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Design, implementation and evaluation of the Language Experiences Advancement Program: Ameliorating language delays in kindergarten

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DESIGN, IMPLEMENTATION AND EVALUATION OF THE LANGUAGE EXPERIENCES ADVANCEMENT PROGRAM: AMELIORATING LANGUAGE DELAYS IN KINDERGARTEN

by

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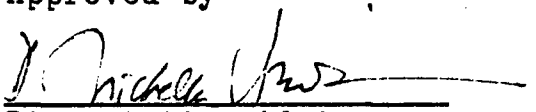

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The purpose of this evaluation study was to assess the progress in grades kindergarten, one, and two, of children who were referred in the kindergarten year for a special amelioration program for language delays. Achievement measures that were evaluated included: retentions, special placements, and standardized test scores which were part of the district testing policy. Ninety-nine children comprised the sample.

The sample consisted of three cohorts: Cohort 1 had completed second grade, Cohort 2 had completed first grade, and Cohort 3 had completed kindergarten. Each cohort consisted of two groups: a comparison group (nonparticipants) and a treatment group (participants). T-tests on relative language delay revealed a significant initial difference between the treatment and comparison groups, with the treatment group's delay more severe. Two factor ANCOVAs, factoring for group and cohort; and one factor ANCOVAs, factoring for group after each cohort had been selected out, revealed no significant differences between the treatment and comparison groups on any of the achievement measures.

The results of this study are congruent with that which is currently found in the literature. Children with

language delays seem to experience continued academic difficulty in the primary years. The results support the fact that language delays cannot be ameliorated in just one year. A review of types of language intervention programs is included as a basis for the design, implementation, and subsequent evaluation of the program examined in this study. The relationship between language delays and academic success, reading development, and socialization is discussed and provides the background for understanding the apparent lack of success in the primary school years for language delayed young children. Implications for instruction and curriculum development to best facilitate amelioration of language delays in the preschool and primary years is discussed.

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CHAPTER 1

INTRODUCTION

Early intervention programs are not new to the field of early childhood education. It has been a well accepted fact that intervening before a young child experiences failure is most ideal. Such programs have been diverse, each with their own developmental emphasis, and have been well documented in the literature (Lazar and Darlington, 1982). Results emerging from the early intervention literature point to the importance such programs play in academic success. Recent literature has been emphasizing the importance of language and its relationship to success in early school experiences. Findings seem to indicate that academic and social arenas can be affected by language development.

The Language Experiences Advancement Program (LEAP), an early intervention program, has been developed by a school district in the Midlands of South Carolina. The program was designed to ameliorate developmental language delays in the district's five-year-old kindergarten children. LEAP began in the fall of 1984 and therefore, the first cohort finished second grade in the 1986-1987 school year. This study evaluates the LEAP program

through a documentation of the program's development and initial implementation, as well as through examining the progress of LEAP participants through second grade to assess the relative success of the three year program.

Background

The literature on language delays, while found in diverse fields, paints a clear picture of the impact language has upon reading and social development as well as related school success. The maint thrust of this study concerns these areas and an in-depth review follows in the Review of the Literature. In order to fully understand the language delayed child, it is first important to discuss what the term language delay implies for the purposes of the LEAP program and some characteristics of language delayed children.

Van Ryper (1978) defines a language delay in terms of language skills, receptive or expressive, which lag at least one year behind the chronological age of the child. According to Stark, Tallal, Kallman, and Mellits (1983), in a study designed to assess specifics associated with language delays, it was found that language delays are not related to nonverbal cognitive deficits. In the study, test results on the nonverbal subtests of the Wechsler

Intelligence Scale for Children (WISC-R) and the Wechsler Preschool Primary Scale of Intelligence (WPPSI) did not indicate any significant difference between chronologically age-matched language delayed children and normal children. However, on the verbal subtests, language delayed children did score significantly lower, indicating that it is the language delay which may cause low test scores, not a general cognitive deficit.

Wulbert, Inglis, Kriegsman, and Mill (1975) support these findings. In their study, scores on the Leiter International Performance Scale (visual processing skills), Stanford Binet (IQ), Peabody Picture Vocabulary Test (PPVT), Sequenced Inventory of Language Development (SILD), and a language sample for each child were compared to the language delayed child's chronological age. Results on the Leiter met or exceeded chronological age expectations. Results on the Stanford Binet indicated a mean IQ of 80.3 (slow normal). Results on the PPVT, SILD, and language samples indicated a delay of one to one-and-one-half years in relation to chronological age expectations. Wulbert's results also support the idea that language delayed children are not generally deficient. Test results which did show a significant delay were those which were directly related to language skills.

Results such as those obtained by Stark, et al. (1983) and Wulbert, et al. (1975) indicate, as already stated, that language delayed children do not display general cognitive deficits. Cognitive deficits, if any, probably exist in the verbal areas, as Stark, et al. found. This suggests that language delayed children have very special needs, very different from those children currently being served by special services programs which generally address only learning disabilities, emotional handicaps, and mental handicaps. Wulbert's study is important in that the average Binet IQ of the language delayed children in his study was 80.3; a score which, at the 10th percentile, is above the typical score set for referral for special services. This is critical in light of the fact that if IQ scores alone are used for identification of special needs children, many language delayed children with an average IQ of 80.3 would not be identified for special services.

Nationally, the research can be summarized to paint a picture of language delayed children as those who generally have normal nonverbal cognitive abilities (Stark, et al., 1983), average or better than average visual processing skills (Wulbert, et al., 1975), an average Binet IQ at the 10th percentile, which is within the slow normal range (Wulbert, et al., 1975), and

receptive language, expressive language, and vocabulary generally at least one year behind the chronological age of the child (Wulbert, et al., 1975). Such findings question the appropriateness and availability of services, as they currently exist, for language delayed children. Considering the findings that language delayed children appear to be deficient in language and language-related skills and are not generally deficient in any other area, combined with the findings that language is related to early academic success, a program to ameliorate language deficiencies would seem warranted. Such a program should provide the child with language enrichment to improve language skills so as to increase early school success. Early lack of such school success makes language delayed children prime candidates for special class placements which may only be addressing a side effect of the true problem.

LEAP Program

Operated under the auspices of the district's child development program, the Language Experiences Advancement Program (LEAP) currently features one class, with one teacher and aide who teach a double (morning and afternoon) session. The program is funded by the district

so that no fees are charged to parents. All kindergarten children who exhibit a developmental language delay are eligible for the program. LEAP functions as a supplement, rather than an alternative to the regular kindergarten program. LEAP participants remain enrolled in the regular half-day kindergarten program and attend LEAP the remaining half of the school day, four days a week. For the purposes of this study, neurological etiologies which may account for language delays will not be addressed due to the fact that a child's placement into LEAP is based on environmental rather than neurological problems.

LEAP Goal and Objectives

The overall goal of LEAP is to provide a positive environment in which language delays may be ameliorated so as to increase success in the primary grades. Specifically, the following objectives guide the program:

1. To bring the child's language age within six months of his/her chronological age;
2. To ameliorate language delays in a setting which will avoid early, unnecessary labelling;
3. To provide additional time for language growth and development; and
4. To provide experiences which develop a positive

self concept which will allow the child to be successful in early school experiences.

Screening and Placement

Initial screening to identify children eligible for participation in LEAP is conducted by the regular kindergarten classroom teacher and the school speech pathologist. Screening tools include: informal teacher observation and evaluation of language competencies; formal "readiness" screening given to all kindergarten children at the beginning of the school year by the teacher; and speech, language, and hearing screening also given at the beginning of the school year by a speech pathologist.

Once initial screening is completed, and initial recommendations are made for LEAP, a thorough formal evaluation of the child's language competence is conducted, using the Preschool Language Scale (PLS) (1969) which is designed to assess language age. Placement in LEAP is based upon the language delay the child exhibits, as evidenced by the results from the PLS. Criteria for placement is at least a one and one-half year delay in language in relation to chronological age.

Rationale

LEAP has been in operation for three years. Its effectiveness has not, as yet, been evaluated. The school district and the LEAP staff believe that the program has been designed to meet the specific needs of its special population and that children in the program experience greater success in the primary years than they would have without the program. They are unsure, however, given the changing nature of instruction and with greater emphasis placed upon receptive language as children progress through school, if gains made immediately following participation in the LEAP continue. They want to know if the program effects may "spiral down" and are not as evident by the second grade.

Statement of the Problem

This study documents LEAP's development and implementation, and assesses the effectiveness of the first three years of the program's operation. There are three cohorts involved in the study: Cohort 1 finished second grade, Cohort 2 finished first grade, and Cohort 3 finished kindergarten. In each cohort, there is a treatment and an equivalent comparison group. For the

assessment of effectiveness the overall evaluation question is: Is there a significant difference in success in kindergarten, first, and second grades for the treatment and equivalent comparison group? Specifically, the following indices of success will be examined for the treatment and equivalent comparison groups:

1. Is there a significant difference in scores on the Cognitive Skills Assessment Battery (CSAB) (1974) given at the beginning of first grade?
2. Is there a significant difference in language expression scores of the Comprehensive Test of Basic Skills (CTBS) (1982) given at the end of first and second grades?
3. Is there a significant difference in the scores on the reading sections of the Basic Skills Assessment Program (BSAP) (1979) test given at the end of first and second grades?
4. Given the expected difference in early school success, is there a significant difference in enrollments for special services in kindergarten, first, and second grades?
5. Is there a significant difference in retentions in kindergarten, first, and second grades?

6. Is there a significant difference in numbers of children reading "on level" at the end of first and second grades as evidenced by reading scores on the Reading Comprehension subtest of the CTBS (1982)?

Hypotheses

Given the evaluation questions which guide this study, the hypotheses are as follows:

H 1: As an indicator of kindergarten success for cohorts 1, 2, and 3, the treatment group will exhibit a significantly higher mean CSAB score than the comparison group upon entrance to first grade.

H 2: As an indicator of language competence in first and second grades for cohorts 1 and 2, the treatment group will exhibit a significantly higher mean CTBS Language Expression subtest score than the comparison group upon the completion of first and second grades.

H 3: As an indicator of success in reading for cohorts 1 and 2, the treatment group will exhibit a significantly higher mean BSAP Reading score than

the comparison group upon the completion of first and second grades.

H 4: As an indicator of general academic success for cohorts 1 and 2, the treatment group will exhibit significantly fewer enrollments in special services than the comparison group during kindergarten, first, and second grade years.

H 5: As an additional indicator of general academic success for cohorts 1 and 2, the treatment group will exhibit significantly fewer retentions than the comparison group in kindergarten, first, and second grades.

H 6: As an indicator of relative reading level for cohorts 1 and 2, the treatment group will exhibit a significantly higher mean CTBS Comprehension subtest score than the comparison group at the end of first and second grades.

Definition of Terms

Language delay: Language skills, receptive or expressive, which lag at least one year behind the chronological age of the child (Van Ryper, 1978). In order to be placed in LEAP, the child must exhibit a one-and-one-

half year delay which is NOT due to neurological etiologies.

Academic success: A child may be considered to be "successful" in the primary years if s/he has not been retained or placed in special services, and if test scores indicate performance not significantly below the norm for children of comparable age.

Significance of the Study

It has been well established in the literature that language is a factor in early school success. While some language programs have been evaluated and documented, a program such as LEAP, which was designed to assist children in a classroom setting rather than the more typical clinician setting, is unique. An evaluation of LEAP should reveal how effective an early intervention language program can be in making a significant difference in early school success. An examination of the related literature will better describe the population which is served by LEAP, give the reader the background as to the basic framework for curriculum development, and begin to bring to light the ramifications language delays can have on the young child in the typical school setting.

