts were recorded during the play interactions.

The quotations from the data are cited with each family member’s code (i.e., F-1-M). The research data revealed that the parents had a variety of levels of knowledge concerning behavioral and natural speech and language intervention methods.
The levels of knowledge appeared to be based upon how their own parents had interacted with them as children, how teachers had interacted with them as children, and how familiar they were with speech and language stimulation techniques in general. There also appeared to be a cultural factor that influenced how they communicated with their children.

*Family Number 1*

Family Number 1 consisted of a two parent family with three children. In terms of ethnicity, F-1-M is Filipino and F-1-F is Caucasian. The youngest is a three year old boy with a significant language delay as measured by formal and informal assessments. His initial diagnosis was made by a local infant development program. Subsequent referrals were made to a comprehensive educational evaluation team who suspected a moderate to severe form of Autistic Spectrum Disorders.

Because F-1-C has the greatest needs in terms of special education, his family seemed very enthusiastic to participate in the research. Upon my arrival for the first home visit, I was greeted with extreme warmth and invited to share a tray of desserts with them that was prepared in my honor. I certainly was not expecting a reception of that nature. This could be attributed to cultural tradition regarding etiquette when visitors come to your home.

The first interview was completed to obtain the case history. F-1-M and F-1-F are both older than average students at a local university. As stated above, F-1-M is Filipino and F-1-F is Caucasian. The couple met as pen pals and corresponded over a period of approximately two years. F-1-M came to the United States at the time of their marriage.
At that time, her knowledge of the English language was limited to what she had learned during her elementary and secondary education in the Philippines. To date, her English language proficiency has improved; however, she continues to be frustrated with her English language use and plans to enroll in an English as a Second Language course in the future.

The family lives in a nice, newly built apartment complex. Their apartment is a three bedroom unit. There is a small galley kitchen and a moderately sized dining area/living room area. Within the complex, there is a large playroom for children with a jungle gym, playhouse, Little Tykes car, play kitchen area, and room for riding in the car. As they are both students and F-1-M has told me some information about her in-laws, it is my guess that the in-laws help to pay some of their expenses.

F-1-C has an extensive special education history that I felt required a detailed description of his case history. F-1-M had a full term pregnancy with F-1-C and he was born via a planned C-section. His birth weight was between six and seven pounds. F-1-C’s developmental history was unremarkable with the exception of delayed speech and language skills. He began to say his first words at approximately 20 months of age. Since his sister and brother had also been delayed in their speech and language development, the parents were not concerned. They believed this was due to his exposure to two languages within the home.

A few months later, a colleague of F-1-M recommended that F-1-C be referred for a speech and language evaluation. As a result, he was enrolled in a local infant development program. The infant development interventionist visited the home for
hourly visits once a week to assist the parents in the stimulation of F-1-C’s communication and overall development. During these visits, the interventionist (a speech-language pathologist) noted that F-1-C made no eye contact with her and demonstrated echolalic behavior (a term in the field of communication disorders for an individual who only repeats what you say without apparent communicative intent). A diagnosis of Autistic Spectrum Disorders was suspected.

At this point, the early childhood provider expressed concern about F-1-C’s behavior. It was reported to the parents that he was climbing on furniture, running into the street, and not interacting with any of the other children at the center. F-1-M took her son to his primary physician who subsequently prescribed Ritalin. It is believed that as a result of the Ritalin, F-1-C cried frequently and wanted to be held throughout the day. Thus, the use of Ritalin was discontinued.

At this point, the infant development program referred the family to a local rehabilitation/education center child evaluation team consisting of a psychologist, occupational therapist, speech-language pathologist, physical therapist, and an educational specialist. The team was in agreement that F-1-C exhibited autistic tendencies; however, the psychologist believed it was not conclusive and a re-evaluation in six months was her recommendation. On the other hand, based on an Autistic Spectrum Disorders checklist, the educational specialist diagnosed F-1-C as autistic.

Speech and language therapy was begun three times weekly for hour long one-on-one sessions at the rehabilitation center and the infant development services continued. F-1-C also began receiving occupational therapy three times weekly for
hourly individual sessions at the rehabilitation center. At this point, the family agreed to become participants in this study. During the course of the study as a result of behavioral issues at home and at the day care, F-1-C began seeing a behavioral psychologist twice monthly for hour long individual sessions in addition to the other services. F-1-C attends a Montessori child care center full days, five days per week.

The case history interview was followed by the first videotaped session completed to obtain baseline data. Both F-1-M and F-1-F interacted with F-1-C. The conversation was dominated by both F-1-M and F-1-F using mainly requests to elicit verbal responses from F-1-C. The following examples from the language sample (F-1-M/F/C-1) were typical communicative interactions.

(F-1-M was using a book to try to elicit language from F-1-C.)

F-1-M: “(Child’s name), what’s this? (Child’s name), what’s this?

(Child’s name), what’s this?”

F-1-C: (The child seemed to ignore F-1-M.)

F-1-M: “(Child’s name), what’s this? Kitty?”

F-1-C: “Kitty.”

F-1-M: “Good boy! Yes, kitty, good job!”

F-1-M: (She turned the book page.) “(Child’s name), what’s this?”

“(Child’s name), what’s this?”

F-1-C: (He began to whine, wiggled out from his mother’s lap, and ran to the playhouse.)
(F-1-F had chosen a favorite number toy of F-1-C to attempt to elicit a language sample.)

F-1-F: "What number is this, (Child’s name)? What number is this, (Child’s name)?"

F-1-C: "7, 7, 8, 9."

F-1-F: "Good job, (Child’s name)!"

In addition to the excessive use of questions, there was very little wait time used by either F-1-M or F-1-F. F-1-M used approximately one half a second of wait time to allow F-1-C to respond while F-1-F used approximately one second of wait time. F-1-M’s rate of speech appeared to be overly rapid and this was consistent with the limited amount of wait time that she gave F-1-C to speak.

After the first videotaping of F-1-M and F-1-F interacting with F-1-C ended, I presented the handout on tips for parents and explained it to them. (See “Speech and Language Development: Tips for Parents,” Appendix A.) F-1-M and F-1-F agreed that the methods made good sense and commented that they could already evaluate that they had used too many questions and too little wait time. They appeared excited to observe me demonstrate the methods.

During the subsequent videotaping of F-1-C and me interacting, I attempted to model the techniques described. I followed F-1-C’s lead and implemented self talk, parallel talk, and modeling in an attempt to get F-1-C to take a verbal communicative turn. (See Appendix F.) The following language sample is an excerpt from the communicative interactions.
F-1-C: (He ran to the jungle gym and began climbing.)

Bonnie: “Up, climb up.”

(Wait time 1)

F-1-C: “Up, up.”

(Wait time 2)

F-1-C: “Up, climb.”

(Wait time 2)

F-1-C: (He ran to the playhouse and went inside.)

(Wait time 2)

Bonnie: (I knock on the closed shutter.) “Knock, knock.”

(Wait time 1)

F-1-C: (He opened the shutter and smiled at me. Then he closed the shutter.)

(Wait time 2)

Bonnie: (I knocked on the closed shutter.) “Knock, knock.”

F-1-C: (He opened the shutter, smiled, and replied.) “Knock, knock.”

(Wait time 2)

Bonnie: “I see you.”

(Wait time 1)

F-1-C: (He closed the shutter and knocked on it.) “Knock, knock.”

In this language sample, F-1-C displayed pleasure in the interaction as indicated through his smiles. F-1-C responded with more purposeful daily language rather than
rote learning that his parents had elicited. His utterances were longer in length on average than those obtained by F-1-M and F-1-F.

F-1-M and F-1-F seemed pleased with the results of my interaction with F-1-C. The following comments demonstrated this apparent positive response.

F-1-F: "I can see how the statements worked."
F-1-F: "You followed his lead and he enjoyed playing with you."
F-1-M: "The wait time 1 and 2 really work, worked."
F-1-M: "He made eye contact with you!"

The parents appeared anxious to practice the methods. We scheduled the next visit and the first home visit ended.

A week later when I arrived for the second home visit, I was again greeted with extreme warmth. F-1-M and F-1-F immediately began telling me about the progress F-1-C had made since my last visit. They excitedly detailed specific situations in which effective communicative interactions occurred. The following vignettes are examples of the language samples F-1-M and F-1-F were describing.

(F-1-M and F-1-C were in the living room.)
F-1-C: "Want juice, want juice."
F-1-M: "You want juice."
F-1-C: (Pulling F-1-M’s hand toward the kitchen) "I want juice."
F-1-M: "Do you want orange juice?"
F-1-C: "No, want apple juice. Want apple juice."
(F-1-F was leaving for the university.)
F-1-F: “Bye, (Child’s name), Daddy go to school.”

F-1-C: “Daddy go work. Daddy go school.”

F-1-F: “I’m going to school. Bye-Bye, (Child’s name).”

F-1-F: “Bye-Bye.”

During the subsequent videotaping of F-1-M/F-1-F and F-1-C interacting, I witnessed the progress the parents had described. F-1-C was making occasional eye contact with his parents as well during the communicative acts. Here are video excerpts taken that day.

(Again there was a table full of baked sweets for us to share. F-1-C was eating a cookie.)

F-1-C: “Drink, Mommy. Want drink, Mommy.”


F-1-C: “No chocolate milk, no. Juice. Want apple juice.”

(F-1-F and F-1-C were playing on the jungle gym.)

F-1-C: (He was climbing up the gym.)

F-1-F: “Climbing up. Climbing up the ladder.”

F-1-C: “Climbing up the ladder.”

F-1-F: “(Child’s name) is climbing up the ladder.”

We discussed the need to use more wait time because both F-1-M and F-1-F continued to give little wait time. It did appear that F-1-F was intermittently using longer wait time and more progress seemed to be made by F-1-F than F-1-M in this area. Although in F-1-M’s defense, she did appear to be using longer wait time as well, just not
as often as F-1-F. However, when I remembered how short F-1-M’s wait time was
during the first videotaping session (1/2 of a second versus 1 second for F-1-F), F-1-M
had a more difficult assignment to lengthen her wait time than F-1-F did.

During the videotaping of F-1-C and me interacting, F-1-C demonstrated his
language progress as shown in the following language sample.

F-1-C:  (He was entering a Little Tykes car.)
        (Wait time)
Bonnie: “You opened the door.”
        (Wait time)
F-1-C:  (He began driving.)
        (Wait time)
Bonnie: “You’re driving the car.”
        (Wait time)
F-1-C:  “Driving the car, driving the car.”
        (Wait time)
Bonnie: “You’re driving fast.”
        (Wait time)
F-1-C:  “Driving car fast, driving car fast.”

After the videotaping was finished, we reviewed the need to work on more wait
time for both F-1-M and F-1-F. Due to intense schedules and upcoming homework for
F-1-M and F-1-F, we decided to wait a few weeks to schedule the third home visit. This
concluded the second home visit.
As university workloads increased for all of us, we finally were able to schedule the third visit six weeks later. We met at a local outdoor playground. Unfortunately F-1-F was unable to attend this session.

When I arrived at the park, F-1-M again immediately began to tell me about F-1-C’s progress. Not only did she describe verbal exchanges, but she related that F-1-C was reading and spelling some words. From the case history and home visits, I knew that F-1-C’s first words were dominated by letter names and numbers. He definitely appeared to be fascinated with written language.

We began the videotaping of F-1-M and F-1-C. The following excerpts tell the story.

F-1-C: (He ran to the sand pit, sat down, and began digging.)

(Wait time)

F-1-M: “(Child’s name)’s digging in the sand.”

(Wait time)

F-1-C: (Smiled up at F-1-M) “Digging in the sand.”

(Wait time)

F-1-C: “Digging in the sand.”

(Little wait time)

F-1-M: “Yes, you’re digging in the sand.”

(Wait time)

F-1-C: (He threw some sand.)
F-1-M: “No, no, (Child’s name), don’t throw sand. You might hurt someone. The sand could hurt their eyes.”

(Wait time)

F-1-C: “No, no, no throw sand. I hurt someone eyes.”