CHAPTER 2

REVIEW OF LITERATURE

Overview

Language delays in young children can have far-reaching effects. This review of literature initially discusses the nature and causes of language delays and then builds upon this foundation with a discussion of program and curricular framework. An in-depth review of the related literature follows, dealing with academic success, reading development, social development, and instructional aspects of effectively working with language delays and language delayed young children.

Nature of Language Delays

Building on the definition of language delays established in the introduction, the nature of language delays which cannot be attributed to neurological etiologies are discussed first to establish the groundwork for the development of a program for language delayed children. A variety of studies reveal several aspects of the nature of developmental language delays in young

children. One aspect is the child's lack of spontaneous speech. Hubbell (1977), defines spontaneous speech as the child's talking of his own volition, as contrasted with talking elicited by others. Lack of spontaneous speech is generally due to a restricted home environment, emotional stress in the home, or general poor parent-child rapport (Hubbell, 1977). A related aspect, and perhaps a direct result of the lack of spontaneous speech, is infrequent speech. Cited as contributors to infrequent speech are factors similar to those cited for lack of spontaneous speech (Stanton, 1976). Both infrequent speech and lack of spontaneous speech affect not only the child's receptive language, given the general lack of a model in the home, but also the child's expressive language, given the poor feedback and lack of acceptance in the surrounding environment (Stanton, 1976).

A third aspect of the nature of language delays is a general deficiency in using syntax. Morehead and Ingram (1973) emphasize that language delayed children are delayed in the onset of, and acquisition time necessary for, learning and using syntax. This is an important finding in that it emphasizes the fact that language delayed children do not develop language differently from normal children, but rather display a delayed development. Given this delayed development in the use of syntax, the

child is unable to handle as complex a sentence structure as might be normally expected. When such a delay is not recognized by adults, adult speech is often not modified for the child, as is common when speaking with younger children. Such a failure results in increased demands required for processing complex sentence structures, that in turn often results in loss of phonetic accuracy (Paul and Shriberg, 1982). Such may account for the articulation difficulties evident in many language delayed children. Related to this issue of the discrepancy between complex language which the child hears versus language which the child is able to produce, a stressful situation often results for the language delayed child (Merits-Patterson and Reed, 1981). Such a stressful situation often leads to disfluencies, such as stuttering. Merits-Patterson and Reed (1981) found that as the young child struggled to learn more complex language, more disfluencies occurred, perhaps indicating that the language delayed child develops an underlying belief that speech is difficult.

In summary, the nature of language delays includes several aspects: lack of spontaneous speech, infrequent speech, and difficulty with learning and using syntax, which may create discrepancies leading to a stressful language learning environment, which in turn can cause

disfluencies in speech. It is important to point out that the various aspects of the nature of language delays cited may occur alone or in a combination. A specific child may display different aspects of language delays at various times, or may display a particular aspect over an extended period of time. Careful and continuous evaluation of language progress is essential (Bangs, 1982).

Causes of Language Delays

Specific causes of language delays are diverse. However, causes can be grouped into two categories: limited vocabulary, which is related to cognitive deficiencies; and adult-child interactions, which are related to environmental experiences. As already stated, language delays are not generally associated with nonverbal cognitive deficiencies. However, there are particular cognitive skills which have been found to be related to language delays. Categorization (Partyka and Kresheck, 1983) and seriation abilities (Ratigan and Willbrand, 1980) have both been found to be related to language delays in young children. Categorization has been considered one of the most basic cognitive abilities which allows a person to use a word appropriately in a variety of contexts (Morehead and Morehead, 1976).

Semantic development has been found to be dependent upon the child's ability to classify objects as similar in some way (de Villiers and de Villiers, 1978). Significant differences in categorization abilities between language delayed and normal children were found on categorizing tasks involving expressive language such as free naming of all members in a category or recalling categories and their appropriate members from a diverse group of pictures (Partyka and Kresheck, 1983). It has been suggested that poor categorization skills may be due to a general lack of organization in the young child's environment (Partyka and Kresheck, 1983). With a lack of organization, children may recognize fewer general relationships between objects, which may cause greater difficulty combining a large number of attributes to form a single concept. Early research into categorization suggests that very young children exhibit this inability to recognize relationships (Nelson, 1974; Rosner and Hayes, 1977). Results of the Partyka and Kresheck study suggest that language delayed children perform categorization tasks like younger children.

The second nonverbal cognitive skill which has been found to be related to language delays is seriation (Ratigan and Willbrand, 1980). According to Klahr and Wallace (1970), the ability to deal with a series affects

the level of language functioning. Dealing with a series, whether temporal or spatial, is a seriation skill. If a child is experiencing difficulty with seriation, then this could be seen to have a direct effect upon the level of language functioning, given Klahr and Wallace's finding. Syntax is hierarchically organized, both in its superstructure and in the meaning of individual words (Clark, 1973), and could therefore be considered to be serial in nature. Such could account for the language delayed young child's difficulty in learning and using syntax if the child is also experiencing difficulty in mastering seriation tasks (Ratigan and Willbrand, 1980). The impact seriation has upon language development can also be seen in the relationship between the development of relational word pairs and elaboration of seriation (Ratigan and Willbrand, 1980). The learning of adjectives has been found to be based upon the opposing nature of adjective word pairs (Clark, 1973). Just as the young child learns to seriate by first becoming aware of the extremes and later developing an awareness of the entire gradation, in the learning of adjectives, a similar process occurs. The child first learns global adjectives and later acquires the use and meaning of finer variations within a particular adjective family (Clark, 1973). For example, children may initially use "big" as a global term

for size and later develop understanding of small and medium as finer descriptive terms for size.

While it is tempting to draw a direct causal relation between some cognitive deficits and language delays, it seems more likely that the language delayed child's limited vocabulary makes such skills as categorization and seriation more difficult. As in the Partyka and Kresheck (1983) finding that language delayed children performed categorization skills like younger children, perhaps the major difference is the child's vocabulary, which is more like that of the younger child. Results of studies on the nonverbal cognitive abilities that may affect language development seem to indicate that both categorization and seriation abilities may be weak in some language delayed children, however, one cannot assume that by directly teaching cognitive skills that language will, in turn, improve. As mentioned above, it would appear more reliable to suggest that an emphasis be placed upon vocabulary development, which will supply the child with the proper tools to better master the cognitive skills in question.

The second category believed to cause language delays is adult-child interactions. These interactions are most often cited in the literature on language delays especially when discussing lower socioeconomic households,

although not restricted to such home environments. Adult-child interaction is by far the most documented possible cause for language delays in young children.

Throughout the research on language delay that investigate adult-child interaction, several factors consistently emerge. One factor is the mother's mean length of utterance (MLU), which had been found to be shorter with language delayed children than the MLU used by mothers of same age normal children in conversation with their child (Bondurant, Romeo, and Knetsihmer, 1983). Similar studies suggest that perhaps due to the child's short MLU, the mothers engaged in less language-seeking types of responses with their child, resulting in shorter MLU for the mother (Peterson and Sherrod, 1982).

A second factor in the adult-child interaction is the restrictive language environment. Studies have shown that mothers of language delayed children often ask fewer questions, tend to be more directive (Bondurant, et al., 1983), more controlling, and more restrictive (Wulbert, et al., 1975) in their conversations with their children. Doing so resulted in children who tended to have limited, often non-spontaneous speech (Bondurant, et al., 1983; Wulbert, et al., 1975; Hubbell,1977; Stanton, 1976). Related to this limited mother-child interaction is the manner in which the mother responds to the child's

utterances. When interacting with language delayed children, mothers generally tended to accept fewer utterances, give fewer approving comments, offer less feedback, be less responsive, and often even reject the child's language attempts (Bondurant, et al., 1983; Wulbert, et al., 1975; Peterson and Sherrod, 1982). Of greatest impact upon interaction appears to be the adult's tendency not to maintain dialogue with the child through modifying adult speech patterns (Newhoff, 1983). Similar results were found by Snow and Goldberg (1983) and Rogoff, Ellis, and Gardner, (1984) which emphasize the importance of semantic extension in adult-child conversation. The key is for the adult to follow the child's lead, expanding upon the line of conversation rather than directing and molding the conversation as the adult deems necessary. Newhoff (1983) makes an important point in reminding the reader that how a child responds may greatly affect the interaction with the adult. Many adults need the turn-taking aspect of adult conversation when conversing with children. When a child is not quick to take turns, the adult tends to become more controlling instead of probing and offering supportive extensions to develop turn-taking capabilities in the child (Newhoff, 1983).

In a 1975 study, Wulbert, et al. analyzed the relationship between results on the Caldwell Inventory of

Home Stimulation (Caldwell Inventory) with IQ. Wulbert, et al. found a positive, significant relationship at the $P<.01$ level between the Caldwell Inventory and a child's IQ. When analyzing the subsections of the Caldwell Inventory, those sections which dealt directly with mother-child interactions such as emotional and verbal responses of the mother, avoidance of punishment, and maternal involvement with the child, significant differences did exist between mothers of language delayed and normal children. Low verbal children appear to receive less maternal attention, especially in the area of stimulated verbal interchange (Wulbert, et al., 1975). A summative finding of the Wulbert, et al. study yields a rather succinct picture of the relationship between mother and language delayed child: mother and child tended to live in parallel, with the mother meeting basic needs, but not verbally interacting with her child.

Language Intervention Programs: LEAP Framework

A wide variety of language intervention programs have been implemented and documented in the research. For purposes here, findings of various studies concerning basic program structure, screening, and curriculum

development will be discussed as a basic framework for examining LEAP.

When dealing with language delays, a structured, one-on-one clinician-child relationship is not the most productive. It is believed that children learn as much from peer conversation as from adult conversation in school settings. In a study directed at an analysis of the clinician-child relationship, Prutting, Bagshaw, Goldstein and Juskowitz (1978) found that during a typical speech session, the clinician tended to produce 10 times the utterances when compared to the child. Also found was a general lack of spontaneous speech allowed in the structured clinician-child arrangement. If the child is already likely to be low in spontaneous speech, an atmosphere which does not allow or encourage spontaneous talking is not desirable. In a study designed to analyze structured language teaching, Illerbrun and Leong (1981) found that while children could correctly use syntactic structures within the structured situation, there was very little transfer to applied, natural contexts. Such findings do not mean that speech therapists do not have a place as part of the instructional team serving language delayed young children; they most certainly do. What can be taken from such findings is that the environment established for these children must be carefully planned

and implemented to encourage talking in open, non-threatening surroundings.

Lowenthal (1981) found in a comparison study with various sized groups that small groups of three or four children, when working directly on specific language skills under the direct supervision of a teacher, were most effective. When working in such small groups, children were found to achieve greater gains in receptive vocabulary, auditory comprehension, verbal ability, and in general language age scores. Lowenthal adds that such small groups allowed for child-child as well as child-adult interactions. Perhaps another positive factor of such small groups is the family-like atmosphere, where both listening and speaking must occur.

In developing specifics of a curriculum for language delayed children, several factors are important to include. As already stated, categorization and seriation skills are likely to be weak and an emphasis upon vocabulary development should become part of a strong cognitively-based curriculum (Bangs, 1982). The teaching of cognitive as well as language skills should occur based upon a hands-on, manipulative approach, and the child's level of functioning, rather than through the decontextualized nature of paper and pencil activities. Through such an approach, children have the opportunity to

err and correct errors as well as verbalize their attempts and results in the process of learning.

Also mentioned as crucial to curriculum developed for language delayed children is delayed syntax development. From the numerous syntax-based programs which have been documented, the factor which consistently appears as being effective in learning syntax is the teaching of words and their usage in appropriate, related contexts (Coleman and Anderson, 1978; Bangs, 1982). Emphasis in syntax instruction should encourage longer utterances of increasing complexity (Coleman and Anderson, 1978). Findings indicate that requiring simple echoing of correct syntax is not an effective instructional technique (Snope, 1978; Fraser, Bellugi, and Brown, 1963). In the Coleman and Anderson study, word lists of nouns, verbs, adjectives, and prepositions, typical in a child's vocabulary, were used to successfully increase syntax usage in a series of teaching sequences.

Bangs' (1982) Linguistic Model of curriculum design provides the context for such "word teaching" through the unit approach. In the model, Bangs suggests that for each unit taught, related vocabulary be identified and emphasized through the meaningful context of the unit, allowing the teaching of syntax to become more natural. It is believed that as children become immersed in a topic

of interest, not only will vocabulary increase, but also length and complexity of utterance (Bangs, 1982).

With these findings as a base, the LEAP staff established a developmentally appropriate, hands-on, language-based, cognitive curriculum with a small teacher-child ratio (no more than 2 to 15). Spontaneous language is encouraged in natural settings, through such daily real-life experiences as meals which are served family style. Similarly, the development of unit themes provides a focus for meaningful, contextual instruction and learning.

Language Delays and Academic Success

Academic success has many interpretations. As defined by the research questions being examined in this study, academic success can be measured by scores on standardized tests which measure language and reading ability, as well as non-enrollment in special services or promotion through the primary years without retention. In a 1980 study, Aram and Nation looked at special placement and academic achievement of language delayed preschoolers. Of the children in their study with preschool language disorders, 40% were not in regular elementary classrooms as long as four or five years after their language delay was

initially diagnosed. Often coupled with the special placement in school is below-normal achievement in reading and math. Many of these same children, depending upon the language disorder, also continued to display language difficulties in the primary years. Aram and Nation profile these children as those who do not simply "grow out of their problems," but unfortunately continue to exhibit not only language problems, but academic problems as well.

Several other studies establish the relationship between oral language competence and academic achievement (Magee and Newcomer, 1978; Semel and Wiig, 1975; Evans and Banks, 1972; Stedman and Adams, 1972). A summary of the findings indicates that semantics and syntax are "substantially related" to academics while phonology is not (Semel and Wiig, 1975). Articulation and aural discrimination are not as crucial to successful language use as are an understanding of sentences, an ability to extract meaning from language, and appropriate use of "grammatic markers." Magee and Newcomer (1978) suggest that children generally learn about their environment through their semantic and syntactic skills rather than through formal or incidental learning, tactics often employed by children whose language competence is delayed.

Part of the ability to use syntax and semantics involves the young child's ability to identify ambiguous information. For the child who has well-established semantic and syntactic skills, the ability to encode and decode language is at the child's disposal. For the child without such abilities, however, the inability to detect what information to tune into or what information to seek to achieve greater clarity is lacking. In a 1978 study, Ironsmith and Whitehurst found that the inability to detect ambiguous information affected the child's ability to seek additional information through appropriate question asking. The ability to ask such questions is crucial to the development of overall competence in early childhood. When viewed in such a light, it quickly becomes evident how far reaching language is and therefore how very important is the effective development of language skills.

The other side of the academic success coin is the social side. A separate section of the literature review will examine this issue in greater depth, but for an introduction, a few important considerations will be mentioned here. Cazden, John and Hymes (1972) state that the study of language in and of itself is not as crucial as an understanding of how language is used. The study of language must be in terms of the social context in which

language occurs. For the purposes of this study, such a social context is the classroom. In such a context, a large portion of learning is simply learning how to appropriately interact (Bellack, Kliebard, Hyman and Smith, 1966). Mentioned above was the importance of identifying ambiguous information and related questioning in the process of understanding. This idea is also held true in the course of conversation. Conversations would be short if responses were noncontingent because the listener was unable to identify key aspects of what is said. Imagine another even more distressing situation of the language delayed child who is unable to adequately understand the teacher's directions. Such a child may quickly be identified as a "problem" because "he doesn't do as he is told" when the reality of the situation is that the child needs assistance with his language skills. Meaningful interchange in the classroom quickly breaks down when the listener (usually the child) is depending upon explicit information while the speaker (usually the teacher) is unknowingly communicating ambiguous information.

Perhaps most crucial in the social realm is the development of positive self-concept. Such an idea helps tie the relationship between academic success and social competence closely together. Black (1974) cites several

studies which have shown that reading problems may be related not only to poor self-concept, but also to "confusion and feelings of alienation." While an in-depth discussion of the relationship between reading development and language development follows, suffice it here to say that once again the importance of language comes to the foreground. For the child who has language well in hand, the shift to written rather than spoken language seems natural. For the child without such skills, written language is nothing more than marks on a page. One can quickly begin to understand how confusion and feelings of alienation might develop. When such feelings begin to develop in a child, when others around him are finding the shift to written language so simple, self-concept quickly suffers (Wattenberg and Clifford, 1964; Abrams and Smolen, 1973). The situation can be further complicated by the teacher who fails to recognize what is really happening to the language delayed child. The sensitive teacher cannot only help the child develop those skills needed to make the acquisition of reading skills more natural, but also assist in the development of those skills needed to enhance the give and take inherent in natural communication thereby facilitating social competence. The implications for instruction and suggestions for effecting changes in instruction to meet

the needs of the language delayed child will be discussed later.

Language Delays and Reading Development

Children with language delays often develop reading problems in the primary years. Already mentioned was the difficult transition to written language which is compounded by an insecure foundation in oral language. But what specifics of reading acquisition cause language delayed children problems? The child's prior knowledge is essential to teaching the young child to read. The ability to read written language and make sense of that which is read requires the child to pull from his vast source of experiences to bring meaning to the text. The language delayed young child has often had the experiences, but is usually hindered by a lack of active vocabulary which enables organization and synthesis of new, related information (Athey, 1983; Golinkoff, 1976; Bransford and McCarrell, 1974; Vernon, 1971; Briggs and Elkind, 1973; Cromer, 1970). These children also seem to lack a sense of story which also hinders their ability to make sense of that which is read through an absence of an essential tool which helps organize text.

Liberman, in Kavanagh and Mattingly (1972), is quoted as saying, "reading is parasitic on language" (p. 145). This statement truly does summarize one side of the reading-language relationship. The ability to read does not replace one's spoken language, rather it is dependant upon that spoken language to provide a meaningful base. It is easy to begin to understand why the young language delayed child may experience difficulty with reading. It is important to state that the language delayed child is not unable to learn to read. Breaking sentences and words down into their component parts is difficult for the language delayed child because natural language consists of larger meaning units than is often used in teaching reading (Savin, 1972; Sinclair, Jarvella and Levelt, 1978). While reading instruction often requires analysis into not only single words out of context, but also into smaller parts such as letter sounds which comprise words; the natural language meaning unit for the young child is usually the phrase (Sinclair et al, 1978). Such a finding says that in the initial teaching of reading, one places the child into an unfamiliar situation which suddenly deals not only with symbols, but often with such small meaning units that meaning is difficult to establish.

The acquisition of word meaning therefore becomes a challenge for the language delayed child. Such a child is

dependant upon surrounding context to gain meaning. Such findings establish that teaching words in isolation is a technique which robs the child of the context needed to attach meaning and aid in successful storage and retrieval of words (Smith, 1978). Teaching words in isolation also does not provide the child with skills needed to better organize text input and develop that essential sense of story if context is nonexistent. Such findings also support the instructional method of teaching language delayed children through unit themes.

Perhaps the failure of the language delayed child to be able to break apart sentences is the fact that syntactic knowledge is developmental and according to Ammon and Ammon (1971), is "impervious" to direct instructional methods. Such findings indicate that one creates a true language-reading mismatch when the child is expected to use syntactic structures not yet developed and therefore not understood (Wiig and Semel, 1984; Ammon and Ammon, 1971; Cromer, 1970).

The semantic side of reading for the language delayed child can be just as frustrating. These children often have aural vocabularies which far exceed their oral vocabularies because when listening, the context is often provided and word meaning therefore becomes easier (Mason, 1980; Reid and Hresko, 1980; Goldman, 1976). When asked

to verbally recall something which has been read, the child has at his disposal the vocabulary, but once again, the lack of sense of story and organizational abilities greatly hinders meaning made from text the child has read himself. A second problem in the vocabulary arena is the multiple meanings often attached to so many of our words. While a normally achieving young reader quickly becomes accustomed to the idea that single words often have more that one meaning, the language delayed young child is so context bound, that such an understanding is slower to develop (Norman-Jackson, 1982; Kass, 1972; Athey, 1983; Golinkoff, 1976; Vernon, 1971). A final concern for vocabulary development and related to the issue above is that it is essential for language delayed young children to derive meanings of words as they are learned rather than simply becoming proficient at "calling words" (Cromer, 1970; Bransford and McCarrell, 1974). In so doing, children may develop better organization in the process of storing words because they may then be stored by their meaning rather than as isolated entities and therefore more readily recalled.

Liberman's statement about the parasitic nature of reading helps establish the importance of language for reading, but to look at the reading-language connection in such a one-way fashion is limiting. It has long been

accepted that one of the best ways to foster early reading development is to read to young children before they can read themselves. Once the child can read, the relationship between reading and language continues from the stage of being read to in a very important way. Not only does being read to and being able to read oneself help develop a sense of story, but the world of reading can expose children to so many worlds beyond their immediate surroundings that reading can become an essential to expanding the child's horizons. As such, reading can then be seen to facilitate language (Barnitz, 1980; Goldman, 1976). While this may paint a more complete picture of the reading-language relationship, when viewed in such a light, the language delayed child is set up for failure in a vicious cycle. The child has inadequate language to adequately facilitate the parasitic relationship reading has with language, and then in turn is further hindered if the ability to read helps facilitate further language development! Language delays simply may not be ignored in today's schools.

Language Delays and Socialization

That there exists a relationship between language and reading acquisition may seem more obvious than the idea

that there is also a relationship between language and socialization. As social beings, there is a need for acceptance and group status. For the language delayed child, such acceptance can be be hindered by something as simple as the child not being able to understand rules of a game, or not being able to be understood by others. Zedler (1972) points out that the social process that the language delayed child experiences is no different than that of a normal child, however, the child's "social pattern" is influenced by his apparent difficulties in "learning to understand speech, speak, read and write" (p. 363).

Cazden (1970) speaks of the inadequacies of the standard theories of the language issue: that language which is "deviant" is either "less" than what is the norm or "different" from the norm. Such a simple classification is not entirely accurate. The most valuable suggestion that Cazden makes is that language must be studied in relation to the context in which it occurs in order to fully understand the nature of the supposed "deviance." In such a sense, the child whose language may have been previously considered less or different may be not only adequate, but highly sophisticated for the context in which it occurs.