(At this point, F-1-M redirected F-1-C to the jungle gym because he wanted to continue throwing sand. He would smile at us and throw sand. F-1-C liked the idea and ran to the jungle gym. In this jungle gym, there are a series of three letter dials for children to spell words.)

F-1-C: “Through the tunnel. Climbing through the tunnel.”

(Wait time)

F-1-M: “You climbed through the tunnel.”

(Wait time)

F-1-C: “I climb through the tunnel.”

(At the other side of the tunnel, F-1-C found the series of letters. He began turning the letters, experimenting with them, and saying the letter names. After a few seconds, he had spelled “P-I-G.”)

F-1-C: “Pig! Pig!”

I couldn’t believe my eyes! I knew this little guy was very intelligent, but I never imagined the high level of intelligence that he was displaying. I commented to F-1-M how amazed I was at his reading ability. She replied that the day before he had been manipulating some letter toys at home and had spelled “C-L-O-S-E.” After finishing his spelling, F-1-C said, “Close.”
We continued by videotaping F-1-C and me interacting. Here is a sample of our interaction.

F-1-C:  (He pointed at some people playing volleyball.)

"They playing soccer ball! They playing soccer ball!"

(F-1-C loves balls.)

(Wait time)

Bonnie:  "They're playing volley ball."

(Wait time)

F-1-C:  "They playing volley ball!"

At the end of this session, we discussed the improvements F-1-M had made using wait time and the progress F-1-C was making. I interviewed F-1-M about her evaluation of the process. She was very excited about the modified INREAL methods. During the course of this study, the parents reported the methods taught to them yielded "amazing results." They subsequently took F-1-C to a nearby major metropolitan clinic for a second opinion. The pediatric neurologist observed no indications of autism. A sampling of her comments follows.

(It is important to remember that F-1-M is Filipino and is continuing to learn English as a second language.)

F-1-M:  "Incredible!! Amazing!! He's just doing really good. He's talking lots more. He understands. He can follow directions now."

F-1-M:  "Whining is less because he can communicate with words.

We are so excited with (Child's name)'s progress."
F-1-M: “When you wait (referring to wait time), try to make
connection, give more time, (Child’s name) talk more.
Follow him instead of your own plan, agenda, (Child’s name)
talk more. He is initiating communication and he’s applying
to other communicating.”

F-1-M: “(Child’s name) is making eye contact with us now.”

F-1-M: (Referring to the question about the amount of time, three
90 minute sessions, the process takes) “It was just great,
perfect! Thank you so much, Bonnie.”

At this point, our last session ended.

Family Number 2

Family Number 2 consisted of a single mother and her three children, the
youngest of which is a three year old boy with a moderate language delay as measured by
formal and informal assessments. The father was inconsistently an active member of the
family. He maintained an apartment of his own where he and his daughter from a
previous relationship lived part time. The two also lived part time with the single mother
and her three children. F-2-M is a Native American from a reservation 150 miles away
from this metropolitan city. F-2-F is Caucasian. F-2-M is a cook at Head Start and
F-2-F is a custodian at a local manufacturing plant.

When I arrived for the first home visit, there were several family members and
extended family members inside and outside of the small townhome. Everyone seemed
excited to meet me and interact with me. For example, several times the children made
comments such as the following ones. “Bonnie, look at this!” “See my dinosaur” (a chalk dinosaur drawn on the sidewalk). “Bonnie, is that your truck? Where did you get it?”

F-2-M, F-2-C, his two biological siblings, a cousin, a grandfather, and a grandmother were present. It was a beautiful day so family members were running in and out of the house playing and communicating about daily life activities. Soon after my arrival, the grandparents left with the cousin.

At that time, I was able to complete the first interview, the case history. The family lives in a relatively new, but small, townhouse in a large complex of townhomes. As you enter the front door, you walk into the living room/dining room area. There is a small table with four chairs in the dining area. To the right at the back of this front room is a short hallway that leads to the back door. To the left of the back door is a doorway into a little kitchen. To the right of the back door is a stairway leading to bedrooms and a bathroom upstairs. I have never been upstairs so I don’t know how many bedrooms there are.

F-2-M expressed concerns about her three year old’s speech and language development and was eager to participate in the study. F-2-M reported that F-2-C exhibited reduced intelligibility of his speech, a rapid rate of speech, and limited sentence formation. She explained that she was the only one besides his youngest siblings who could understand him and that this caused F-2-C much frustration. Results from a formal and informal speech and language assessment I completed during the first and second sessions revealed an apparent delay of 9 to 10 months in the areas of concept knowledge,
syntax, morphology, and semantic development. I also noted the rapid rate of speech reported by F-2-M. Currently, F-2-C is not receiving speech and language services, but will start Head Start in the Fall, 2002. At that time, he will be routinely screened by a speech-language pathologist.

Concept knowledge refers to the comprehension of vocabulary such as colors, numbers, opposites (high/low, open/shut), positional prepositions (in, out, under, between), directional adjectives (right/left), word categories and their members (animals—dog, cat, horse, etc.; occupations—firefighter, mail carrier, teacher, etc.), to name a few. Syntax refers to the way words are ordered in a sentence. Morphology has to do with root words and the ways we change them to alter the meaning of a sentence (i.e., go/goes/going, dog/dogs, and walk/walked). Finally, semantics is often equated with vocabulary knowledge; however, semantics includes the knowledge of an object and its characteristics. Thus, a chair has many variations and properties such as a dining room chair, a lounge chair, and a rocking chair and most chairs have legs, arms, and backs.

After obtaining the case history information, I videotaped F-2-M interacting with F-2-C to gain baseline data. The conversation was dominated by the mother asking the child questions. Some examples of the requests are detailed in this language sample.

(The children were outside drawing with sidewalk chalk.)

F-2-M: “What’s that?”
F-2-C: “A dinosaur.”
F-2-M: “What’s this?”
F-2-C: "Him head."

F-2-M: "Where's Bonnie's truck?"

(F-2-C seemed to ignore his mother's request.)

In addition to the excessive requests, very little wait time, if any, was used by F-2-M during the verbal exchanges. She waited approximately one second between her communicative turns. At times, F-2-C would try to respond and F-2-M would interrupt him. F-2-C frequently responded to F-2-M with one or two word answers. For example, when asked, "What's that?," F-2-C replied, "An airplane."

Following this first interaction between the parent and child, I explained the handout on tips for parents to F-2-M. (See "Speech and Language Development: Tips for Parents," Appendix A.) F-2-M demonstrated her understanding of the concepts through her paraphrasing of my instructions. An illustration of this would be during the explanation of wait time, F-2-M commented, "I can see how that would work. It also might help to slow down his talking. He talks so fast."

Next, F-2-M videotaped me interacting with F-2-C. During the conversation, F-2-C responded to my comments or informatives with sentences four to five words in length. When given wait time 2, he often expanded on what he had just said. An example of this phenomenon follows.

Bonnie: "You're drawing a circle."

(Wait time 1)

F-2-C: "I drawing my truck."

(Wait time 2)
F-2-C: “These are the wheels.”

During the part of the interview that followed my interaction with the child, F-2-M made the following comments.

F-2-M: “I can’t believe how much more he talked for you.”
F-2-M: “The wait time 1 and 2 really works.”
F-2-M: “I can’t wait to try it out myself.”
F-2-M: “I think he even talked slower for you because you gave him time to talk.”
F-2-M: “Thank you so much, Bonnie.”

At this point, F-2-F arrived with his daughter. I introduced myself to him and he was cordial. F-2-M paraphrased what we had just discussed for F-2-F.

F-2-M: “We need to wait to give F-2-C time to talk and to use statements instead of all questions. The questions don’t give him much practice at talking because he just says one or two words to answer us.”
F-2-F: “That makes sense. If he has more time to talk, maybe I’ll understand him better, too.”

We scheduled a meeting time for our second session and the first meeting ended.

When I arrived a week later for the second home visit, F-2-M greeted me at the door. F-2-F, F-2-C, one of his brothers, and his half sister were also home. We discussed how the methods were working. F-2-M replied that they were working so well that she had taught them to F-2-C’s siblings and other extended family members. F-2-C was
talking more, using longer sentences, and was less frustrated because the family members were giving him time to talk. F-2-F added that he was able to understand F-2-C better because the wait time was also slowing F-2-C’s rate of speech. At this point, the half sister asked for a ride to her mother’s apartment, so shortly thereafter F-2-F left with her.

The videotaping of F-2-M and F-2-C confirmed the results that F-2-M had just explained. These are examples from the language sample.

(They were looking at photo albums.)

F-2-C: “Where me? Where me?”

(Wait time)

F-2-C: “Where me?”

(Wait time)

F-2-M: “This one is Alex’s.”

(Wait time)

F-2-C: “There Logan.”

(Wait time)

F-2-M: “Yeh, there’s Logan.”

We discussed the improvements in F-2-M’s use of wait time and statements. Then F-2-M proceeded to videotape F-2-C and me interacting. A sampling of the dialogue follows.

F-2-C: “Where your car? Where your car?”

(Wait time)
Bonnie: “I drove my truck today.”

(Wait time)

F-2-C: “Where is it?”

(Wait time)

Bonnie: “My truck’s in the parking lot.”

(Wait time)

F-2-C: (He looked out the window.) “I sawed it! I sawed your truck.”

(Wait time)

Bonnie: “You saw my truck outside.”

At the end of this session, we reviewed the progress the family had made. A third visit was scheduled and the meeting ended.

A week later the final home visit was completed. When I arrived at the door, I was warmly greeted by F-2-M, F-2-C, and his five year old brother. The boys were anxious to go on a promised errand so F-2-C kept trying to sneak out the back door. The following excerpts from the language sample explain the situation.

F-2-C: (He started running for the back door.)

F-2-M: (She chased after F-2-C and caught him.) “I gotcha.”

(F-2-M lifted F-2-C upside down by his feet.)

(Wait time)

F-2-C: (He giggles repeatedly.)

(Wait time)
F-2-M: “I’ve got you now!” (She giggles.) (Wait time)

F-2-C: (He continues giggling.) (Wait time)

F-2-M: (She gently lowers F-2-C to the floor.) (Wait time)

F-2-C: “Hold my feet, hold my feet, hands.” (Wait time)

F-2-M: (She grabs his feet and hands and swings F-2-C.) (Wait time)

F-2-C: (He giggles repeatedly.)

F-2-M and I discussed how well she was implementing wait time and statements. F-2-M believed she was continuing to improve in the use of the methods. Referring to the parent tips handout, I reminded her about how to add more concept words and a variety of words to her vocabulary to assist in F-2-C’s development of new words and concepts such as color names, counting, size words, and spatial relationships (see “Speech and Language Development: Tips for Parents,” Appendix A). I attempted to demonstrate this in the videotaping of F-2-C and me. The following communicative acts taken from the sample illustrate this point.

F-2-C: (He was running toward the back door.) “Get me, get me!” (Wait time)
F-2-C: "Get me, Bonnie."

(Wait time)

Bonnie: "I'll catch you quickly."

(Wait time)

F-2-C: "Do it again."

(Wait time)

Bonnie: (I catch F-2-C.) "I'm turning you upside down."

During the last part of this final session, I interviewed F-2-M about her evaluation of the process. The following quotes were taken from the interview.

F-2-M: "(Child’s name) talks more every day."

F-2-M: "He doesn't get nearly as frustrated as he did before because we are giving him the time he needs to talk. He’s talking slower and clearer."

F-2-M: "Everyone has noticed and understands him better."

F-2-M: "I'm so glad you asked us to be in your study. It has really helped us."

F-2-M: (Responding to my question about the videotaping process) "That helps a lot. You can see what you are doing and need to change."

F-2-M: (Answering my question about the amount of time, three 90 minute sessions, the process takes) "I think you need at least
that much time to practice and remember to keep using the wait time and statements.”

F-2-M: “Thanks, Bonnie.”

When the final interview was over, we exchanged farewells and the meeting ended.