The social context under consideration in this study is the classroom. Such a social context would naturally center around the relationship between the teacher and the child. Such a relationship affects the development of the learning environment and must exist in an environment where each knows what is expected of the other and each holds the other accountable (McDermott, 1977). In order to create such an environment there must be similar language bases. In the home, which is the child's first language environment, there is an "assumed basis of shared knowledge" (Cook-Gumperz, 1977). Such an assumed basis does not always exist for the child in school, wherein a discrepancy exists for successful communication between teacher and child. When a mismatch exists between the language the child brings to school and the language used at school, alienation between teacher and child can quickly occur (Davis, 1977).

The language of the classroom tends to be one of commands. Exposure to such limited language does not provide the child with much of an opportunity to expand language. The classroom is also unfortunately buried in ambiguous "teacher-talk" which often serves to completely alienate the language delayed child who does not have at ready disposal the skills required to weed through the

ambiguous talk and distinguish that which is essential and then ask for more information if needed (McDermott, 1977).

The teacher-child relationship is only one side of the social aspects of the classroom. The child-child relationship is very important not only for early social development, but early language development as well. The finding that language delayed young children often exhibit less mature play patterns would suggest that language does affect play (Sherrod, Siewart and Cavallaro, 1984). Early social play is dependent upon communication between both partners that play is occurring as well as constant communication as to what is being played (Garvey, 1977). The connection with language can be seen in the early form of pretend play with young children. Pretend play is a very social form of play and is very dependent upon not the here and now, but one's ability to talk about that which does not exist (Garvey, 1977).

Perhaps the biggest difficulty language delayed children experience in the area of socialization is an apparent lack of understanding of the turn-taking nature of conversation. Sherrod et al. (1984) found that language delayed preschoolers, perhaps due to the lack of understanding of the rules of conversation, often chose one playmate and would play only with that one child. If the child were absent, the language delayed child would

play by himself before playing with another child. Sherrod et al. suggest that such a finding may indicate that there exists a close relationship in such a dyad in which the rules are generally understood only by the members of the dyad, thereby avoiding the need to understand and use more accepted rules of conversation. If such a finding is valid, then the importance of language delayed young children socializing with as many children as possible becomes evident (Sherrod et al, 1984; Bryan and Bryan, 1983). This further supports the idea that the amelioration of language delays should be conducted not one-on-one, but in small group settings.

In such small group settings, the establishment of turn-taking rules can be established. The language delayed young child must develop the understanding not only of listening and speaking, but that there is a relationship between the two (Sacks, Schegloff and Jefferson, 1974). Rom and Bliss (1981) point out that the inclusion of such a social side of language is essential if amelioration of language delays is to be complete. The child must develop the understanding that a conversation must flow, that what the speaker says first must be responded to contingently by the listener. When a breakdown in communication occurs, an attempt must be made to revise the communication so as to resolve the

breakdown. Such revisions should increase in complexity as the language ability increases, a task with which language delayed children often experience difficulty.

Learning to effectively hold conversations is an essential part of social development. Involved is not only that which is to be said, but an awareness that another is listening and what is to be said may have to be tailored for specific audiences, which is a complex linguistic skill. Most lacking in the language delayed child's repertoire of conversational skills is the ability to adequately describe so another may create the correct mental image and acknowledge another's speech with a contingent response (Rom and Bliss, 1981).

Perhaps the pragmatic side of ameliorating language delays is far more important than the syntax or semantic sides. Put quite plainly, what use is "perfect" speech if one cannot effectively communicate? The point made in this review of the social aspects of language is that a program designed to assist young language delayed children must consider the language of the whole child.

Language Delays and Instruction

An additional factor to consider in the amelioration of language delays is the teacher. Crucial to the success

of any educational program is the person who implements that program. While specifics of activities to use with language delayed young children will not be discussed (see Weiss and Lillywhite, 1981; Wiig and Semel, 1984; Kass, 1972; Zedler, 1972), key factors found to be most effective in working with language delays will be outlined.

As mentioned in the introduction, it is crucial to maintain a "team" system when working with language delayed children (Weiss and Lillywhite, 1981; Shuy, 1972; Berry, 1980). To limit resources with the belief that only the speech pathologist can assist the language delayed young child does a disservice to the child. Berry (1980) reiterates the importance of ameliorating language delays of children from limited home language environments in a classroom setting rather than the one-on-one clinician setting. Although she also points to the importance of the language specialist being an individual who has special training not only in the area of language development, but overall early childhood development as well.

Such background can be seen to be quite beneficial when considering the finding that the most successful intervention done with young language delayed children is conducted using the knowledge of where the child is

developmentally in order to diagnose and begin appropriate intervention (Hymes, 1972; Blank, 1973; Bruner, 1978; Feagans, 1983). Solitary awareness of the language delay is not as far reaching as is an awareness of an appropriate method for reaching and thereby assisting the child.

Another factor which affects intervention is the teacher's awareness of the importance of the language usage she fosters in the classroom and the child's level of functioning. In order for language to be meaningful, the teacher must take into consideration the child's level and knowledge in creating meaningful interchange (Blank, 1973). Hymes (1972) further supports this concept in stating that in everyday use of language, language has a point. Language is not simply jargon, it is a meaningful interchange of thoughts between human beings and such meaningful interchanges must exist in the language classroom.

Questioning plays a crucial role in the language program and is usually controlled by the teacher. In a 1981 study, Dillon found that teacher questions elicited no greater responses from students than did teacher statements. Mishler (1978) found that adult questions asked in the classroom setting were relatively constraining, which could explain his 1978 finding that

children often searched for the "right answer" when asked a question by a teacher. In response to such findings the literature is full of studies which have explored the importance of "higher cognitive questions" (see Winne, 1979 for a good review). In the case of the language delayed child, some key factors have come to light. Mishler (1978) extols the importance of questions which encourage elaboration on the part of the child. Open ended questions and follow-up questions which probe and extend the child's thinking are especially important. Once again, an awareness of the child's level becomes important so that questions can be geared not only to the child's language level, but also his cognitive level (Blank, Berlin and Rose, 1983; Blank and Solomon, 1976).

Mishler (1978) makes an important point that gearing questions to be more child-like involves much more than simply asking an adult question using fewer words. Blank and Solomon (1976) shed great light on the specifics of making a question more child-like. The teacher cannot ask questions which are "carbon copies" of those questions usually asked by children. However, key qualities of the child-like question can be incorporated into the questions teachers ask of children. Blank and Solomon list three key qualities which reflect the child's thought process and which should be integral parts of the questions asked

of young children: (1) pairing unrelated categories, (2) posing incorrect hypotheses, and (3) postulating discrepancies or disequilibria. Including such qualities helps match the questions asked to the manner in which the child views the world, making questions definitely more child-like and therefore much easier for the child to process and answer. This is especially true for the language delayed child.

A factor of instruction which affects not only questioning, but teacher talk as well is the unfortunate issue of ambiguity. Blank, Berlin and Rose (1983) point out the importance of asking a question which is posed to carefully elicit a specific class of responses. In other words, if the teacher is seeking a label, make sure the question is specific and unambiguous enough to elicit a label. If an elaboration is desired, be sure the question asks for such. In the area of teacher talk, ambiguity is even more crucial (Omanson, Warren and Trabasso, 1978; Blank, 1973). Ambiguity should be avoided and explicit, although not restrictive, directives and conversations with children, particularly with language delayed children, is essential. Even in situations which to an adult seem crystal clear, explicitness is crucial. Bruner (1978) suggests that the teacher may decide to "scaffold" interchanges with the child. Such scaffolding requires

that the teacher initially limit the factors to which the child must attend and gradually increase the complexity of the situation. Such scaffolding may foster the ultimate goal of the language program which should be that the child move toward "independent inquiry" (Blank, 1973).

Two final features of instruction are relevant to this discussion. The first is the importance with language delayed children of helping them learn to play the game (Bellack, Kliebard, Hyman and Smith, 1966). More recent research in the field of learning disabilities has also reinforced this idea. Often, due to the language delay, children simply do not know how to communicate within a social environment or have difficulty following the complex directions so often given in classrooms. Once again, explicitness in giving directions, or an awareness of the level of complexity the child can process certainly helps. The second factor, and perhaps the most important of all, is the fact that if one hopes to assist language delayed young children, one cannot reject the language the child does possess (Hymes, 1972). In so doing, the teacher destroys any chance s/he may have had to effect a change. In accepting the language which exists, the teacher has a foundation upon which to build and possibly change in the process.

Basically, the instructional factors are well grounded in sound early childhood theory. The basic curriculum should spring from the child's real, everyday experiences, given the context-bound nature of language delayed children. Questions, dialogue, and expectations should consider the child's level and knowledge background and should be as explicit as possible. The teacher should accept the child "as is" and move the child forward as the child exhibits readiness. The teacher should be observant and able to catch teachable moments. The atmosphere created should be one which encourages and welcomes questions by the children in order to naturally grow and develop.

It is evident that such findings related to instruction are an integral part of the LEAP program. The overall atmosphere of the LEAP classroom is one of acceptance and warmth. Children feel free to make mistakes without fear of being ridiculed or belittled. Flexibility and a constant assessment of individual needs is a daily part of instruction and subsequent planning. As an essential part of language growth, day-to-day interactions that stress the relationship between listener and speaker are emphasized. Interactions between children as well as those between children and teachers provide the opportunity for language to become a mutual experience in

which the audience as well as speaker develop receptive, responsive, and appreciative attitudes.

Play is an essential aspect of the overall curriculum. Springing from solid early childhood philosophy, the general approach to learning is through play and active participation. The physical classroom revolves around a center approach, allowing not only hands-on manipulation and choice, but free interaction with smaller groups or individuals. Activities are based upon the child's level of development, relying on past experiences and knowledge. Essentially, instruction occurs through natural means, allowing learning to become realistic, meaningful, and therefore more easily transferred to new situations.

Summary

The literature on language delays is currently found in diverse fields. Studies dealing specifically with environmental delays of young children, particularly preschool and primary children, are rare. Inferences can be drawn as to the problems language delays may cause children from the emerging literature on learning disabilities. It is unfortunate that such literature reveals that in hindsight, many of these children

exhibited a language delay in the preschool years which was never acknowledged until failure was experienced in learning to read. The literature on learning disabilities also shows the social nature of the classroom and how some language delayed children can easily be left out in the cold.

In today's schools, children are often not eligible for special services until the first grade unless a severe problem evidences itself before that time. Reading is often the child's first encounter with failure, usually leading to testing for special placement. Reading remediation tends to concentrate on the specifics of the reading difficulty and may not look beneath at the true source of the problem: a language delay. The literature is quite clear as to the importance language plays in building a foundation for the acquisition of initial reading skills, and in turn how reading facilitates further development of language. A complete evaluation of a reading problem should, therefore, include an extensive language evaluation.

The literature on instructional factors for working with language delayed children emphasizes the importance of the classroom teacher and the accompanying need for appropriate training in the complex skills of classroom language. Once again, research studying preschool

language delayed classroom are rare. The majority of the literature in this area has emerged in the past decade. This is another area that finds the schools at odds with research findings. Due to resource allocations, if one finds a speech pathologist in a school, s/he is often shared between several schools. Case loads are likely to be high and his/her training likely to be more appropriate for speech problems than environmental language delays. The classroom teacher is also so overextended that including quality language time with those children who exhibit language delays seems a bit futile. Rare is the district that can afford the special language teacher who has the special language and early childhood training the literature advocates. Yet to not attempt some program for children who are language delayed certainly does not address a problem which quite obviously does not just go away with time.

The literature which mentions language impairment of any kind stresses that the importance of early identification and intervention, yet few programs seem to exist for preschoolers. When programs can be found, they often feature the clinician type relationship in which one assumes that there is something wrong which needs fixing. Such is clearly not the case with environmental language delays. Careful identification and programming are

essential in order to realize these children's language potential.

The most striking finding in the literature is the far reaching effect language can have on socialization. If one can look beyond the easily identifiable reading difficulty and the obvious complications an inability to read can cause, the issue of social competence is much more important. It seems very limited to focus on reading when something as important as social adjustment is just as possible to ameliorate and much further reaching. What this point emphasizes is the importance of a complete program for language delayed children as the literature supports.

The literature paints a very clear picture of the effect language has on reading development and social development in the early years. It is also quite evident that a special program implemented by a special teacher can truly ameliorate many language delays. It is strongly believed that the LEAP program has many of the positive program components identified in the literature. Careful attention was given not only to the development, but the implementation. The program is quite complete in that it includes all aspects of child language, from building an experiential and vocabulary foundation for reading to developing an awareness of the components of social

conversation such as learning to be both listener and speaker. Children are identified before serious failure has occurred. In addition, one of the major goals of the program is to offer what a special group of children needs without early labelling.

It is so obvious that language is a crucial piece of total development, and yet only recently has it received much attention. Over the past 15 to 20 years, attention to language delayed children has only been after children have been placed in special classes. The fact that the field of learning disabilities is also fairly young supports the contention that language delays have been too long ignored when one considers that most learning disabilities are in some way language related. Very little consideration has been given to early intervention specifically in the area of language and the relationship to school success.

This review sheds light not only on the importance of identifying and dealing with language delays at an early age, but also draws attention to the factors of ameliorating language delays. These classroom factors were shown to be incorporated into the LEAP program. An examination of the test data on the children in LEAP demonstrates just how effective such a program can be for children in kindergarten through second grade.

CHAPTER 3

METHODOLOGY

Hypotheses

Given the evaluation questions which guided this study, the hypotheses were as follows:

H 1: As an indicator of kindergarten success for cohorts 1, 2, and 3, the treatment group will exhibit a significantly higher mean CSAB score than the comparison group upon entrance to first grade.

H 2: As an indicator of language competence in first and second grades for cohorts 1 and 2, the treatment group will exhibit a significantly higher mean CTBS Language Expression subtest score than the comparison group upon the completion of first and second grades.

H 3: As an indicator of success in reading for cohorts 1 and 2, the treatment group will exhibit a significantly higher mean BSAP Reading score than the comparison group upon the completion of first and second grades.

H 4: As an indicator of general academic success for cohorts 1, 2 and 3, the treatment group will exhibit significantly fewer enrollments in special services than the comparison group during the kindergarten, first, and second grade years.

H 5: As an additional indicator of general academic success for cohorts 1, 2 and 3, the treatment group will exhibit significantly fewer retentions than the comparison group in kindergarten, first, and second grades.

H 6: As an indicator of relative reading level for cohorts 1 and 2, the treatment group will exhibit a significantly higher mean CTBS Comprehension subtest score than the comparison group at the end of first and second grades.

Design

To assess LEAP's effectiveness and answer the evaluation questions regarding school success, a comparison group was needed. This study was designed, therefore, using nonequivalent control groups (Campbell and Stanley, 1966). This quasi-experimental design is appropriate when subjects cannot be randomly assigned to treatment and control groups, as was the case in this LEAP

evaluation study. In order to be considered a nonequivalent control design, there must be similarity in recruitment prior to assignment (Campbell and Stanley, 1966).

This study had a treatment and comparison group for cohort one, cohort two, and cohort three (see figure 1).

Figure 1

Sample Configuration by Cohort

	Treatment	Comparison
Cohort 1	T1	C1
	(n=19)	(n=9)
Cohort 2	T2	C2
	(n=20)	(n=22)
Cohort 3	T3	C3
	(n=15)	(n=14)

The same referral and screening process for identifying (recruiting) children whose language competence seemed questionable was followed for all cohorts. All children, in the screening process, were given the Preschool Language Scale to determine relative language age. It is important to note that reasons for nonparticipation in the treatment group was not limited to relative language

performance, but included instances such as English as a second language, insufficient spaces, articulation difficulties, hearing losses, or lack of parental permission.

Sample

The sample for this study was comprised of all five-year-olds enrolled in the regular kindergarten program from 1984 through 1986, N=1747. After initial screening of all kindergartners, children whose language competence was questioned were identified and evaluated in greater depth with the Preschool Language Scale (PLS) to assess relative language age. Identified kindergarteners were placed in one of two groups: a treatment group, featuring those children who participated in the LEAP program; and a comparison group, featuring those children who did not participate in the LEAP program.

Selection criteria for participation in LEAP was based primarily on the child's results on the PLS. When instances of similar scores occurred and sufficient spaces did not exist, children with the lower score or those children whose delay was considered to be due more to environment rather than maturity were selected first. Parental permission was required before a child could be

placed, so it was possible that a child who was selected for placement did not participate due to lack of permission from the parents. Several cases of English as a second language were evident. In the event of insuffucient spaces, such cases were usually not served by LEAP because it was felt that the primary language was not delayed, and that the English would progress well given the stimulation in the regular classroom. As a result of the extensive evaluation conducted once the children were initially identified, situations such as stuttering, poor articulation, and hearing losses were identified, and such cases were usually not served by LEAP because the reasons for the language delay were not environmental.

Precise records citing specific reasons for nonparticipation of individual children were not maintained. Given this fact, and considering the situations mentioned above, the comparison group was comprised primarily of two groups of children: those children whose language delay did not meet the requirements for LEAP participation; and those children whose language delay did meet the requirements for LEAP participation, but due to lack of sufficient spaces or parental permission, did not participate.

Since the program's inception in 1984, of the total 1747 kindergarteners, 143 children have been identified as

having potential language delays. Of these 143 children, 69 have participated in the LEAP program.

Three cohorts of children were involved. In the spring of 1987, Cohort 1 had completed second grade, Cohort 2 had completed first grade, and Cohort 3 had completed kindergarten. A treatment and comparison group were identified for each cohort as discussed above. The equivalence of the treatment and comparison groups within each cohort was determined through simple t-tests of relative language delay, using the language age obtained as a result of administering the Preschool Language Scale.

Measurement Instruments

Measurement instruments used as part of the regular district testing program were used in this program evaluation to assess program effectiveness. For screening data, scores from the Preschool Language Scale (PLS) provided data for determining kindergarten language competence. The scale is designed to isolate areas of strength and weakness with regard to language facility in both auditory comprehension and verbal ability. Scale scores result in a language age for each child. The instrument is administered orally on an individual basis. According to Stark (Buros, 1972), there are weaknesses in

the PLS. While the literature in the field of language supports the importance of syntactic, semantic, and grammatical systems when ameliorating language delays, the PLS does not measure competence in any of these areas. Stark points out that language ability is not well delineated, specifically citing the ambiguous subtest headings which are not operationally defined. Stark states that some of the most recent and most valuable works on child language were not cited as having been used in the formulation of the scale. No validity or reliability data are available for the instrument.

Achievement data was collected through several instruments. The three instruments used were part of the regular school district testing policy. To assess relative readiness for first grade, Cognitive Skills Assessment Battery (CSAB) scores obtained at the beginning of first grade were collected. The CSAB is a criterion-referenced test designed to assess competencies of young children which are presumed to be relevant to success in school (Calfee in Buros, 1978). The instrument is administered orally on an individual basis. No specific validity or reliability analyses were available, but the test authors state that content validity is provided through the selection procedure for items on the battery (Calfee in Buros, 1978). Calfee states that there is an

apparent ceiling effect for many of the test items, meaning that some of the items are nondiscriminating and, according to Calfee, "a waste of time" (p.1330). The test also does not allow sufficient levels of response for all items. Too often the answer must be marked totally correct or totally incorrect. An answer that is partially correct, that is treated as being incorrect, can be very informative as to the child's abilities. Calfee also states that the lack of validity data is a major weakness of the CSAB.

The Comprehensive Test of Basic Skills (CTBS) Form U: Language Expression and Reading Comprehension subtest scores were collected to assess relative language competence and reading competence, respectively. District testing policy is established such that Level C is administered to first grade in the spring, and Level D is administered to second grade in the spring. The CTBS is a norm-referenced, written, group administered test, with a mean score of 500, and a standard deviation of 100. Recent data on the CTBS (Preliminary Technical Manual, 1982) reports validity via Bayesian estimates with a .75 mastery criterion for each objective. KR20 reliability indexes are reported for each subtest within each level of the CTBS. For Level C, the KR20 index in Language Expression is .89, and the KR20 index in Reading

Comprehension is .88. For Level D, the KR20 indexes were .89 and .91 for Language Expression and Reading Comprehension, respectively (CTBS U and V Technical Report, 1984).

Scores from the reading sections of the Basic Skills Assessment Program (BSAP) were also collected. The BSAP program is a state developed criterion-referenced testing program. The instrument is a written test, administered on a group basis in grades one, two, three, six, and eight. The KR20 reliability index based on the 1986 Spring test administration for grades 1 and 2 in reading were .916 and .907, respectively. No numeric validity index had been computed. Content validity is based on the objective and item development process, as well as the approval of the relevant Basic Skills Committees (South Carolina State Department of Education, 1987). Those students who score below the 700 criterion are considered for possible retention. The results on the BSAP test constitute 25% of the retention decision.

Data Analysis

In order to ensure equivalence between treatment and comparison groups for each cohort, t-tests of PLS (Preschool Language Scale) scores (converted to language

delay in months) were conducted, expecting to find no significant difference in language competence between the two groups at P =.05. Four separate t-tests were conducted: one for each cohort, comparing language age in the comparison and treatment groups; and one for the entire sample, comparing language age in the comparison and treatment groups.

In analyzing achievement data, a two-factor ANCOVA for each measure was conducted for cohort and experimental group placement with language age as the covariate. The analyses was conducted as follows: measures of kindergarten success (CSAB tests scores, numbers of retentions in kindergarten, and numbers of special placements in kindergarten) were analyzed for cohort and group placement with language age as the covariate; and measures of first grade success (first grade CTBS Language Expression scores, first grade CTBS Reading Comprehension scores, first grade BSAP Reading scores, numbers of retentions in first grade, and special placements in first grade) were analyzed for cohort and group placement with language age as the covariate. Measures of second grade success (second grade CTBS Language Expression scores, second grade CTBS Reading Comprehension scores, second grade BSAP Reading scores, numbers of retentions in second grade, and numbers of special placements in second grade)

were analyzed with a one-factor ANCOVA for group placement with language age as the covariate. Alpha was set at .05.

Additionally, a one-factor ANCOVA was conducted on each measure, after having selected out each cohort individually, for group placement with language age as the covariate. These analyses were conducted as follows: for cohort one, which had completed second grade, all measures (CSAB scores, CTBS Language Expression scores in first and second grades, CTBS Reading Comprehension scores in first and second grades, BSAP Reading scores in first and second grades, numbers of retentions in kindergarten, first and second grades, and numbers of special placements in kindergarten, first and second grades) were analyzed for group placement with language age as the covariate. For cohort two, which had completed first grade, measures of kindergarten and first grade success (CSAB scores, first grade CTBS Language Expression scores, first grade CTBS Reading Comprehension scores, first grade BSAP Reading scores, numbers of retentions in kindergarten and first grade, and numbers of special placements in kindergarten and first grade) were analyzed for group placement with language age as the covariate. Lastly, for cohort three, which had completed kindergarten, measures of kindergarten success (CSAB scores, numbers of retentions in kindergarten, and numbers of special placements in

kindergarten) were analyzed for group placement with language age as the covariate. Once again, alpha was set at .05.