Family Number 3

Family Number 3 consisted of a single mother and her two children, the youngest of which is a four year old girl with a moderate language delay as measured by informal and formal assessments. The family identifies themselves as Hispanic. F-3-M works at a local manufacturing factory. They live with F-3-M’s mother, father, and two brothers who appear to be in their late teens and/or early twenties. F-3-F does not live in the Midwest and, according to comments made to F-3-C during an observation, there are no plans to visit him in the near future.

F-3-C has been identified through the public school’s Head Start Program as speech and language delayed. She is currently on an Individual Education Plan (IEP) required by federal law for children being served by special education. She has been receiving speech and language intervention three times weekly in 20 minute group sessions. Areas of need include a delay in the areas of concept knowledge, syntax, morphology, and semantic development.

Upon my arrival at this home for the first visit, F-3-C’s uncle answered the door. He called for F-3-M and she quickly joined me in the living room. At about the same time, I heard footsteps coming down the stairs from the second floor and in walked F-3-C
with her grandmother behind her. F-3-C was excited to see me and asked immediately what was in the boxes I was carrying. I explained that I had brought toys along for F-3-C to play with while I was there. F-3-C eagerly opened the boxes and began to play.

By this time, the uncle had left the room so I introduced myself to the grandmother. F-3-M and her mother made me feel at home. We sat on the couch and had a lengthy conversation about our occupations and families. Due to their Hispanic heritage, I mentioned that our adopted daughter is Hispanic. I explained that our goal was to learn to speak Spanish together as a family and that we were beginning our instruction through our daughter’s favorite television show, “Dora, the Explorer.” (Dora is Hispanic and takes her viewers along on a journey. For example, in one episode, Dora goes to her grandmother’s house. Throughout the show, Dora teaches her viewers Spanish words to help her complete the journey.)

Of course, this is F-3-C’s favorite show as well. The grandmother and F-3-M showed me all of the pictures on the walls and shelves of their Hispanic relatives. Upon my request, they promised to help me learn as much as possible during our visits about Hispanic culture to help my family include Hispanic culture into our daily lives.

It was at that point that I was able to obtain the case history information. The family and extended family live in a small, old two-story house. When you enter the house from the front door, you enter a sun porch which leads into the house. Directly in front of you is the stairway going to the second story where bedrooms and a bathroom must be. To the right is a little living room which leads directly into a dining room. In the dining room is a table for four, a double bed, and a small china cabinet. A door to the
far right led into a small kitchen. Off the back of the kitchen to the left through a
doorway is an entry way to the back door. I assume there are also stairs leading down to
a basement from the back door.

After completing the case history interview, I began videotaping F-3-M and F-3-C
interacting with the toys I had brought. Samples of the dialogue follow.

(The toys they chose to play with were parts of the equipment
from a fast food restaurant playland and eating area. Included in
the set are several "Kelly" dolls.)

F-3-C: "Mom, what's this?"

F-3-M: "It's the ball pit like they have at McDonald's."

(Wait time)

F-3-C: "What are these?"

F-3-M: "Those are the balls that go in the ball pit."

(Wait time)

F-3-C: "Here's the table and food."

F-3-M: "Look, (Child's name), here's a tiny drink glass, too."

(Wait time)

F-3-C: "We need to put the chairs here."

I was surprised to observe F-3-M implement wait time as well as she did. I don't
think I have ever witnessed this in a parent before. Surely there are other parents who
instinctively allow their children processing time, but in my experience, this is not the
When I complimented F-3-M about her use of wait time, she explained, "I really don't know what to say."

We proceeded to discuss the tips for parents sheet. (See "Speech and Language Development: Tips for Parents," Appendix A.) F-3-M appeared to understand the concepts as evidenced by her following comments.

F-3-M: "I see."

F-3-M: (Referring to statements versus questions) "When I ask them what they did at school, they say, 'Nothing.'"

F-3-M: (Referring to wait time) "A lot of times I have a hard time getting to talk because there are so many people in this small house. I try to talk, but they keep on talking faster."

Next, F-3-M videotaped F-3-C and me playing with the playland.

F-3-C: "What's this?"

(Wait time)

Bonnie: "That's a rope ladder for climbing in the playland."

(Wait time)

F-3-C: "Whoops, the pop fell over."

(Wait time)

F-3-C: "It don't want to stay up."

(Wait time)

Bonnie: "She's going to eat her hamburger and French fries."

(Wait time)
F-3-C: “She’s going to drink her pop.”

(Wait time)

F-3-C: “She’s thirsty.”

(Wait time)

Bonnie: (I’m pretending to be one of the “Kelly” dolls.)

“I’m done eating. I’m going to go down the roller slide.”

(Wait time)

F-3-C: “Me, too! Let’s play in the ball pit.”

(Wait time)

F-3-C: “Come on!”

(Wait time)

Bonnie: “I’m coming. My mom said we have to keep the balls inside the pit.”

F-3-C: “O.K. I better put this ball in.”

After we finished this portion of the videotaping, F-3-M evaluated my conversation with F-3-C.

F-3-M: “(Child’s name) talks more for you. Now I see what to say. You were telling about what you were doing and what (Child’s name) was doing.”

Bonnie: “That’s exactly what I was doing. Very good.”

F-3-M: “When you waited, F-3-C said more many times.”
It seemed to me that F-3-M was very perceptive to identify these specific natural language stimulation methods, self talk and parallel talk. I was pleased that she observed the interaction so closely and was able to clearly evaluate the differences in our styles of communication with children.

Before I left, the grandmother came back in the room and recommended to F-3-M that they should go back to the grocery store and get some more of the mangos that were on sale. I mentioned that I was going to go there myself to get mangos because I had seen the advertisement, too. The grandmother's eyes sparkled with delight and she exclaimed, "Oh, you like our fruit! You have to have one of ours now. They are delicious." So into the kitchen we all went to feast on mangos. As I was getting ready to leave, the grandmother said, "Here, you must take one for your husband." Due to their limited income, I tried politely to refuse, but they all insisted.

We scheduled an appointment for the next meeting. Several of the family members walked to the door with me. They thanked me for coming and the first session with this family ended.

Two weeks later, I arrived for the second home visit. Again, I was greeted warmly and F-3-C exclaimed, "Bonnie's here. Bonnie's here." F-3-M and I discussed how the use of the methods was proceeding. She felt that it was going well. F-3-M was trying to use more statements by incorporating self talk and parallel talk as she had identified in my models during the last visit.
I began the videotaping of F-3-M and F-3-C playing together on the couch with some baby dolls and supplies that I had brought. Here is a typical dialogue from the language sample.

F-3-M: “Oh, here’s a pacifier.”
(Wait time)
F-3-C: “What’s this, Mom?”
(Wait time)
F-3-M: “Oh, that’s a block.”
(Wait time)
F-3-C: “What’s this, Mom?”
(Wait time)
F-3-C: “What’s this, Mom?”
F-3-M: “This is a . . . , I think this is a perfume bottle.”
(Wait time)
F-3-C: “Whoops.” (The perfume bottle fell.)
(Wait time)
F-3-C: “Oh, here it is.” “It’s tiny.”
(Wait time)
F-3-M: “It’s tiny.”
(Later in the play, this conversation occurs.)
F-3-M: “You gotta pick up your baby.”
(Wait time)
F-3-C: “It’s your baby.”

(Wait time)

F-3-C: “Mom, here.” (F-3-C hands F-3-M the toy diaper bag.)

(Wait time)

F-3-M: “Oh, this is heavy.”

(Wait time)

F-3-C: “No, it’s not.”

(Wait time)

F-3-M: “Are you going to cover the baby up?”

(Wait time)

F-3-C: “Oh, I forgot.”

(Wait time)

F-3-C: “I gotta cover her up.”

Afterwards, F-3-M began videotaping F-3-C and me playing. I had paper and pens along in my shoulder bag. F-3-C decided she wanted to write letters and draw. At one point, I found a small, metal piece on the floor that appeared to be part of a pen. F-3-C begins this portion of our interaction commenting about this piece of metal.

F-3-C: “I think it comes from this.”

(Wait time)

Bonnie: “I was wondering if it came from that pen, too.”

(Wait time)
F-3-C: "I think you pens are in here."

(Wait time)

Bonnie: "I think you're right. My pens are in this side pocket."

(Wait time)

(F-3-C gets ready to draw.)

F-3-C: "Can I make a baby?"

(Wait time)

Bonnie: "Sure, you can make whatever you want."

(Wait time)

F-3-C: "I'm making my dad."

(Wait time)

Bonnie: "I draw pictures for my dad, too."

(Wait time)

F-3-C: "Do you make a baby?"

(F-3-C hands her paper and pen to me. I believe the intent of her
request is "Can you draw a baby?")

(Wait time)

Bonnie: "I don't know. I think your drawings are better than mine."

Following this videotaping session, I praised F-3-M for her use of statements and
wait time. I also pointed out that F-3-C used many nonspecific words in the language
sample (i.e., "this one," "this," "that," and "it"). I explained how I tried to model a
variety of specific vocabulary to stimulate her use of higher level vocabulary (i.e., "side
pocket," "wondering," "drew," and "drawings"). F-3-M replied that she would try to follow my example. We also talked about how reading books increases children’s knowledge of vocabulary.

At the end of this conversation, F-3-C’s sibling arrived home from school. She went into the kitchen and came back with a homemade tamale. I commented that I used to make homemade tamales long ago, but didn’t have time now to make them. Well, right away all of the family members, of which I think there were six within hearing range (which I didn’t realize), began fixing me a bag of tamales to take home. They also taught me the correct pronunciation of tamale knowing how much I wanted our family to learn Spanish. Their generosity is truly touching.

F-3-M and I made arrangements to meet again in a week. The children and F-3-M walked me to my car and the visit ended.

A week later I arrived at the scheduled time. Again, I was warmly welcomed. I asked F-3-M how her use of the methods had been progressing. She explained that she was getting better at thinking of statements to say during conversations with F-3-C. F-3-M was also trying to use specific words rather than nonspecific words. In addition, she noted that F-3-C was talking more and that F-3-M believed F-3-C’s utterances were longer.

This time I had brought a plastic box filled with books, paper, crayons, markers, colored pencils, a pencil sharpener, and pencils. F-3-C was so interested in drawing and writing during the previous session that I wanted to make sure she had materials to
complete her "work." This turned out to be the perfect gift for F-3-C as the following language samples demonstrate.

F-3-C: (The statement was directed to me.)

"We're going to Texas and Mexico."

(Wait time)

Bonnie: "I hope I get to go to Mexico some day. I've never been there."

(Wait time)

F-3-C: "I'm gonna see my friend down there."

(Wait time)

F-3-C: "Mom, what's my friend's name?"

F-3-M: "Her name is Nita. She lives next door to Luis."

(Wait time)

F-3-C: "Mom, can I have a tortilla?"

(Wait time)

F-3-M: "Sure, ask Grandma to put butter on for you."

(F-3-C returns eating a freshly made tortilla. Her grandmother is in the kitchen making a fresh batch.)

F-3-C: (F-3-C directs her statement to me.) "I love hot tortillas with butter."

(Wait time)

Bonnie: "I do, too, but I've never had a homemade one."

(Wait time)

F-3-C: "I'll get you one."
(And off she runs to the kitchen. When F-3-C returns, I hand the camera to F-3-M.)

Bonnie: “Oh, this is delicious. And I was so hungry. Thank you.”

(Wait time)

F-3-C: (By now, she is finished with her tortilla, so she begins to write letters as she had been doing earlier in the session.) “How do you do (Sister’s name)?” (F-3-C’s intent was “How do you write {Sister’s name}?”).

(Wait time)

Bonnie: (I write the name for F-3-C to copy. While I am writing, I spell out the individual letters.)

(Wait time)

Bonnie: “You’ll have to take this box along on your trip to Mexico. Then you’ll have something to do during the long car ride.”

(Wait time)

F-3-C: “Can I, Mom?”

F-3-M: “Sure, that would be a great idea. Maybe you and (Sister’s name) can share the box.”

(Wait time)

F-3-C: “O.K. We can draw pictures and I can work on my letters.”

(Wait time)
F-3-M: “That’s very nice of you.”