Data Collection

Test scores for the Preschool Language Scale were gathered from records kept by the LEAP language teacher and the speech and language pathologists who worked with the children originally referred for screening in the kindergarten year. All other test scores (BSAP, CTBS and CSAB) were gathered directly from student records in each school. Identifying information (sex, birthdate and race) and data on retentions were also gathered from individual student folders at each school. Data on student placement in special services was gathered from listings of all students in the district special services office. Permission to search student records and district special services records was granted by the district prior to the data collection stage.

As an additional part of the data collection stage, observations of the LEAP program were conducted for short periods, over a one week span of time, early in the first semester. Second in-depth observations for two whole days were conducted one month later. Field notes were kept to

document observations. Observations included initial strict observations without any interaction. Following these observations, interactions with the children in individual, small group, and large group settings were included. These interactions included the observer as a participating member of the group, and the observer as an outsider questioning and interacting with the group. The purpose of the observations was not only to become more familiar with the LEAP program on a first hand basis, but also to have the opportunity to observe the language delayed child.

CHAPTER 4

DATA ANALYSIS

In order to establish equivalence between the comparison and treatment groups, relative language delay, which had been converted into months of delay, was used to conduct t-tests. The t-test using the entire sample revealed that the treatment and comparison groups were significantly different, p=.015. In the overall sample, the mean language delay for the comparison group was 18.13 months, while the treatment group mean delay was 21.39 months. Given these means and the significant difference revealed by the t-test, the treatment group in the overall population displayed a significantly greater language delay than did the comparison group.

Separate t-tests on language delay in each cohort revealed various results. In cohort one, the mean language delay for the comparison group was 20.56 months, and the mean language delay for the treatment group was 19.21 months. T-tests showed no significant difference in the language delays of the two groups in cohort one.

In cohort two, the mean language delay for the comparison group was 16.57 months, and the mean language delay for the treatment group was 20.10 months. T-tests

showed no significant differences between the two groups in cohort two.

The results for cohort three were different. The mean language delay for the comparison group was 19.14 months, and the mean language delay for the treatment group was 25.87 months. T-tests showed a significant difference between the two groups in cohort three, $p<.0001$.

Due to the fact that the t-tests for the overall population did show a significant difference, analysis of covariance was used in analyzing achievement data. Language delay was used as the covariate. Initial ANCOVAs which were conducted factoring for group placement revealed no significant differences on any of the achievement measures, with alpha set at .05. Reanalysis of the data, setting alpha at .1 still revealed no significant differences between the comparison and treatment groups for the overall population on any of the achievement measures.

Secondary ANCOVAs for each achievement measure were conducted on each cohort rather than the population as a whole, factoring for group placement. Language delay was used as a covariate for all secondary ANCOVAs. Analysis of the ANCOVA results revealed no significant differences between the comparison and treatment groups on any of the achievement measures within any of the cohorts, with alpha

set at .05. Once again, resetting alpha at .1 still revealed no significant differences.

Given the lack of significant differences, descriptive statistics were gathered on achievement measures within each cohort. Measures such as retentions and special placements are reported in percents. Test data was first converted into intervals and is then reported in percents at each interval. For the CSAB results, scores from lowest to 30 were recoded as 1, 30 to 60 were recoded as 2, 60 to 90 were recoded as 3, and 90 to highest were recoded as 4. For all CTBS and BSAP scores, four intervals were also established, lowest to 200 was recoded as 1, 200 to 400 was recoded as 2, 400 to 600 was recoded as 3, and 600 to highest was recoded as 4. Results are reported by each achievement measure.

Retentions

Retention data are illustrated in Table 1 for each cohort as well as the whole population. In kindergarten, 25% of the comparison group (n=8), and 11.1% of the treatment group (n=18) in cohort 1 were retained. Kindergarten retentions for cohort 2 (comparison n=21, treatment n=21) occurred for 20% of both the comparison and treatment groups. In cohort 3, 35.7% of the comparison group (n=14) and 53.3% of the treatment group (n=15) were retained in kindergarten. In the whole

population, 26% of the comparison group (n=42) and 26% of the treatment group (n=53) were retained in the kindergarten year.

Table 1
Retention Percentages

	Cohort 1	Cohort 2	Cohort 3	Population
Kindergarten				
Comparison	25 (n=8)	20 (n=21)	35.7 (n=14)	26 (n=42)
Treatment	11.1 (n=18)	20 (n=21)	53.3 (n=15)	26 (n=53)
First Grade				
Comparison	37.5 (n=8)	37.5 (n=15)		38 (n=24)
Treatment	55.6 (n=14)	42.1 (n=12)		49 (n=37)
Second Grade				
Comparison	0 (n=2)			
Treatment	16.7 (n=6)			

Retentions in first grade were gathered for cohorts 1 and 2. In cohort 1, 37.5% of the comparison group (n=8) and 55.6% of the treatment group (n=14) were retained. First grade retentions in cohort 2 were similar, with 37.5% of the comparison group (n=15) and 42.1% of the treatment group (n=12) being retained. In the whole population, 38% of the comparison group (n=24) and 49% of the treatment group (n=37) were retained in first grade.

Retentions in second grade involved only cohort 1. No comparison group subjects (n=2) and 16.7% of the treatment group (n=6) were retained in the second grade. Since only one cohort was participating in second grade, the results for the population for second grade retentions is the same as that reported above.

Special Placements

Special placement data are illustrated in Table 2 for each cohort and the whole population. In kindergarten, no subjects from either the comparison (n=8) or the treatment (n=18) groups in cohort 1 were placed in special services. In cohort 2, special placements were made in kindergarten, with 10% of the comparison group (n=21) being placed, but no subjects from the treatment group (n=21) were placed. Placements occurred for both groups in cohort 3, with 14.3% of the comparison group (n=14), and 6.7% of the treatment group (n=15) being placed in special services in kindergarten.

Placements in first grade were made for all groups, with 12.5% of the comparison group (n=8), and 50% of the treatment group (n=14) in cohort 1 being placed in special services in first grade. In cohort 2, first grade special placements occurred for 12.5% of the comparison group (n=15), and for 23.5% of the treatment group (n=12). Overall, 38% of the comparison group (n=24) and 49% of the

treatment group (n=37) were placed in special services during the first grade.

Table 2
Special Placement Percentages

	Cohort 1	Cohort 2	Cohort 3	Population
Kindergarten				
Comparison	0 (n=8)	10 (n=21)	14.3 (n=14)	10 (n=42)
Treatment	0 (n=18)	0 (n=21)	6.7 (n=15)	2 (n=53)
First Grade				
Comparison	12.5 (n=8)	12.5 (n=15)		13 (n=24)
Treatment	50.0 (n=14)	23.5 (n=12)		37 (n=35)
Second Grade				
Comparison	50.0 (n=2)			
Treatment	16.7 (n=6)			

Once again, only cohort 1 was involved in second grade. In the comparison group (n=2), 50% were placed in special services, while 16.7% of the treatment group (n=6) was placed in second grade.

CSAB Scores

Table 3 illustrates data for the CSAB test. The CSAB is only given at the beginning of first grade, so there were no results across time for any one cohort. In cohort 1, the mean CSAB score for the comparison group (n=8) was 77.11, and the mean treatment group (n=18) CSAB score was 77.94. Of the comparison group, 88.9% scored between 60 and 90, and 11.1% scored 90 and above. Of the treatment group, 11.1% scored between 30 and 60, 66.7% scored between 60 and 90, and 22.2% scored 90 and above.

In cohort 2, the comparison group (n=21) mean CSAB score was 84.27, with 81.8% scoring between 60 and 90, and 18.2% scoring 90 and above. The mean treatment group (n=21) CSAB score was 79.80 with 5% scoring 30 and below, 5% scoring between 30 and 60, 75% scoring between 60 and 90, and 15% scoring 90 and above.

In cohort 3, the mean comparison group (n=14) and treatment group (n=15) CSAB scores were 80.56 and 82.00, respectively. Of the comparison group, 77.8% scored between 60 and 90, and 22.2% scored 90 and above. In the treatment group, 14.3% scored between 30 and 60, 42.9% scored between 60 and 90, and 42.9% scored 90 and above.

In the population, the mean comparison group (n=40) CSAB score was 81.82, and the mean treatment group (n=45) CSAB score was 79.40.

Table 3
CSAB Mean Scores and Percentiles

	Cohort 1	Cohort 2	Cohort 3	Population
Comparison				
Mean	77.11 (n=8)	84.27 (n=21)	80.56 (n=14)	81.82 (n=40)
% 0-30	0	0	0	
% 30-60	0	0	0	
% 60-90	88.9	81.8	77.8	
% 90 and up	11.1	18.2	22.2	
Treatment				
Mean	77.94 (n=18)	79.80 (n=21)	82.00 (n=15)	79.40 (n=45)
% 0-30	0	5	0	
% 30-60	11.1	5	14.3	
% 60-90	66.7	75.0	42.9	
% 90 and up	22.2	15.0	42.9	

CTBS Language Expression Scores

Table 4 illustrates data for the Language Expression subtest of the CTBS for grades one and two. In first grade for cohort 1, the mean Language Expression score for the comparison group (n=7) was 372.71, with 57.1% scoring between 200 and 400, and 42.9% scoring between 400 and 600. The mean score for the same subtest in the treatment group (n=14) was 415.00, with 57.1% scoring between 200 and 400, 28.6% scoring between 400 and 600, and 14.3% scoring 600 and above.

In first grade for cohort 2, the comparison group (n=15) mean Language Expression score was 414.33, with 46.7% scoring between 200 and 400, and 53.3% scoring between 400 and 600. The treatment group (n=12) mean score was 392.08, with 50% scoring each between 200 and 400 and between 400 and 600.

Second grade scores were available for cohort 1 only, with the comparison group (n=1) mean Language Expression score being 494.00, and the treatment group (n=5) mean score being 515.80. All subjects in cohort 1 for the second grade Language Expression subtest scored between 400 and 600.

Table 4
CTBS Language Expression Mean Scores and Percentiles

	Cohort 1	Cohort 2	Population
First Grade			
Comparison	(n=7)	(n=15)	(n=22)
Mean Score	372.71	414.33	401.09
% 0-200	0	0	
% 200-400	57.1	46.7	
% 400-600	42.9	53.3	
% 600 and up	0	14.3	
Treatment	(n=14)	(n=12)	(n=26)
Mean Score	415.00	392.08	404.42
% 0-200	0	0	
% 200-400	57.1	50.0	
% 400-600	28.6	20.0	
% 600 and up	14.3	0	
Second Grade			
Comparison	(n=1)		
Mean Score	494.00		
% 0-200	0		
% 200-400	0		
% 400-600	100.0		
% 600 and up	0		
Treatment	(n=5)		
Mean Score	515.80		
% 0-200	0		
% 200-400	0		
% 400-600	100.0		
% 600 and up	0		

CTBS Reading Comprehension Scores

Reading Comprehension subtest scores in first grade were available for cohorts 1 and 2, and for only cohort 1 for second grade scores. Reading Comprehension data are summarized in Table 5. In first grade for cohort 1, the mean comparison group (n=7) score was 342.43, with 28.6% scoring between 0 and 200, 28.6% scoring between 200 and 400, and 42.9% scoring between 400 and 600. The mean treatment group (n=14) score in cohort 1 for the Reading Comprehension subtest was 422.64, with 42.9% scoring between 200 and 400, and 57.1% scoring between 400 and 600.

First grade scores in cohort 2 for Reading Comprehension were as follows. The mean comparison group (n=15) score was 393.40, with 13.3% scoring between 0 and 200, 40.0% scoring between 200 and 400, and 46.7% scoring between 400 and 600. The mean treatment group score was 397.17, with 50% scoring each between 200 and 400, and between 400 and 600.

Overall, the mean comparison group (n=22) score in first grade on the Reading Comprehension subtest was 377.18. The mean treatment group (n=26) score in the overall population was 410.88.

Table 5
CTBS Reading Comprehension Mean Scores and Percentiles

	Cohort 1	Cohort 2	Population
First Grade			
Comparison	(n=7)	(n=15)	(n=22)
Mean Score	342.43	393.40	377.18
% 0-200	28.6	13.3	
% 200-400	28.6	40.0	
% 400-600	42.9	46.7	
% 600 and up	0	0	
Treatment	(n=14)	(n=12)	(n=26)
Mean Score	422.64	397.17	410.88
% 0-200	0	0	
% 200-400	42.9	50.0	
% 400-600	57.1	50.0	
% 600 and up	0	0	
Second Grade			
Comparison	(n=1)		
Mean Score	560.00		
% 0-200	0		
% 200-400	0		
% 400-600	100.0		
% 600 and up	0		
Treatment	(n=5)		
Mean Score	561.20		
% 0-200	0		
% 200-400	0		
% 400-600	80.0		
% 600 and up	20.0		

For cohort 1 in second grade, the mean comparison group (n=1) score for Reading Comprehension was 560.00. The mean treatment group (n=5) score for the same test was 561.20, with 80% scoring between 400 an 600, and 20% scoring 600 and above.

BSAP Reading Scores

Table 6 summarizes BSAP Reading data for first grade for cohorts 1 and 2, and for second grade for cohort 1. For cohort 1, the comparison group (n=8) mean first grade BSAP Reading score was 714.63, with all subjects scoring 600 and above. The treatment group (n=14) mean score was 742.71, with all subjects also scoring 600 and above. In cohort 2, the mean comparison group (n=15) BSAP Reading score was 740.33, and the mean treatment group (n=12) score was 708.75, with all subjects in both groups scoring 600 and above. In the overall population, the mean comparison group (n=23) and mean treatment group (n=26) BSAP Reading scores were 731.39 and 727.04, respectively.

In second grade, the comparison group (n=2) in cohort 1, had a mean BSAP second grade Reading score of 713.50. The treatment group (n=6) in cohort 1 had a mean second grade BSAP Reading score of 779.20. All subjects scored 600 and above.

Table 6
BSAP Reading Mean Scores and Percentiles

	Cohort 1	Cohort 2	Population
First Grade			
Comparison	(n=8)	(n=15)	(n=23)
Mean Score	714.63	740.33	731.39
% 0-200	0	0	
% 200-400	0	0	
% 400-600	0	0	
% 600 and up	100.0	100.0	
Treatment	(n=14)	(n=12)	(n=26)
Mean Score	742.71	708.75	727.04
% 0-200	0	0	
% 200-400	0	0	
% 400-600	0	0	
% 600 and up	100.0	100.0	
Second Grade			
Comparison	(n=2)		
Mean Score	713.50		
% 0-200	0		
% 200-400	0		
% 400-600	0		
% 600 and up	100.0		
Treatment	(n=6)		
Mean Score	779.20		
% 0-200	0		
% 200-400	0		
% 400-600	0		
% 600 and up	100.0		

Observation Results

Observations, as stated in the methodology, were conducted early in the first semester. Included were individual, small group and large group observations. Results were not limited to simple non-interactive observations. Children's activities, without adult intervention to induce speech, as well as interventions which were designed to induce speech are described here.

Children engaged in solo activities included those who were painting at easels, building with blocks, playing with legos, drawing, "reading" in the book center, and completing assigned cognitive tasks such as classifying pictures according to the kind of store in which the items could be purchased. In all instances, spontaneous speech was lacking. There was no self-talking. Even the child who was "reading" was not talking to himself or telling a story as he read the pictures. The play when the children were engaged in solo activities was busy, productive, and on task, just quiet.

When adults intervened, whether the classroom aide, teacher, or observer, children would respond to questions about the task at hand. Responses, however were often one word utterances, or partial sentences. If required to elaborate through additional questions, the children

generally could verbalize in regard to their actions.

Small group tasks included two children playing with clay, three children drawing at a chalkboard, two children playing basketball, and three children playing in the home-living center. Once again, spontaneous speech was limited, but not so much as was the case in individual play. Conversations in small group play tended to center around the specific task or activity. Most language consisted of attention getting talk such as "Look." or "Give me." The most verbal of the small group activities was the basketball game. Most of the speech here occurred when turns were missed or when one party felt a rule had been broken. Even in such instances, the speech was limited, and the children had difficulty verbalizing the problem and solving it.

With adult intervention, speech could once again be elicited. An interesting result in the small group, which could not occur with the individual setting, was the speech that was elicited by the other children once the adult had initially elicited talk about the task. In the case with play with the clay, one child was more willing to talk about what the other child was doing than what the child herself was doing. Once again, speech was limited, but could be elaborated with adult questioning.

The large group activities included group time for morning greeting, singing, the calendar, and a group talk time activity later in the day. In general, most participated in the large group activities. Singing seemed to elicit the highest response from the most children. It was evident from the morning group time that there was a routine that the children knew and felt quite comfortable with. The talk time activity later in the day included both expressive and receptive language skills in that children were required to speak as well as listen to others. In the task, the children were requested to name a picture of a toy they had been given and tell one thing one could do with that toy. Most children could easily name the toys. One child, rather than name the toy, found the real toy in the room and presented that to the teacher. Another child simply handed the picture to the teacher when asked what the toy was called. The description of what one could do with the toy presented problems for most of the children. Common responses were to demonstrate actions appropriate for the toy or to simply verbalize "Play with it."

In the large group activities, eliciting elaborated responses was not as evident as in the individual and small group activities. Requests for elaborations were always attempted, but fewer requests per child were

evident as compared to the smaller group settings. More evident in the large group were teacher repetitions of speech attempts by children and teacher rephrasings of partial speech utterances. All attempts were praised in the large group not only by the teacher, but the other children as well.

Overall, the classroom was well organized and a routine was evident throughout the day. Children were encouraged to be responsible for their own actions through making choices for activities and cleaning up when an activity was completed. In general, the classroom was not permeated by teacher-talk. The teacher served primarily as facilitator and guide and talk generally revolved around the activities and related events in the child's everyday life. Children were busy at all times, but as mentioned earlier, were simply quiet. The warmth between teacher and children was quite evident as hugs were very common and it was obvious that such signs were familiar to and accepted by the children.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

Results Summary

The results described in the preceding chapter reveal that the treatment group did not experience any greater success than the comparison group. There were no significant differences in the test scores on the CSAB, CTBS, or BSAP to indicate that the treatment group was more successful than the comparison group. There was also no significant difference in retentions or special placements to indicate that the treatment group was experiencing fewer retentions or placements into special services in relation to the comparison group.

In general, it is possible that the nature of the measurement instruments could have affected test scores. While initial instruments were administered on a one-to-one basis, follow up instruments were group administered paper and pencil tests. It is also important to consider that the achievement measures used were available data and did not measure language competence upon completion of the program. In order to truly assess success upon leaving kindergarten, a language assessment would be necessary to

establish gains in LEAP. Doing so would also provide a better basis from which to judge continued, maintained, or lack of success in the primary years.

Implications and Discussion

The lack of significant differences on the achievement measures between the comparison and control groups only further supports the Aram and Nation (1980) finding that children do not grow out of their language difficulties. The findings of this study point most directly to the fact that greater intervention is probably needed for language delayed young children. Participation in an amelioration program during the kindergarten year may be a good step, but as the results in this study have shown, it is not enough.

The average language delay of the treatment group was 21.39 months, as compared to the comparison group average language delay of 18.13 months. Such delays indicate that both the comparison and treatment groups, on an average, were at least one and one-half years behind in their language development. By the end of kindergarten, the treatment group experienced fewer special placements (see Table 2), and scored a lower average score on the CSAB than did the comparison group (see Table 3). First grade

achievement test results are of greater interest. On both subtests of the CTBS, the treatment group, despite the lower language age at the beginning of kindergarten, scored higher than the comparison group (see Tables 4 and 5), indicating greater growth, given the lower beginning point.

An examination of Tables 3, 4, 5, and 6 also reveal some interesting findings as to the trends of some of the results on the achievement test measures. In general, the treatment groups had a greater percentage of subjects scoring in the fourth quartile (see Tables 3, and 4), and in only one instance did any treatment subjects score in the first quartile (see Table 3). Such a finding could indicate that participation in the LEAP program, although it does not produce significant differences in test scores, could increase the probability of scoring in the upper three quartiles, particularly in the fourth quartile.

Trends in retentions (see Table 1) and special placements (see Table 2) seem to indicate less success for the treatment group. The fact that, in general, there are higher rates of retentions and special placements in the treatment group could indicate that the children who have been placed in the LEAP program are definitely at risk, and as stated before, the amelioration for just one year

does not completely take care of all the related effects language delays can have upon academic achievement as outlined in the literature.

There were weaknesses in this study. While 143 children were referred for in-depth screening for possible participation in the program, only 99 of these children were found from which to collect data. Of these 99, in many cases, only partial data were obtainable. For example, a child was in the district for the BSAP test administration in the spring of first grade, had moved and therefore missed the CSAB test administration in the spring of that same year, yet returned to the district in time so that retention and special placement decisions were made at the end of first grade. Such situations were, unfortunately, not uncommon. Attrition and retentions affected cohort one the greatest, with only 8 of the original 37 children participating in the second grade.

It is also possible that the use of the Preschool Language Scale (PLS), although convenient and part of the district policy for screening for LEAP program placement, was not as discriminating as a measurement instrument should be, and therefore, the most reliable information regarding language age and related deficiencies was perhaps not obtained. The literature dealing with evaluating language deficiencies usually refers to use of

the Test of Early Language Development (TELD). A point of interest here is that not a single study mentioned in the literature review referred to the PLS. Although a few speech and language pathologists in the district used the TELD as a supplementary evaluation, it was not used consistently, and perhaps would have been a better evaluation tool to identify not only the general delay, but more specifics of the delay for all children prior to LEAP placement.

The most direct measure of program success would have been for the district to have obtained language ages and relative delay at the end of each year on all children initially referred for possible placement at the beginning of each year. This is currently not being done. Such information would reveal whether or not participation in the program gives a child a better chance of bringing their language age to within six months of their chronological age, as the major goal of LEAP states.

Not all the results were negative. It is first important to remember the fact that the children, whether in the comparison or treatment group, were very much at risk to begin with. The population, in general, would have been considered likely for lack of school success, so gains made would not have been anticipated to have been tremendous.