(Wait time)

Bonnie: “(Sister’s name) can read the books to you.”

(Wait time)

F-3-C: (She hands me her ring.) “I want you to give this to your girl for me.”

(Wait time)

F-3-C: “Can we come to your house?”

(Wait time)

Bonnie: “Of course, as soon as you get back from Mexico, have your mom call me.”

F-3-C: “O.K.”

F-3-M assured me that the ring was not an expensive one and that indeed I should give it to my daughter, Olivia, from F-3-C. In fact, F-3-M commented that F-3-C would be bringing me back a gift from Mexico. I was very touched.

After the videotaping session, F-3-M evaluated the process for me. The following quotes were typical comments during the interview.

F-3-M: “It’s a pretty good thing. Parents learn more to teach. They get to learn a lot of how to help their children with learning.”

F-3-M: “The videotaping is helpful to even see how to react with kids. Because a lot of parents don’t know how to talk to children
to help them develop their skills, language. That helped a lot and she talks more.”

F-3-M: (Responding to my question about the amount of time, three 90 minute sessions, the process takes) “It’s good. You need time to learn, practice.”

As I was leaving this final home visit, we made arrangements to have F-3-C, F-3-M, and her other daughter come to my house to play. The grandmother and F-3-M invited me to come back anytime and promised to write down the tortilla recipe for me.

*Family Number 4*

Family Number 4 consisted of a two parent family with two children, the oldest of which is a four year old girl with a moderate language delay. F-4-M is Caucasian and F-4-F is biracial, Native American and Caucasian. F-4-M is a stay-at-home mother and F-4-F is a student at the local university. He also is employed at a local restaurant.

F-4-C was identified as speech and language delayed by one of the local Head Start Programs approximately a year ago. She currently attends Head Start and receives speech and language services in a group three times weekly. Areas of need identified on the IEP include concept knowledge, syntax, morphology, and semantic development.

I arrived for our prearranged meeting and was greeted at the door by F-4-F. F-4-C was interested in the box of toys that I had brought along. I placed the box on the floor for F-4-C and her younger sister. They began immediately to play with the small school house, van, playground equipment, and toy people.
I began the session by completing the first interview, the case history. The family lives in a small, old two-story house that has been converted into two side-by-side townhomes. As you enter the townhouse, you enter a tiny living room with little floor space. From there you go directly into the small kitchen. Behind the kitchen is a bedroom. I assume that somewhere off the bedroom there are stairs to bedrooms and a bathroom upstairs. I have not been past the kitchen and have only looked into the bedroom once when the curtain door was open. There is no hallway on the first floor.

After we finished the case history part of the session, I began videotaping F-4-M and F-4-F interacting with F-4-C and her sister (F-4-S). The following quotes were taken from that language sample.

F-4-C: “What’s this door (on the van)?”
F-4-M: “That’s the trunk door.”
F-4-F: “The hatchback.”
F-4-C: “This door doesn’t open.”
F-4-M: “Only the side door and hatchback open. The other doors look like they should open, but they don’t.”
F-4-S: “No open.”
F-4-F: “That’s right. They don’t open.”
F-4-C: “This one doesn’t fit.”
F-4-F: “Here, let me see if I can get her to fit inside.”

After completing this videotaping segment, I explained the concepts of wait time and the use of more statements rather than questions using the tips for parents handout.
I congratulated them on their use of statements during the baseline taping. F-4-M explained that she had received speech and language therapy for many years, and she guessed that using more statements than questions came naturally for her.

Subsequently, F-4-M began to videotape F-4-C, F-4-S, and me interacting. The following excerpts from the conversation were typical of the interaction.

F-4-C: “What’s this?”

(Wait time)

Bonnie: “It’s a piece of playground equipment called a teeter-totter.”

(Wait time)

F-4-C: “A teeter-totter?”

(Wait time)

Bonnie: “Yep, one child sits on this end and the other child sits on the other end. Then the child that’s down pushes off with her feet which makes the other child go down.”

(Wait time)

F-4-C: “Oh, I see.”

(Wait time)

F-4-S: “Me see.”

(Wait time)

Bonnie: “She’s going to swing on the swingset.”

(Wait time)
F-4-S: “Swing.”
    (Wait time)

F-4-C: “He’s going down the slide.”
    (Wait time)

F-4-C: “Now he’s going to swing, too.”
    (Wait time)

F-4-S: “Me swing, too.”
    (Wait time)

F-4-C: “Can I have the girl now?”
    (Wait time)

Bonnie: “Sure, I’ll be the boy.”
    (Wait time)

F-4-C: “Her name is going to be Sarah.”
    (Wait time)

F-4-S: “Me name (Sister’s name).”
    (Wait time)

F-4-C: “Sarah’s my favorite name.”
    (Wait time)

Bonnie: “Sarah’s a beautiful name, but I like (Child’s name) better.”
    (Wait time)

Bonnie: “And I like (Sister’s name), too!”
    (Wait time)
F-4-C: “Recess is over. It’s time to go in.”

(Wait time)

F-4-C: “Come on, everybody!”

When we had finished this portion of the session, F-4-M, F-4-F, and I discussed the differences between their interaction and mine. F-4-F said, “The wait time really helps. (Child’s name) talked more. You didn’t interrupt her.” F-4-M nodded in agreement. F-4-F continued, “I think I ask more questions than F-4-M. I need to work on that, too.”

After we scheduled a second meeting date, the home visit ended. A week later I arrived for the second home visit. The children were standing on chairs at the sink doing dishes. F-4-F and F-4-M were close by to supervise. F-4-M and F-4-F commented on how the implementation of the strategies was going. They lamented that it was hard to use wait time and I agreed. I consoled them by telling them how long it took me to change my habits of questioning too much and not allowing enough wait time.

During the next portion of the session, I videotaped F-4-F and F-4-M communicating with F-4-C and F-4-S. The following are some samples of the dialogue.

F-4-C: “We’re not making dinner.”

F-4-F: “Yeh, we’re cleaning up after dinner.”

(Wait time)

F-4-C: “I wanna wash this.”

(Wait time)
F-4-F: “We gotta scrub these dishes. Then you can rinse.”

(Wait time)

F-4-C: “Can I do this?”

F-4-F: “Yah, go ahead. Rinse this out and give it back to me.”

(Wait time)

F-4-C: “Here, Dad, I can do this.”

(Wait time)

F-4-F: “Rinse the glass off, (Child’s name).”

(Wait time)

F-4-C: “I already rinsed it.”

Once this portion of the session was completed, F-4-M, F-4-F, and I discussed the progress F-4-F and F-4-M had made implementing the methods. F-4-F’s communication was mainly statements and filled with many instances of wait time. F-4-M evaluated her communication style by stating that she needed to work more on providing enough wait time. I also reminded them of the need to include specific words (large pan) rather than nonspecific words (this, that, it) in their statements in order to expand their children’s vocabulary development through the natural conversation. At this point, F-4-M began videotaping F-4-C and me in conversation while they finished doing the dishes and later playing with the school house toy used in the previous visit. I attempted to specifically demonstrate the use of specific words or “loaded sentences.” These are samples from that conversation.
F-4-C: “We had tacos tonight.”

(Wait time)

Bonnie: “I love soft shell tacos with tomatoes and lettuce.”

(Wait time)

F-4-C: “I like hard shell tacos. I don’t like tomatoes, just lettuce and meat.”

(Wait time)

F-4-C: “Whoops, I sprayed water on here.”

(Wait time)

Bonnie: “Your sleeve got wet. You need to push your sleeve back up.”

(Later, we played with the toy school house.)

F-4-C: “This goes here in the school.”

(Wait time)

Bonnie: “The blackboard goes beside the teacher’s desk.”

(Wait time)

F-4-C: “Yah, the blackboard goes by the teacher’s desk.”

(Wait time)

F-4-C: “The desks go in front of the teacher’s desk.”

(Wait time)

Bonnie: “We need to put the chairs and table somewhere.”

(Wait time)

F-4-C: “The table goes here and the chairs go with the table.”

(Wait time)
Bonnie: “Oh, the chairs go with the table and the table goes against the wall.”

(Wait time)

F-4-C: “Yah, that’s right.”

Following the videotaping segments of the visit, F-4-M, F-4-F, and I discussed the differences between my “loaded sentences” using more specific words compared to F-4-F’s statements that included less specific words and more nonspecific words. We arranged to meet again in a week and the visit ended.

A week later I arrived at the scheduled meeting time. F-4-F was in the driveway unloading groceries from the car. He explained that the rest of the family was waiting for me at the park just two blocks down the street. He continued to say that he was going to straighten the house up and would meet us there shortly. So I walked the two blocks to the park.

When I arrived, F-4-C was busy playing on the elaborate jungle gym which included climbing apparatus, several slides, a suspension bridge, monkey bars, tunnels, and a fire pole. There were several other children playing, but F-4-C was playing alone. F-4-M and F-4-S were sitting on a blanket on the concrete play area at the edge of the sand covered playground.

F-4-M and I exchanged pleasantries and then I asked how the implementation of the statements and wait time was progressing. She felt they were both trying diligently to incorporate them into their daily language interactions with their children. F-4-M added that it was hard to change the habits of not providing enough wait time and using more
statements than questions. In her case, it was harder to use more wait time; whereas, in F-4-F’s case, he was finding it harder to remember to ask fewer questions.

F-4-C came running over to say “Hi” and to encourage one of us to play with her. F-4-C and F-4-S got up from the ground and I began videotaping F-4-C interacting with F-4-M and F-4-S. The following communicative acts were taken from the language sample.

F-4-C: (She looked down at the sand.) “Oh, yuk, there’s a bug. It will poison me.”

F-4-S: “Yuk! Yukky bug go away.”

(Wait time)

F-4-M: “No, that’s not a poisonous bug. It’s not dangerous. It won’t hurt you.”

(Wait time)

F-4-S: “Won’t hurt you.”

F-4-C: (She continued watching the bug’s progress and peered down at it.) “I think it’s a cockroach.”

F-4-M: “It might be a cockroach, but I don’t think so. It looks more like a beetle to me.”

(Wait time)

F-4-S: “Look, ‘nother bug, look!”

F-4-C: “I hate bugs ‘cept for ladybugs.”

(Wait time)
F-4-M: “Ladybugs are good for gardens. They eat the bugs that eat
the plants.”

After this part of the session, F-4-M and I discussed how she had improved in her
use of wait time. I praised her for using “loaded” sentences incorporating more specific
words that may have been new to F-4-C. F-4-M described how she had received many
years of speech and language therapy. She elaborated on her case history by saying that
she had been “completely unintelligible” at age 4 and that it wasn’t until then that her
mother had sought speech and language services for her. F-4-M continued to relate that
she has to really concentrate on her pronunciation of words and that she tries very hard to
talk to her children using higher level vocabulary as a model. She desperately wants her
children to avoid needing the extensive special help that she had required.

At this time, F-4-F came walking into the park and F-4-S and F-4-C went running
to greet him. He had been at work that morning so they hadn’t seen him for several
hours. We all walked back to their house together.

When we reached the house, F-4-F began videotaping F-4-C and me talking and
playing with the same school set from the previous sessions. F-4-S was busy drawing
with some paper and a pen I had given to her. Here are some quotations from that
language sample.

F-4-C: “We went to the library.”

(Wait time)

Bonnie: “I love to check out books at the library.”

(Wait time)
F-4-C: “I got 2 books and (Sister’s name) got 2.”

(Wait time)

F-4-C: (She pointed to a book on the coffee table.) “There’s one of mine.”

(Wait time)

Bonnie: “That book looks like it has many stories in it. That was a good choice. You’ll have several stories to read.”

(Wait time)

F-4-C: “Cinderella is one of my favorites.”

(Wait time)

Bonnie: “With the 2 books of yours and the 2 books of (Sister’s name), you’ll have 4 books to read together with Mom and Dad.”

(Wait time)

F-4-C: (She nods in agreement.)

(Wait time)

F-4-C: “We’re going back to the library next week.”

(Wait time)

Bonnie: “You’ll be able to check out different books.”

When the videotaping was completed, I interviewed F-4-F and F-4-M about how they viewed the process of the research. Excerpts from this final interview follow.

F-4-M: “It reinforced what I’m already doing and it helps me be more conscious of what and why I’m doing it.”

F-4-F: “It helps to better communicate with your children and others.”
F-4-M: "The videotaping did make me kind of nervous."

F-4-F: "It's (the videotaping process) is a good tool to compare with the outcome. I can see how it benefits parents and teachers."

F-4-M: (Referring to the videotaping process) "You don't see, you aren't aware of what you're doing until you see it (on the video). I took Parent Effectiveness Training and they talked about how to communicate to your children so that helped, too. Also my past experiences receiving speech and language intervention helped."

F-4-M: (Responding to my question about meeting in their home) "Most people are more comfortable at home. You see the true self. You're on your own turf."

F-4-M: (Answering my question about the amount of time, three 90 minute sessions, the process takes) "Perhaps you could do it in less time, but I doubt it. It would depend on the skills of the parents."

F-4-F: "I agree."

After the final interview, I thanked them for participating in the study. We exchanged farewells and the session ended.

Family Number 5

Family Number 5 consisted of a two parent family with three children, the middle child of which is a five year old girl with a moderate language delay as measured by
informal and formal assessments. The family is of Native American descent. F-5-M is a stay-at-home mother and F-5-F is a mechanic at a local automobile dealership. They live in an apartment complex in a three bedroom unit.

F-5-C is their only daughter. She has been identified through the public schools as speech and language delayed. The initial diagnosis was made while F-5-C was attending Head Start. Currently she is finishing kindergarten and continues to be served three times weekly in 20 minute group sessions by the public school speech-language pathologist. Areas of need identified on the IEP include concept knowledge, syntax, morphology, and semantic development.

When I made my first contact alone (the first contact was made with one of the gatekeepers), F-5-F returned my unsuccessful phone call (I had left a message on their answering machine). He explained that he was not interested in participating in the study because of his work schedule; however, he assured me his wife did want to be included. He was very kind and accommodating, saying that he would have his wife call me. Later that week, F-5-M and I made arrangements to meet in their home.

Upon arrival, F-5-M was finishing a task in the kitchen and came to greet me. F-5-C and her younger brother (F-5-B) were playing while watching TV in the adjoining living room. (The kitchen, dining area, and living room were in the shape of an “L” and all visible from the front entrance. It was a very open area with only the counter separating the kitchen from the rest of the living space.) F-5-B crawled toward me and greeted me with a short unintelligible utterance. I smiled, said “Hi,” and he responded
with another unintelligible utterance. F-5-C looked up at me, smiled, and continued her play.

I proceeded to interview F-5-M in order to obtain the case history. Subsequently, I began recording the baseline video of F-5-M and F-5-C playing with Barbie dolls on the couch. Sample dialogue from the conversation follows.

F-5-M: “O.K. What are we gonna play now?”

(Wait time)

F-5-M: “Where’s your dolls?”

(Wait time)

F-5-M: “What are we gonna play?”

F-5-C: “Barbie.”

F-5-M: “Barbie?”

(Wait time)

(F-5-C went to the toy box in the living room and brought back 3 Barbie dolls. F-5-M begins combing one Barbie’s hair. F-5-C follows her lead and begins combing another Barbie’s hair.)

F-5-C: “I don’t want to (inaudible phrase).”

F-5-M: “(Inaudible sentence.)”

(Note: At times both F-5-M and F-5-C speak with a lower volume.)

(Wait time)

F-5-M: “You can braid her hair.”
F-5-C: (She turns and speaks to me.) “Like her hair?”

(I nod “yes.”)

(F-5-B comes to me with a toy dog.)

Bonnie: “Doggie wolf-wolf.”

(Wait time)

F-5-M: “If this was real hair, do you think Barbie would be crying?”

(Wait time)

F-5-C: “Yeh.”

F-5-M: “I think so.”

(Wait time)

F-5-C: “Mom, let’s braid her hair first.”

When this portion of the session had ended, I explained the concepts that I would be modeling during the subsequent videotaping portion. I used the tips for parents handout to assist in the explanation. (See “Speech and Language Development: Tips for Parents,” Appendix A.)

I praised F-5-M for her great use of wait time. This is the second time during this research that I have found a parent who implements the concept of wait time naturally. It makes me wonder if this is a part of their culture or their personalities. Even though the other parent described herself as Hispanic, her mother explained that their ancestors were Spanish, Mexican, Native American, African American, and Caucasian American. In this case, F-5-M describes herself as Native American from a tribe currently living on a
reservation in the Northern part of the United States. The natural use of wait time by Native American cultures certainly would be an interesting area for further study.

During the next part of the session, F-5-M videotaped F-5-C and me playing on the floor with the Barbie dolls. Below are some communicative acts from the conversation.

F-5-C: “Pretend you were swimming out here.”

(Wait time)

Bonnie: “O.K.”

(Wait time)

F-5-C: “And pretend you’re a mermaid.”

(Wait time)

Bonnie: “She’s gonna swim up to you and say, ‘Hi.’”

(Wait time)

Bonnie: “Hi, let’s go swimming.”

(Wait time)

F-5-C: “I forgot my swimming suit.”

(Wait time)

Bonnie: “Can you go get it?”

(Wait time)

F-5-C: “I left it at home.”

(There’s a break in the videotaping here. F-5-M had to take care of the needs of F-5-B.)
F-5-C: "Pretend this is a slide."

(Wait time)

Bonnie: "Oh, so they can slide into the water."

(Wait time)

Bonnie: "Ooh, that’s fun. It’s a really slippery slide."

At the end of the videotaping part of the visit, we compared my interaction style with F-5-M’s. I again praised her for her wonderful use of wait time. We discussed the number of questions she uttered versus the number I used. F-5-M appeared to understand and agree with the need to ask fewer questions based on the length of F-5-C’s utterances in the two interactions. For example, F-5-M said, "(Child’s name) always talked in sentences for you. When I asked questions, she would answer with only one or two words."

We scheduled a second home visit for the following week. After that the first session ended.

At the predetemined time, I arrived the next week. F-5-M, F-5-C, and F-5-B were finishing their lunch. We sat at the table and talked about life in general. Once the dishes were cleared from the table, F-5-M asked to view the previous week’s video. We gathered in front of the TV and watched the video together. Occasionally F-5-M would make a comment about the specifics of the interaction.

When the video clip was over, we discussed how the implementation of the methods was progressing. In this case, as I said to F-5-M during the first home visit, her
use of wait time was excellent. F-5-M explained that she was trying to use more “loaded” sentences in her conversations, particularly with her children.

After our discussion, I began to videotape F-5-C and F-5-M playing with baby dolls on the couch. F-5-B was playing along beside them with his own doll. The following conversation is an excerpt from the language sample.

F-5-C: “How 'bout I go get her bottle?”

(F-5-C gets a bottle from the nearby toy box.)

(Wait time)

F-5-M: “Yeh, I get Oscar.”

(She begins feeding Oscar the bottle.)

(Wait time)

F-5-C: “No, Mommy, have this baby.”

(Wait time)

F-5-M: “I want a baby back without a ‘ba-ba’ (pacifier).”

(Wait time)

F-5-C: “My baby’s drinking.”

(Wait time)

F-5-M: “My baby (referring to F-5-B) just stole a bottle.”

(Wait time)

F-5-C: “And she’s visiting the bunny.”

(Wait time)

F-5-C: “And she’s visiting the bunny.”
F-5-M: “Yeh, she’s visiting the bunny.”

(F-5-B reached for the baby bottle.)

F-5-M: “Give him that.”

F-5-C: “He can play with that.”

At the end of this play session, F-5-M began to videotape F-5-C and me talking and playing with the baby dolls. Following are some communicative acts from the language sample.

F-5-C: “This one’s name is Brittany.”

(Wait time)

Bonnie: “That’s nice. Brittany’s a beautiful name.”

(Wait time)

F-5-C: “(Inaudible utterance.)”

(Wait time)

Bonnie: “Look, they match. Your tassels match the baby’s tassels. So now we know who’s her mother.”

(Wait time)

F-5-C: “Yep.”

(Wait time)

F-5-C: “My turn to go to bed now.”

(Here the videotaping stopped. F-5-M needed to attend to F-5-B.)

F-5-C: “Where’s your baby?”

(Wait time)
Bonnie: “I’ll get this baby.”

(Wait time)

F-5-C: “No, how ‘bout (Brother’s name) can have that baby?”

(Wait time)

Bonnie: “(Brother’s name), do you want this baby?”

(Wait time)

F-5-C: (Now the baby dolls take on roles.) “This is my brother.”

(Wait time)

F-5-C: “He’s 6 and I’m 2.”

(Wait time)

F-5-C: “How old are you?”

(Wait time)

Bonnie: “I’m 2, too, I’m just 2 like you.”

(Wait time)

F-5-C: (She measures the height of our two dolls.) “See who’s the biggest.”

(Wait time)

Bonnie: “I’m just 1 and 1/2 then, I guess.”

(Wait time)

F-5-C: “Me and my brother are 3 years apart.”

At the end of this segment of the session, F-5-M and I discussed that the majority of the time I used statements and how this impacted F-5-C’s utterances. She responded
back primarily with statements as well. I praised F-5-M for the decrease in the number of questions she asked and her great use of wait time. We again discussed the need to “load” our modeled statements with expanded vocabulary and concepts. At this time, we arranged to meet again in a week and the visit ended.

When I arrived the next week, F-5-M, F-5-C, and F-5-B were all snuggled together watching a video on the television. Again, F-5-M requested that we watch the video from the previous session. F-5-M put the tape in and we all proceeded to watch it. This time the family would occasionally laugh at a funny moment in the tape, but that was the only topic of conversation from them. Occasionally I would point out a concept regarding the use of “loaded” statements or the effects of the wait time.

When the videotape was over, I interviewed F-5-M about her use of statements and wait time during interactions with F-5-C since the last session. She explained that she was continuing to try to ask fewer questions, but that it was hard to do. F-5-M related that it was difficult to think of a statement to use at times, but that it was getting easier. My models of using self talk (“saying what you’re doing”) and parallel talk (“saying what F-5-C is doing”) had helped.

Next, I began videotaping F-5-M and F-5-C interacting while playing with baby dolls. F-5-B was playing with trucks along side of them. Excerpts from the conversation follow.

F-5-C: “Come on, let’s play.”

(Wait time)
F-5-C: (She is taking on the role of one of the dolls.) "My mom said we could have a sleepover."

(Wait time)

F-5-M: "Oh, that would be fun."

(Wait time)

F-5-C: "We could (inaudible because F-5-B began talking)."

(Wait time)

F-5-C: "Come on, let's go to sleep now. It's time to sleep now."

(Wait time)

F-5-M: "Is it time to go to sleep now?"

(Wait time)

F-5-C: "This (giving the doll a bottle) helps her to get to sleep."

F-5-B: (The brother begins an unintelligible utterance.)

F-5-C: "Be quiet 'cause we're trying to get to sleep here."

When this portion of the session ended, F-5-M and I discussed her wonderful use of wait time and statements. Even though there was only one statement out of two turns that F-5-M took in this brief sample, together the methods appeared to elicit many statements from F-5-C. F-5-M then proceeded to videotape F-5-C and me for the last time. Communicative acts from the conversation follow.

F-5-C: "Come on, let's play."

(Wait time)
F-5-C: “Should I get some clothes for you (meaning my doll)?”

(Wait time)

Bonnie: “Sure.”

(F-5-C goes to her bedroom and brings back a dress for the doll.)

Bonnie: “Thank you so much! I love this beautiful silky dress!”

(Wait time)

F-5-C: “Can we trade?”

(Wait time)

Bonnie: “O.K. I’ll trade clothes with you.”

(Wait time)

F-5-C: “Whoops.”

(Wait time)

Bonnie: “Your slipper was coming off.”

(Wait time)

F-5-C: “You got some different kind. See?”

(Wait time)

Bonnie: “Yeh, my outfit has booties attached to the sleeper.”