It is difficult to imagine what a child who is language delayed encounters in the school situation. While language scales may result in a relative language age, or delineate specific weaknesses, it does not begin to put a language-competent teacher in the child's place. For the young child, who is expected to have command of his basic language, not having such a command is very different from the infant without such competence. In essence, the child becomes somewhat isolated from his environment, particularly so from other people who depend upon oral communication. The observation time spent in the LEAP classroom was enlightening as to just how language delays impact classroom participation. A synopsis of some discussions with and observations of the LEAP children should shed some light on the severity of the problem.

While one often anticipates succinct responses from children who may not develop in an enriched environment, one usually expects, and receives, at least complete sentences. Such sentences, although brief, are usually contingent upon the question or conversation at hand. Such is not the case with language delayed children. Even when the adult uses the quality, child-like questions as supported in the literature, responses were generally limited. Common responses were single word utterances or

bodily gestures, and often focused upon naming objects rather than including any discussion or description of actions one can take upon the objects. An attempt to elicit questions from many children was futile. Even when asked, "What do you do when you don't know the answer?" children did not respond. Lack of a response in such a situation points to two possibilities. The first involves the concern outlined in the literature that in both the social and academic arenas, these children do not know how to seek assistance when stumped. The second possibility involves the child's inability to understand such a complex question. Such an inability is common with younger children whose language development is not yet advanced, perhaps pointing once agian to the lower level of functioning language delayed children display.

When pictures of single objects were used to elicit naming, it was not uncommon for the children to use body motions to demonstrate how the object was used, rather than naming the object or describing how the object was used. One child even went so far as to take a picture and find the real object in the classroom. When asked what that real object was called, there was no response. This is another indication that although the children have the cognitive ability, the language ability limits the child's ability to express himself.

Communication between children in the classroom was just as limited, but was not nonexistent. Two children playing with clay and cookie cutters were working very quietly, whereas such an activity in a more typical kindergarten classroom would be enveloped in conversations, the least of which may involve the task at hand. Two boys playing basketball were most verbal, yelling excitedly when points were scored or louder still when one's turn was missed or when a violation of a "rule" occurred. Still, even this conversation was not as elaborate as a more typical kindergartener, which can be attributed to the language delay, or perhaps the cultural communication pattern with which the chid is familiar.

The point being made is that with language so delayed to begin with, one year of four half-days of instruction each week can not begin to erase five years of limited language stimulation. When one considers the fact that this study found that, initially, the treatment group was indeed more language delayed than the comparison group, the fact that any indications of greater success for the treatment group as compared to the comparison group is of interest.

Comments from some first grade teachers reveal that there is much more at work during the LEAP year than standardized tests and other indicators of academic

success can show. An aside such as "I didn't know she had participated in the LEAP program" may not seem very informative on the surface, but such a comment tells quite a lot. One of the major goals of the LEAP program is to offer an intervention program without unnecessary early labelling. The fact that first grade teachers are unaware that children in their classes had participated in LEAP during kindergarten indicates that that unnecessary labelling has been avoided.

While such a fact in and of itself is encouraging, the importance of such a comment is far reaching. During the kindergarten year, teachers were quickly able to identify children who were at risk in their language development. Observations that indicated that the child was a "loner," not readily communicative, or had a limited vocabulary were commonly mentioned by teachers. If the language delay evident in kindergarten was following the child into the primary years, first grade teachers should have seen some similar signs.

Perhaps an unawareness of participation in LEAP indicates that the child is not exhibiting the same obvious language deficiencies in first grade due to some amelioration in kindergarten. Also possible is that the nature of the first grade classroom is not as language rich as the kindergarten classroom. In such a classroom,

the child with a language delay would not be as readily obvious. The nature of the classroom which is not as language rich also would be more likely to involve a teacher who is not as language sensitive, and therefore less likely to notice language delays in children. These possibilities are perhaps most alarming in that they are indicators that language is not encouraged in some primary classrooms. The lack of language sensitivity in the primary years may be the biggest contributor to the lack of long-lasting effects in amelioration.

The fact that test scores do not indicate any significant differences in participants and nonparticipants involves only the academic side of the language delay issue. Perhaps such an innocent mention of surprise at a child's participation in LEAP is an indicator of the social side of ameliorating language delays. Whether sensitive to language or not, teachers are quick to identify those children who experience difficulty with following rules. Perhaps, due to participation in LEAP, children are gaining a better understanding of the rules of the social arena in the classroom. With such a increased understanding, children are less likely to become discipline problems, and can thereby benefit more from classroom instruction.

A great deal of credit for such an accomplishment goes to the LEAP language teacher. Not only does she create an environment that is positive and accepting of mistakes, but she very pointedly teaches the rules of the game. Asking a child "What do you do when you need some help?" helps the child understand that there are rules by which one has to play. It is also common to hear the teacher say things such as "What do we do when we are done with an activity" or "Tell me why you did what you did," both statements indicate that there is order to school and that events do not occur haphazardly. Teaching the concept that there is a speaker and a listener, and one should not do both at the same time is a skill well learned if one wants to succeed in school. Such social skills may be the factors helping children who are in first grade after LEAP participation without teachers being aware of the early intervention received.

There is a negative side to the unawareness of LEAP participation. The literature states clearly that language delays do not simply go away. The fact that first grade teachers are not aware of the special needs of some students may overshadow the desire not to label. The unawareness of special needs is further complicated when considering the possibility that primary teachers are not very language sensitive. The teacher may therefore be not

only less likely to notice language problems in the classroom, but also less likely to assist in amelioration. As was found after Head Start, the early intervention could not be abruptly terminated, so Follow Through was instituted. Continued amelioration of language during the primary years is essential for LEAP participants. It is important to identify those children with an apparent language delay in the primary years. More important is to sensitize teachers to the instructional factors outlined in the literature so that instructional presentations may address the special needs of language delayed children as often as necessary. The result would be increased success in the primary years, as well as continued learning of the rules of the game, contributing to long lasting success.

Conclusions and Recommendations

The findings of this study are congruent with findings from other studies. Children in this study, as in others, do not quickly outgrow language deficiencies. Low test scores are still apparent in first and second grades. Reading ability is lower than that considered to be the norm for children in first and second grades. Retentions and special placements are still evident.

The LEAP program seems to be beneficial, given the gains made by those children who did participate. The fact that siblings are beginning to appear in LEAP in subsequent years may indicate that there is an environmental situation in many homes which is difficult to change, and which is affecting the language development of children. The fact that significant, long lasting amelioration cannot be accomplished in one year is not a new finding in early intervention programs. If siblings are appearing, then perhaps it would be beneficial to identify those families who might be considered to be at risk, and recruit children at an earlier age into the district's child development program in an effort to enrich the child's environment as early as possible.

In light of the fact that family environment plays a crucial part in language development, parent education newsletters and suggestions for activities to do at home would reach the parent population capable of reading. Workshops at school, parent involvement in the classroom, and home visits would reach the entire population and would be most productive because the language teacher would be present and parents could see activities in actual practice.

At the school and district level, inservice training for all primary teachers would be beneficial in order to

provide continued amelioration. Primary teachers need to be able to identify language deficiencies and then deal with them appropriately. Key instructional factors that teachers should emphasize include the importance of questioning, meaningful language usage, avoiding ambiguity, avoiding the preponderance of commands, assisting the child with learning the rules of the classroom game, and accepting the language the child brings while using that language to move the child forward. Such an awareness would benefit all children, and not just those who are language delayed.

While it is of interest to examine the success of children who participate in experimental programs once they have completed the program, the best measure of program success is often lost to the importance seen in standardized test scores. The only true measure of LEAP's success, or any similar program, would be to evaluate the main objective: to bring the child's language age to within six months of their chronological age. It is surprising that this has not been systematically done, and it is suggested that this be evaluated in the future for all children referred for intense screening, not just those children who participated in the program. If LEAP is making a significant difference in improving language age, but relative academic success in the primary

years is still not evident, then inservice training and continuing amelioration of language into the primary years would be warranted.

A program such as LEAP is unique in the field of language. The fact that nonsignificant findings resulted should not mean the demise of a positive program. As is true of so many early intervention programs, the damage is done long before help is given. It takes time for efforts to ameliorate problems to become evident. The two biggest problems, not getting children soon enough and not having the funds or staffing to continue the special training long enough, will be with us in the field of education and child development for a long time to come. When dealing with language delays, while it would take funds and staffing to reach children earlier, the continuation of amelioration would not be as difficult. Through inservice training, teachers can be shown how simple many adjustments in basic instruction can be and how important for the language delayed child.

This evaluation study identifies many factors affecting programming for language delayed children. A holistic approach to dealing with language delays is emphasized. Social factors are not lost to academics. A child-centered program is espoused in a time when there seems to be a push away from appropriate programs in

public settings for the young child. The importance of increasing the awareness of primary teachers is outlined and suggestions for meeting that need are included. Most important is the further support for the fact that language delays will not vanish with time. Programming for children exhibiting language deficiencies is essential.

In regard to the issue of programming, others considering a language enrichment program may want to consider the following. As already stated, continuing enrichment into the primary years is essential. In general, the primary curriculum should be language rich, with numerous opportunities for language stimulation in both expressive and receptive areas. Reading instruction should be geared toward a whole language approach, which provides a more meaningful contextual base for language use and learning. Integrating the curriculum would also provide an increased meaning base. Talking in the classroom is not necessarily a sign of a poorly managed classroom. If language is to be stimulated, a certain degree of talking should be not only allowed, but encouraged. The inclusion of peer tutors, whenever possible, would provide language models in other children as well as the teacher. Such a facet of a program would

be beneficial for those needing the language stimulation as well as for the peer tutors.

A language stimulation program need not be a "pull-out" program requiring special teachers and special time. To be most effective in situations which meet the usual full school day, language should become an integral part of the everyday class. Language activities can be integrated into every activity if teacher and children participate routinely in elaboration and vocabulary building experiences. Perhaps most important is the expectation for both the teacher and children that language be used to the fullest extent and that it be valued and encouraged.

The district involved in the LEAP program has recognized a need of a small part of its population, and is trying to meet that need with an innovative program. It would be a mistake to dismiss the good such a language enrichment program is doing and expect the speech and language pathologists to effect the same results on a one-to-one basis. Such an alternative would certainly not be supported in the literature. Changes in screening procedures through the use of a more reliable instrument, evaluation of program success conducted upon completion of LEAP, and extended training into the primary years, are necessary improvements in the LEAP program. An evaluation

conducted after these changes have been made should reveal very positive results not only for the LEAP program, but primarily for those children who are fortunate enough to participate.

A quote from Bruner (1970, p.115-116) succinctly summarizes intervention programs not only in the area of language, but in early childhood in general.

> Little can be done for a human being with a "one-shot" intervention. One has to work at it. Head Start does not work, if afterward the child is dumped into a punishing school experience. When we build an expectancy, build a skill, we incur a responsibility for nurturing it. It may, in some instances, be a compounding of evils to open the child's vulnerabilities and then disappoint or dump him. If we are to be effective in helping disadvantaged children cope better, it is their life cycle that must be dealt with not their preschool or their nursery or their street life. That is why we need diverse forms of care and can hardly tolerate quarrels about this form vs. that form on ideological grounds rather than evidence. . . . The important thing is to get going. We must surely praise the attitude that though the first programs may not happen to be our preferred ones, nonetheless, we try

to make them as good as possible, knowing that we shall surely go on from there.

To those involved with LEAP, praise must go for recognizing and trying to meet a need. To those considering language enrichment intervention for their own population, encouragement must go to try to improve that which exists in the field and in so doing, lead the field forward.

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