At the end of this videotaping segment, F-5-M and I discussed how I attempted one last time to demonstrate the use of “loaded” sentences and wait time. The final activity we completed was the last interview. F-5-M explained how she felt about the process and comments from the interview are below.

F-5-M: “I enjoyed it. (Child’s name) did. It was good.”
F-5-M: “She and I sit and talk to one another more.”

F-5-M: “It helped us talk more.”

F-5-M: “The videotaping was neat and helpful.”

F-5-M: “I think it (the videotaping) helped us along using wait time in more sentences. The wait time helped (Child’s name) talk more.”

F-5-M: (Responding to my question about the amount of time, three 90 minute sessions, the process takes) “I would like shorter times and more often. With the baby here, too, shorter times and more meetings would be better for me.”

I thanked F-5-M and F-5-C for working with me and this ended the last session.

In Chapter V, Interpretation of Results, Recommendations, and Implications for Research, I fully discuss the interpretation of the results and describe the process and relationships among the categories that emerged. The frequency and range of types of responses are included to show the patterns of distribution and to demonstrate generalizations within the body of the data.
CHAPTER V

INTERPRETATION OF RESULTS, RECOMMENDATIONS, AND IMPLICATIONS FOR RESEARCH

This study was an attempt to further understand how to best teach parents in the language stimulation of their children. It contributes to the understanding of how parents understand and feel about the use of modified INREAL strategies, naturalistic methods to stimulate children's language development. I instructed five families in the strategies and recorded their understanding and feelings about the process through audio- and videotaping interviews with them and their interactions with their children.

Historically, educators and speech-language pathologists, in particular, have attempted to teach parents effective ways to enhance the language development of children. It is most important to achieve this objective with children whose language development is delayed. It is well documented that those children who enter elementary school with strong language skills typically have more success academically than those who do not. Although this study has involved only a small number of families, it provides a look at what may or may not work as interventionists strive to enhance the abilities of parents in the language stimulation of their children.
Two questions guided this study:

1. What happens to the communicative interactions between parents/caregivers and their children after the parents/caregivers are taught the use of modified INREAL strategies for enhancing their efforts as language stimulators?

2. What are the perceptions of parents/caregivers of the modified INREAL methods they were taught to use with their children?

Five families were involved in the study. In each family, at least one child exhibited a diagnosed language delay. Eight parents (five mothers and three fathers) agreed to participate in the training. Each parent, with the exception of two, was interviewed on five occasions during approximately 30 minute interviews. All five mothers were interviewed five times. One father was interviewed five times, one four times, and one twice for a total of 36 interviews. During the first visit with each family, I explained how to implement the modified INREAL strategies. I also demonstrated the methods in use while playing with each child during every visit with the family. In addition to the recorded interviews, the children and parents were videotaped during 20 minute play interactions 15 times and the children and I were videotaped during 20 minute play interactions 15 times. The interviews were audiotaped and transcribed as were portions of the videotaped interactions. I employed the qualitative methods of coding the data and looking for themes and patterns in order to gain insights into the understanding and feelings of the subjects. In this chapter, I describe my interpretation of the results, summarize the findings, and discuss their implications.
Interpretation of Results

The results of this study indicate that parents believe learning the modified INREAL strategies positively impacts the communicative interactions with their children. Working with parents and children in their natural environments making use of daily activities and routines appeared to be an effective process for training in the proposed program. Other researchers have found similar results when educating parents (Sawhill, 2002; Snell, 2002). Throughout the course of the study, analysis of the communicative interactions between the families and the children documented a shift in the parents’ use of strategies targeted for training. Cultural differences in parents’ use of strategies and in interactions with me seemed to be apparent.

Parents’ Use of Strategies

The first research question focused on the effect of the communicative interactions between parents/caregivers and their children after the parents/caregivers are taught the use of modified INREAL strategies for enhancing their efforts as language stimulators. The intervention focused on training parents in the use of two specific strategies. Differences were observed in all families in the application of these strategies as demonstrated in the following descriptions.

Although there was some variation in the ways the parents stimulated the language of their children at the beginning of the data collection, all of the parents demonstrated improved communicative interactions with their children while implementing the modified INREAL strategies. The initial videotaping of parent/child communication revealed that while parent(s) actively sought to engage the child in
communication, they used a limited repertoire of strategies. The majority of the communicative acts were parent initiated, closed questions. In addition, parents typically followed one question up with another question, allowing very little time for the child to respond. These two specific observations served as the basis for the development of the intervention plan that was developed, use of wait time and limited use of questions.

*Wait Time*

During the initial analysis of the families' use of wait time at the time of the baseline videotaped play sessions, each parent was found to need increased wait time.

*Family Number 1*

In the case of Family Number 1, F-1-M used approximately one half of a second or less of wait time 1 (wait time after the adult speaks) to allow F-1-C to respond, while F-1-F inconsistently utilized approximately one second of wait time 1. Other times, F-1-F used one half of a second of wait time or less. Their use of wait time 2 (wait time after the child speaks to give the child time to elaborate) was virtually nonexistent. When they did not achieve an immediate answer from F-1-C, F-1-F and F-1-M would repeat his/her initial request. Wait time was so minimal or absent that I was frequently unable to record a time between the communicative turns. There were times when they interrupted F-1-C's attempts to repeat or expand upon his single word utterances as detailed in the example below.

F-1-F: “What number is this, (Child's name)? What number is this, (Child's name)?”

F-1-C: “3, 3, 4…"
F-1-F: (Interrupting F-1-C) “Good job, (Child’s name)!”

During the second videotaped session, their use of wait time improved. F-1-M implemented on average slightly above one second of wait time. There were 10 instances of two to three seconds of wait time and 11 instances of wait time ranging in length from less than one half of a second to one second. The majority of improved instances of wait time occurred on wait time 1. Wait time 2 continued to be an area in need of improvement.

F-1-F wanted to demonstrate to me his significantly improved interaction style with his son. F-1-F explained that, prior to my involvement with the family, he experienced great frustration in knowing how to relate to F-1-C because F-1-C was exhibiting little, if any, purposeful, social verbal communication. F-1-C had relied mainly on gestures or whining to express his needs. The majority of F-1-C’s communicative attempts included rote learning such as counting and reciting the alphabet or echolalic responses (exact imitation of a communicative partner’s utterance with questionable communicative intent). According to F-1-F and F-1-M, F-1-F had learned, through the use of the methods, how to initiate and maintain a communicative relationship with F-1-C. Because of F-1-F’s intense positive feelings about this improved relationship, F-1-F dominated the interaction time with F-1-C. F-1-F expressed a need to spend more time with F-1-C to demonstrate to me this reportedly improved relationship.

F-1-F followed F-1-C’s lead and imitated or expanded upon F-1-C’s communicative attempts. F-1-F’s 63 opportunities to implement wait time 1 and 2 during his 142 utterances included no wait time to one second of wait time to two to five
seconds of wait time, averaging two seconds of wait time per communicative turn. A sample interaction follows.

F-1-C: Mmmm.

(Wait time)

F-1-C: Mmmmm.

(Wait time)

F-1-F: MMMMMMM.

(Wait time)

F-1-C: (Smiling and making eye contact with F-1-F) MMMMMMMMM.

At the time of the last videotaped session, F-1-F was out of town studying for major comprehensive examinations. F-1-M demonstrated significantly improved wait time 1 and 2 during 150 utterances, ranging from no wait time to one second of wait time to two to five seconds of wait time. Her average wait time was two and one half seconds.

This case exemplifies the need to include fathers in the education of their children. Too often fathers are overlooked in the process. Speculation as to why this occurs ranges from intense and/or differing work schedules, differing interaction styles of men and women, to possible power issues (Turbiville, Umbarger, & Guthrie, 2002). I know I am guilty of this oversight, too. In the past when I called the home of a young student of mine, I traditionally asked for the mother, even when the father answered the phone. I am trying to change that reality in myself, but I must admit I feel slightly uncomfortable or somehow “out of my league” when I need to address an unfamiliar father. In my case, I think it has to do with gender differences in interaction styles.
Nevertheless, as this case revealed, it is imperative that fathers be included, and not just included, but welcomed as an integral member of the educational team. After all, parents are the first teachers of their children. Turbiville et al. (2002) summarize their findings: "Fathers seem to appreciate being asked personally to take a role and being invited to participate. They also like to know that their efforts are appreciated by the teachers and others" (p. 50).

Hennon, Olsen, and Palm (1998) describe four basic reasons why traditional thinking about the role of fathers needs to change. First, there are gender differences between fathers and mothers. Interaction styles including parenting approaches often differ between men and women. Second, fathers are essential role models for their children and there are no easy substitutes for this paramount role fathers play in the lives of their children. Third, the values of fatherhood must be reinstated because the standards of fatherhood have deteriorated with changing family constellations and the rise of self-gratification as an expected right. Last, the differences between fathers and mothers need to be seen in terms of strength rather than weaknesses. These differences must be recognized by educators and creative ways to involve fathers more need to be investigated. They bring unique and invaluable contributions to the education of children.

**Family Number 2**

During the baseline videotaped session, F-2-M used wait time ranging from no wait time to one second of wait time during her 174 utterances. At times, F-2-M
interrupted F-2-C as he was beginning to respond. When wait time 2 was used, it ranged in length from no wait time to one half a second.

At the time of the second videotaped session, F-2-M demonstrated a significant improvement in her use of wait time 1 and 2. During 152 utterances, F-2-M used wait time ranging in length from one second to four seconds, an average of slightly over two seconds. This resulted in several instances of F-2-C elaborating or repeating what he was saying. F-2-M reported that F-2-M and F-2-F’s increased use of wait time since the first visit had assisted in slowing the rate of F-2-C. They believed that because F-2-C was given more time to talk, in general, he was feeling less rushed in his attempts to communicate.

F-2-M continued to demonstrate her increased use of wait time during the final videotaped session. Use of wait time 1 and 2 ranged from one to five seconds during 183 utterances, averaging again at slightly over two seconds of wait time.

Family Number 3

F-3-M surprised me. In the approximately 15 years since I became an INREAL trainer, I did not remember observing a parent use wait time naturally. During the baseline videotaped session, F-3-M used wait time 1 with good consistency, averaging two seconds in length. However, her use of wait time 2 was virtually nonexistent. When I praised her for her use of wait time 1, she replied, “I don’t know what to say.” While we were discussing my use of wait time as I was demonstrating the use of the strategies, F-3-M commented, “When you waited, (F-3-C) said more many times.”
During the second videotaped session, F-3-M continued her good use of wait time 1 and improved in her use of wait time 2. F-3-M utilized between one and three seconds of wait time 2 consistently throughout her 165 utterances, averaging slightly below two seconds of wait time 2.

When we met for the last visit, F-3-M maintained her natural use of wait time 1 and improved use of wait time 2, both averaging around two seconds.

*Family Number 4*

F-4-M and F-4-F used very little wait time during the baseline videotaped sample. F-4-M implemented on average one half a second of wait time in 121 utterances, while F-4-F averaged one half a second of wait time in 96 utterances. A sample of the dialogue illustrates the limited use of wait time. F-4-C barely has time to say “Oh” before F-4-M comments.

F-4-C: “What’s this man?”

F-4-M: “That’s the bus driver.”

F-4-F: “He drives the school bus.”

F-4-C: “Oh.”

F-4-M: “He’s like Monica at Head Start. She is your bus driver.”

Following my demonstration of the strategies, F-4-F commented, “The wait time really helps. (F-4-C) talked more. You didn’t interrupt her.” F-4-M nodded in agreement.

At the time of the second session, both F-4-F and F-4-M improved in their use of wait time. F-4-F used one to two seconds of wait time 1 and 2 during 147 utterances,
while F-4-M used one half a second to two seconds of wait time in 83 utterances. F-4-M evaluated her progress implementing wait time and commented, “I need to work more on wait time.”

During the last videotaped session, both F-4-F and F-4-M continued to improve in the utilization of wait time 1 and 2. F-4-M averaged two seconds of wait time in 133 utterances, and F-4-F also averaged two seconds in 82 utterances.

*Family Number 5*

During the baseline videotaped language sample, F-5-M immediately began using wait time 1 naturally as I had observed in F-3-M. I began to think a pattern might be forming. Throughout F-5-M’s 136 utterances, she averaged three seconds of wait time 1 and virtually no wait time 2.

When we met for the second visit, F-5-M maintained her use of wait time 1 and improved her use of wait time 2 throughout her 121 utterances. In this videotaped session, F-5-M used an average of two seconds of wait time 2. During the last videotaped language sample, F-5-M averaged three seconds of wait time 1 and slightly above two seconds of wait time 2 in 138 utterances. At the end of the final session, F-5-M commented, “The wait time helped (F-5-C) talk more.” (See Appendix H, Wait Time Summary Chart.)

*Use of Statements Versus Questions*

During the initial analysis of the families’ use of “loaded” sentences versus questions at the time of the baseline videotaped play sessions, each parent, with the exception of one, was found to predominantly use questioning as a stimulation method.
Family Number 1

Both F-1-M and F-1-F used a significant number of questions to elicit language from F-1-C. Many of the questions were characterized by nonspecific words rather than concept rich words which reduced the quality of the stimulation attempt even more. For example, both F-1-M and F-1-F frequently asked, “What’s that?” or “What’s this?” During the baseline videotaped language sample, F-1-M asked 73 questions of F-1-C stated information four times. When F-1-C responded, several times he simply ignored F-1-M’s communicative attempts or answered, “No,” regardless of whether or not “No” was an appropriate response to the question. F-1-F questioned F-1-C 65 times and corrected his behavior 20 times by saying, “No, (F-1-C)!”

While I explained the targeted methods of wait time and the use of more “loaded” questions, both F-1-M and F-1-F demonstrated their understanding of the concepts in the following statements.

F-1-F: “That makes good sense. I can see the value in that.”

F-1-F: “I know I use too many questions now that you mention it.”

F-1-M: “Me, too.”

During the second videotaped session, both F-1-M and F-1-F improved in their use of “loaded” statements. F-1-M’s language use was characterized by 23 statements and 25 questions. As reported earlier, F-1-F dominated this session because of his excitement about his success. He spoke using 82 statements and 60 questions. At the time of the last videotaped language sampling, F-1-M made additional improvements and
spoke using 112 “loaded” statements and 38 questions. (F-1-F was out of town during the final session.)

**Family Number 2**

During the baseline videotaped language sample, F-2-M uttered 152 questions and 22 statements. Her questions were predominantly “What’s that?” or “What’s this?” Following my explanation and demonstration of the strategies, F-2-M expressed her positive feelings about the quality of my interaction with F-2-C.

F-2-M: “I can’t believe how much he talked for you! Wait time really works!”

During the second videotaped session, F-2-M’s language use included 122 statements (many of which were “loaded”) and 30 questions. At the final visit, F-2-M was videotaped using 137 “loaded” statements and 46 questions.

**Family Number 3**

At the time the baseline language sample was recorded, F-3-M used 55 questions and 27 statements. Following my demonstration of the targeted methods, F-3-M expressed her thoughts about my interaction with F-3-C.

F-3-M: “(F-3-C) talks more for you. Now I see what to say. You were telling about what you were doing and what (F-3-C) was doing.”

During the second videotaped session, F-3-M used 124 statements and 41 questions. Many of the statements were partially “loaded”; however, there were a number of nonspecific words as well. F-3-C responded with a significant number of
nonspecific words. Immediately following my demonstration, I reminded F-3-M about the need to add more specific vocabulary to her statements. I compared our interactions with F-3-C and gave examples of how F-3-C responded to my modeling of specific words with the specific words I had spoken.

When we met for the last videotaped session, F-3-M used 119 statements, many of which were "loaded," and 33 questions. F-3-M had improved in her use of statements rather than predominantly questions. In addition, she increased the number of "loaded" statements in her stimulation attempts.

*Family Number 4*

While F-4-M and F-4-F were videotaped during the baseline language sampling, F-4-M used 97 "loaded" statements and 24 questions and F-4-F used 32 partially "loaded" sentences and 64 questions. After I explained the targeted methods and commented on how well F-4-M implemented "loaded" statements, she told me about the extensive amount of speech and language therapy she had received as a child. She guessed that talking in statements more than questions to her children came naturally because of the intense amount of modeling that she had been exposed to as a result of the speech and language intervention.

During the second videotaped session, F-4-M maintained her frequent use of statements in the form of 61 "loaded" statements and 22 questions. F-4-F improved in his implementation of statements and used 98 statements, many of which were "loaded," and 49 questions. At the time of the final videotaped session, F-4-M used 104 "loaded"
statements and 29 questions, whereas F-4-F continued to improve using 59 “loaded” sentences and 23 questions.

*Family Number 5*

The baseline videotaped language sample was characterized by F-5-M’s use of 125 questions and 11 statements. After I explained the targeted methods and demonstrated them during my first interaction with F-5-C, F-5-M commented that F-5-C frequently responded to me in complete sentences, whereas F-5-C often responded to F-5-M in one or two word phrases.

During the second videotaped session, F-5-M used 72 partially “loaded” statements and 49 questions. I reminded F-5-M of the need to “load” her statements with more specific words and concepts. At the final videotaped session, F-5-M improved her use of “loaded” statements by verbalizing 105 “loaded” sentences and 33 questions (see Appendix I, Statements/Questions Summary Chart).

*Parents’ Perceptions*

The second research question focused on the perceptions of parents/caregivers of the modified INREAL methods they were taught to use with their children. Multiple opportunities for obtaining the families’ perceptions were available during the course of the study. Before ending the final visit, I interviewed the parents one last time to gain a better understanding of the parents’ perceptions of the modified INREAL strategies. The parents agreed on the following points:
1. The process of using wait time 1 and 2 and “loaded statements rather than predominantly questions” was beneficial in terms of teaching them how to improve their language stimulation styles.

2. Communicative interactions with their children had improved. The children talked more with their parents and used longer utterances during these interactions.

3. Although the videotaping process was identified as making one parent moderately nervous, all agreed that it helped them to understand the targeted methods and to visualize their progress.

4. Learning to consistently use the strategies took practice.

5. Following the children’s lead in play and conversation resulted in the children talking more.

Three parents commented that their children who took part in the study were less frustrated as communicative partners as a result of their parents’ use of the modified INREAL methods. They attributed this decrease in their children’s frustration level to the fact that they were providing the children with better language models and more time to process and communicate.

Alpert and Kaiser (1992) reported similar results while teaching parents to use wait time. They referred to wait time as a “time delay.” Cook et al. (2000) reported the need to refrain from asking too many questions when stimulating the language development of children. “In fact, just as with adults, too many questions result in no conversation” (Cook et al., 2000, p. 311). They added the need to use specific words rather than nonspecific words to enhance the modeling of language.
All of the parents, with the exception of one, found the number of sessions and the length of each session helpful in terms of learning the modified INREAL strategies. Due to the presence of a toddler in the home, one parent believed more sessions, shorter in length, would have been helpful to her.

Empowering parents to be the first and best educators of their children is a worthwhile enterprise. Parents do know their children better than anyone else, even though educators forget this at times. Egley and Egley (2002) write, “Believing that all of us want what is best for children and recognizing we each bring different strengths and backgrounds to the classroom will help us learn to work in harmony” (p. 74). Empowering parents to believe in themselves as educators leads to respect for themselves and professional educators (Egley & Egley, 2002).

Interactionist intervention that follows children’s lead has been found to provide opportunities for educators and parents to model and expand children’s communicative attempts through conversations in their natural environments. Natural environments may be the home, child learning center, home child care center, a grandparent’s home, the park, the playground, church—any environment where the child might be present on a typical day (Linder, 1993; Owens, 1991; Owens, 1996; Paciorek & Munro, 1996; Wolfgang & Wolfgang, 1999). The results of this research support the use of interactionist methods to stimulate the speech and language development of children through the use of modified INREAL strategies.
Summary and Discussion

Although there was some variation in the ways the parents stimulated the
language of their children at the beginning of the data collection, all of the parents
demonstrated improved communicative interactions with their children while
implementing the modified INREAL strategies. They generally found the modified
INREAL strategies to be beneficial and to enhance the conversations they had with their
children. With the exception of one mother, the parents found the process to be practical
in terms of the number of sessions (three sessions) and the time spent during each
session.

There does appear to be a cultural difference in the amount of wait time adults use
naturally to stimulate the speech and language development of children. Gonzalez-Mena
(2001) documents this increased use of silence by some cultures, namely Native
American. Two of the three mothers identified as being full Native American or biracial
with Native American ancestry exhibited excellent wait time throughout the study. I
had never seen this before in my research of Caucasian American mothers.

Gonzalez-Mena (2001) explains:

Some cultures wish to promote calm, placid styles of interaction and
temperament, so they prefer less stimulating environments. They worry that the
babies will get overstimulated in the exciting play and intense interactions if they
aren’t toned down. Some cultures value activity; others value stillness. Active
cultures promote exploration and movement for infants because these activities
help develop problem-solving skills. However, there is another view.
Meaningful inactivity is a concept that many adults have never heard of. Yet, in some cultures, being inactive is a valuable use of time. Dr. A. C. Ross (whose Lakota name is Ehanamani) points out that mediation can be a problem-solving method. Instead of actively engaging the environment or trying to reason out an answer through logic, one sits in silence. According to Ross’s way of thinking, answers to problems come from the collective unconscious in moments of silence.

(p. 76)

Cultural differences in the use of the modified INREAL methods are certainly an area in which more research would be beneficial.

A limitation not previously noted surfaced during the analysis of the results. Because all of the subjects, with the exception of one, were receiving speech and/or language services at the time of this study, I cannot account for what benefit they received from those services. I can only comment on how the parents changed in their use of the strategies and how their children’s responses to them changed as documented in the language samples.

In an attempt to account for any biases that I may have inadvertently acquired, I enlisted the help of a well respected speech-language pathologist in the area to review the audio- and videotaped data. This SLP has never been trained in the INREAL methods, so the strategies were, for the most part, new to her. She was impressed with the results and particularly amazed with the dramatic results demonstrated in the case study of Family Number 1. The SLP concurred that the patterns were evident and agreed with the assertion.
The modified INREAL strategies have their roots in the trend toward naturalistic or interactionist methods provided in the natural environment. Current practices considered developmentally appropriate for young children stress the need for children to explore their natural environments through play to enhance learning. At the opposite end of the education continuum is the behaviorism movement more commonly found today in the work of special educators. Behaviorism stresses the influence of the external environment in shaping the behavior of a child. However, this is changing and more special educators are embracing the naturalistic methods of learning language.

The results of this study suggest that the parents believe learning the modified INREAL strategies positively impacts communicative interactions with their children. The data revealed several patterns that were shared by the families. Each parent appeared genuinely concerned about the speech and/or language of his/her child. S/he wanted professional help to deal with the speech and/or language delays of their children. With the exception of one family, the parents were enthusiastic about participating in the research and dedicated to the process. It was hard to understand the true feelings of the one family because their affect seemed somewhat indifferent or blasé. They were cordial and reliable in terms of scheduling; however, they certainly did not appear as appreciative as the rest of the families. In addition, the parents independently agreed that it took practice on their part to implement the methods and that videotaping their interactions with their children was helpful in terms of being able to view the progress they were making. Finally, with the exception of one parent, the parents believed the number of sessions and the amount of time spent during each session was helpful to them in terms of
learning the modified INREAL strategies. The one parent felt that because she had a baby present during the sessions, having more sessions, shorter in length, would have been more beneficial to her.

Recommendations

Three possible recommendations became clear during the interpretation above. Involving families, not just the parents/caregivers, in the use of the modified INREAL methods is my first recommendation. Training grandparents, aunts, uncles, siblings, and others would be beneficial and possibly enhance the results.

The second recommendation concerns culture. Careful consideration regarding cultural differences needs to be made. If use of the methods or procedures utilized during the training such as audio and/or videotaping is found to be intrusive to the family, modifications would need to be made in order to accommodate the family’s culture.

My final recommendation is regarding natural environments. I cannot stress strongly enough the need to meet with the family in their natural environment. The natural environment may be their home, their church, the workplace, a park, the kitchen in their home, the day care, or wherever else the family desires and spends time during the day. One parent commented specifically about this need during the final interview.

F-4-M: “Most people are more comfortable at home. You see the true self. You’re on your own turf.”

Implications for Research

This study provides a very brief inquiry into the use of modified INREAL strategies to enhance the efforts of parents to stimulate the speech and language
development of their children. The extensive amount of rich data collected throughout this research allowed close investigation into a small segment of the targeted population. As particular aspects of the implementation of the methods surfaced, other factors brought new questions and pointed to areas for further research.

Previous studies that I have completed on this topic were restricted to Caucasian American mothers living in the same geographic area from middle class backgrounds. By looking in this research at people of color, cultural differences appeared to emerge that I was unaware of. More study in the area of the use of wait time by Native Americans and other cultures who share the value of silence is warranted.

Certainly the population size is quite limited. Some professionals might be concerned about the sampling size. Thus, another area for continued research could be an expansion of the population studied.

Future research to document change in parents’ behaviors and how these affect the communication behaviors of their children over time may be beneficial. Whether or not parents continue to use the newly learned methods in six months to a year from now would be helpful to know. Data concerning this issue might lead to the need for additional home visits over a longer period of time.

Qualitative analysis of the language samples obtained would yield possibly beneficial information to support the assertions made in this study. Statistical analysis of how the communicative interactions changed from the baseline videotaped samples to the second and final samples might result in additional evidence.
In addition, it would be helpful to continue to search for similar research being completed for comparison sake. To date, with the exception of the original INREAL data, I have not found information looking specifically at parents’ and/or educators’ use of wait time and the use of “loaded” statements in the literature.

Finally, a manuscript or at least a journal article detailing these results is something I would have found very beneficial in my professional attempts to train parents as language stimulators. Given that it requires parents to learn only two strategies, such a publication would be more widely implemented than a cumbersome program detailing many strategies. In our busy world, we have learned that simpler is practical or at least more practical.

With that in mind, I plan to compose a pamphlet for parents detailing the strategies of wait time and “loaded statements.” All too often researchers report results only to have others implement components of the results in ways that the researchers never intended. A published booklet or pamphlet would provide some safeguard that the strategies would not be misused or misinterpreted by others in their attempts to teach parents language stimulation methods.
Here are some suggestions on the best ways to stimulate speech and language development. Children learn to talk by talking so our goal is to get them talking as much as possible.

1. We tend to ask children lots of questions in our stimulation attempts. Most often children respond to these questions with one word answers. One word answers do not help children practice forming sentences and longer responses. So we need to try to ask fewer questions and make more statements for children to model.

   Mom: (Instead of saying, “What did you do today?”)
   “I had a long day. I typed on my book all day.”

   Child: “I had a good day. Jessica and I played house.”

   Mom: “That sounds like lots of fun.”

   Child: “I was the mom and Jessica was the baby.”

2. Use wait time after you speak and after your child speaks. Some children need many seconds of wait time to process what’s been said to them. After your child speaks, if enough wait time is given, s/he will often expand on what s/he has said. For example:

   Mom: “I see a brown monkey up in the tree.” (Wait)

   Child: “I see him, too.” (Mom waits.) “He’s carrying a baby.”

3. Use concept words (red, blue, big, tall, many) and specific vocabulary (instead of this, that, those, and it) in your language to stimulate concept/vocabulary development. For example:

   Instead of Dad saying, “It’s over there.”

   Dad: “The blue book is on the top shelf between the red and yellow books.”

4. Match your child’s sentence length. You want your sentences to be about the same length or slightly longer than your child’s. This provides an example s/he can model.

   Child: “Where Mommy going?” (3 words in length)

   Dad: “Mommy’s going home.” (4 words in length)
APPENDIX B

SAMPLE INTERVIEW QUESTIONS
Sample Interview Questions

Interview #1 - Case History

1. Tell me about your child’s speech and/or delay.
2. When did you first notice it?
3. (If deemed necessary,) tell me about your pregnancy, delivery. Were there any complications before and/or after your delivery?
4. (If deemed necessary,) tell me about your child’s motor development.
5. How often and where is your child being seen for speech and/or language intervention?
6. Who is the speech and language pathologist?
7. What are they working on in therapy?
8. Is there anything else you feel I should know?

Interviews #2, 3, and 4

1. How are you?
2. What progress have you made implementing the methods since our last visit?
3. Are you having any difficulty using the methods?
4. Do you see any changes in (Child’s name) speech and/or language skills since our last visit?
5. Is there anything else you feel I should know?

Final Interview

1. Tell me how you feel about this parent training process. Remember, I want your honest assessment of the process. Don’t feel like you can’t be critical. I need to know the parts you didn’t like as well as the parts you liked, if there were any.
2. (If not covered in the first answer,) how do you feel about the videotaping process?
3. (If not given in the previous answers,) how would you change the process? What recommendations do you have for me?
4. (If not answered from previous answers,) how do you feel about the amount of time we spent together during each visit and the number of visits?
APPENDIX C

COMMUNICATION INTENTS/FUNCTIONS
A. **Illocutionary Act** – is the intended effect being communicated. The effect on the listener simply consists of the listener understanding the intention/functions of the speaker behavior.

1. **Requestive**—communication to solicit information or actions of others. These acts may be direct or indirect requests. These requests can vary from modest attempts to invite or suggest, or they may be forceful. Examples are “It’s time to clean up.”; “What time is it?”; “Give it to me!”

2. **Informative**—communication to relate content and share ideas by reporting facts, stating rules or beliefs, and conveying evidence or truth. It serves the function, “I’ve got something to tell you.” Examples are “It’s raining outside.”; “I bought new shoes.”; “We have green clay.”

3. **Expressive**—communication to share the psychological state of affairs, attitudes, or feelings. Examples are apologizing, congratulating, exclaiming, and deploping.

4. **Commissive**—communication that commits the speaker to some future course of actions by making a resolution to the world or another person. For example, “I’ll go to the store.” or “I promise I will pay the bill.”

5. **Performative**—communication to accomplish events just by the fact of being expressed. For example, “I sentence you to 30 years behind bars.” Performatives can also be teasing, joking, warning, and protesting. Nonverbal examples are “I’m first!”; “You can’t get me!”; and “Stop! No!”

B. **Conversational Regulators**—these communicative behaviors function to regulate conversational flow. These should not be confused with expressions that function as illocutionary acts.

1. **Regulative**—communication to control personal contact and conversational flow, such as “Know what?”; “Hey, Sue, look!”; “It’s my turn.”; “What? I didn’t understand.” Nonverbal examples: child waves “Hi” to approaching parent; child tugs on mother and gives her a toy.

2. **Responsive**—communication to supply solicited information, to acknowledge remarks, or to acknowledge a prior noncommunicative act. For nonverbal examples: child nods “yes” or “no” for request; child points as answer to a request. Verbal examples: “Yes, I wanted to.”
APPENDIX D

PERMISSION FORM
CONSENT FORM
INREAL: The Parent Connection

Investigator: Bonnie Lund, UND Department of Teaching and Learning
Advisor: Peggy Shaeffer, UND Department of Teaching and Learning

Dear Participant,

This consent form may contain words that are new to you. If you read any not clear to you, please ask the person who gave you this form to explain them.

You are being asked to take part in a research study to test the effectiveness of modified parent friendly methods for the language stimulation model, INter-REActive Learning or INREAL. You and your child will be videotaped alone during half hour play interactions on three occasions over a two month period at a time of your choosing between December 15, 2001, and June 1, 2002. The videotapes will be reviewed by you and the researcher during confidential half hour meetings in order to show you effective use of language stimulation techniques. At the end of the research period, you will be interviewed once for approximately 30 minutes to find out whether you found the process helpful.

No physical risk is known to exist by your participation in this study. Play sessions and the interview will be conducted in your home or a suitable, private location of your choice. The interview will be audiotaped and reviewed by the researcher in order to gain an understanding of your evaluation of the process.

Every precaution will be taken to protect your identity. The data, audiotapes, and videotapes will be stored in a locked file cabinet. Your signed consent form will be stored in a cabinet separate from the data and tapes. The videotapes will be erased after you and the researcher have reviewed them. All data will be stored for three years and then destroyed. The audiotape will be transcribed without any information that could identify you and then the tape will be erased. You are guaranteed the right to cease participation in the research at any time without any adverse consequence to you by contacting the researcher or her advisor. If the results of this study are written in a scientific journal or presented at a meeting, your name will not be used.

The final product will be written in the form of a dissertation and submitted to my graduate committee for the completion of a doctorate degree. The researcher will discuss the study results with you upon your request.

If you have any questions about the research, please call Bonnie Lund at 701-777-3239 or Peggy Shaeffer at 701-777-4719.

Thank you for agreeing to participate in this study.

______________________________  __________________________
Researcher                                      Date

______________________________  __________________________
Participant                                   Date
APPENDIX E

LOW INCOME SCALE
2001-2002 Family Income Guidelines for Head Start Programs

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<td>$30,420</td>
</tr>
<tr>
<td>8+</td>
<td>Add $3,080 per additional members</td>
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Communicative Strategies

INREAL


2. **Mirroring** – joining and reflecting one’s partner’s nonverbal expressive behaviors through genuine conversation.

3. **Self talk** – verbalizing one’s own actions, thoughts, or feelings.

4. **Parallel talk** – verbalizing the actions, thoughts, or feelings of one’s partner.

5. **Vocal monitoring and reflecting** – (VMR)
   
a. **imitated** – listening and repeating exactly what one’s partner has vocalized or verbalized through genuine conversation.

   b. **rerestated** – listening and repeating correctly what one’s partner has said in error through a genuine conversation.

6. **Expansion**

   a. **rerestated** – listening and responding with a corrected and expanded version of one’s partner’s utterance through genuine conversation.

   b. **elaborated** – listening and responding by elaborating on one’s partner’s utterance through genuine conversation.

7. **Modeling** – the interacter listens and converses without using the partner’s words, maintaining, or expanding the partner’s topic through conversation.

   a. **statement** – an utterance which is declarative in nature, whether direct or indirect.

   b. **question** – an utterance which is requestive in nature, whether direct or indirect.

   c. **placeholders** – (i.e., uh, huh, ok, etc.).

8. **Suggestive** – utterances which are used to induce a thought, feeling, or action in one’s partner which the interacter desires without directly requesting (for example, “Ok, time to clean up now.”).
APPENDIX G

ANATOMY OF A CONVERSATION
Successful conversation is the tool for implementing communication based education. Most people participate regularly in conversations without realizing that there are rules and structure which underlie this common human behavior. Grice (1975) has described these conversational rules as the “cooperative principle” since, as speakers and listeners, we expect each other to observe them. Because conversational partners expect the rules to be observed, it is only when rules are violated that they become apparent. Using conversation as the medium for learning necessitates becoming aware of the rules and structure of conversation. Some rules and expectations we have of each other as conversational partners are described below.

1. You sincerely intend to communicate.

2. You express behavior (verbal and/or nonverbal) that is meaningful to your partner.

3. You or your partner introduces a topic to talk about.

4. You listen and talk, taking turns.

5. You comment on what the other person has said; the other person acknowledges or comments on what you have said.

6. You don’t change the topic of conversation until you think the other person has finished or you ask permission to change the topic.

7. You say what you think to be true.

8. You don’t say more than you need to say to have your listener understand.

9. You request information if you don’t understand your partner’s meaning.

10. You attempt to make your meaning understood.

11. You acknowledge and respond to nonverbal as well as verbal information.

12. You allow your partner time to respond and you wait until your partner is finished his/her turn.

13. You always learn something you didn’t know before.
APPENDIX H
WAIT TIME SUMMARY CHART
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<th>T#2</th>
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APPENDIX I

STATEMENTS/QUESTIONS SUMMARY CHART
Use of Statements/Questions

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<th>T#2</th>
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REFERENCES


