

A DEMONSTRATION PROJECT USING VOLUNTEERS  
IN A DAYCARE SETTING TO PROVIDE  
LANGUAGE ENRICHMENT FOR CHILDREN

by



Leah M. Sweetland

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## Abstract

A 15-week language enrichment programme was implemented by 10 volunteers in a daycare setting to evaluate its effect on children's language development. Subjects included a control group of 12, two- to four-year-olds and an experimental group of 16, two- to five-year-olds. All subjects received the Peabody Picture Vocabulary Test (PPVT) as a pretest measure of language development. The Game Oriented Activities for Learning language enrichment curriculum was implemented in the experimental group. As a posttest measure of language development, all subjects received the PPVT, and randomly selected control (n=10) and experimental (n=15) subjects received five subtests from the Illinois Test of Psycholinguistic Abilities (ITPA) as an additional, posttest-only measure of language development. PPVT scores did not significantly increase (.05 level) from pre- to posttest for either group. Two subtests of the ITPA (Grammatical Closure and Manual Expression) were significantly higher in the experimental group. A significant positive correlation was found between exposure to language enrichment activities and ITPA posttest scores for Manual Expression. Findings partially support the hypotheses that experimental subjects would score higher on posttest measures of language development than control subjects, and that a positive correlation would be found between amount of exposure to the curriculum

and posttest scores.

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## Chapter 1

### Introduction

Since its inception in 1911, Day Nursery Centre has been serving the daycare needs of core area Winnipeg families. There are currently three different units operating in the Winnipeg area: (a) the Gretta Brown Unit at 336 Flora Ave., (b) the Kennedy Unit at 355 Kennedy St., and (c) the Broadway Unit at 650 Broadway Ave. These units have respectively, spaces for 50, 35, and 35 children between the ages of two and five years.

Primarily children from low income, inner city homes attend Day Nursery Centre. In order for children to qualify for enrollment at Day Nursery Centre, parents must fall somewhere into the following socioeconomic criteria: (a) currently employed, (b) sought employment for a period of no longer than six weeks, (c) currently enrolled in a job retraining programme, or (d) referred by a social service agency. English is a second language for around 30 percent of the children in attendance. Some of the children have been designated "special needs" for physical, intellectual, or emotional reasons by referring social service agencies. Fifty percent of the Day Nursery Centre children fall into at least one of the above categories, and staff report a noticeable deficit in the overall pattern of language skill development in a majority of enrolled children.

In order to meet the increased needs of the Day Nursery Centre clientele without straining the already-limited operating budget of the centre, volunteers are used to improve child/staff ratios, which provides additional opportunity for adult-child interaction. In 1983, some 4000 hours of volunteer time were donated to Day Nursery Centre. The centre is equipped with the services of a volunteer co-ordinator whose role involves the active recruitment of suitable volunteer hours.

Before this study began, volunteers at Day Nursery Centre had provided a valuable service by aiding staff in the maintenance of daily routines and had provided episodic assistance to children as specific needs arose. The purpose of this demonstration project was to design, implement and evaluate a co-ordinated volunteer programme that would focus itself more directly on areas of recognized need. To facilitate the implementation and evaluation of this project, one area of recognized need was selected for volunteer emphasis. The language development of the children of Day Nursery Centre was chosen as this area of need for the following reasons: (a) it was an area of voiced concern on the part of the Day Nursery Centre staff; (b) it has traditionally been recognized as a typical area of weakness in low income, inner city populations; and (c) language development in early childhood plays an important role in one's later

successful adjustment in such activities as school performance or social functioning.

The innovative component of this study then, involved the introduction of trained volunteers into the daycare milieu to focus their attention on enhancing the language development environment of the Day Nursery Centre children. Evaluation of the project involved the measurement of change in the level of language development within the targeted population.

The anticipated benefits of this programme were many and varied: (a) through the use of volunteers, Day Nursery Centre children would receive increased, individualized adult attention; (b) through the use of volunteers, Day Nursery Centre staff would be relieved of some of their personal work load that would allow time for enhancement of the daycare programme in other areas; (c) through the introduction of a more focused and co-ordinated volunteer programme, Day Nursery Centre children would receive increased attention in a needed area, language development; and (d) recruited volunteers would receive more training than usual and would be provided more of an opportunity to focus their activities in an area of personal interest and recognized need, thus enhancing personal feelings of self-fulfillment and self-worth.

## Chapter 2

### Review of the Literature

#### Language Development

Theories of language development. Although there are a number of language development theories, no consensus has been reached as to how language develops in children. Language has many components such as: (a) phonology, the system of speech sounds of a language; (b) morphology, the process of grouping sounds together to form words; (c) syntax, which looks at how words combine to create sentences; and (d) grammar, which is the body of rules governing how words may be appropriately combined. Any attempt to explain these components and how they develop in a growing child must include the mental and physical development of the human being. By which processes does one receive language cues? How are language cues interpreted and processed within the complexities of the brain? What are the elements of language expression? These are only some of the questions that a complete theory of language development must answer. Language includes speaking, reading, listening, and thinking.

A complete theory of language acquisition would have to combine all of the aforementioned components in a comprehensible way. The majority of theories to date do not attempt this. Isolated components of language are explained to the neglect of others. Some of the more

general theories of language development focus most of their attention on the acquisition of grammar (Cruttenden, 1979).

Behaviourists, such as B. F. Skinner (1957), view language as a behaviour that is acquired as with any other behaviour via the influences of the environment. Children develop language by imitation of those around them. Appropriate linguistic behaviour results in parental or social approval that reinforces that behaviour for the child. According to Skinner's conditioning theory, reinforced behaviour will be retained while unreinforced or negatively reinforced behaviour will be lost. Through this continued process, children eventually adopt the language of those around them.

Chomsky (1968) and other innatists believe that children have an inborn disposition for language learning unique to human beings. They believe that evidence for this comes from the following factors: (a) all languages world-wide have underlying commonalities, (b) children tend to learn the correct structure of their language even though those around them may speak imperfect versions of it, and (c) children acquire language with speed.

Maturationists such as Lenneberg (1967) link the development of language closely to physical development, particularly the development of motor skills. These theorists believe that as children mature physically, they

pass through a series of related stages of language readiness. Provided there is an adequate level of environmental stimulation, language develops alongside physical development. This view is compatible with the notion of a "critical period", which refers to a specific time when an organism is ready for development of a particular type. If stimulation is not forthcoming within this time period, development will be impaired or lost completely.

The cognitive theorists speculate that language develops along with cognition and is dependent upon it. As children's understanding of their environment grows and becomes more complex to include not only the environment but themselves and the relationship between themselves and the environment, language also becomes more complex. It is believed that language and cognition are intertwined. Language is the vehicle whereby reality is created in the mind. Language and thought become difficult to separate (Piaget & Inhelder, 1969).

Like the cognitivists, the sociological theorists recognize the link between cognitive development and language. They also see language development waiting on cognitive development. The sociological theorists, however, emphasize the idea that language develops out of the need to interact with others. Human beings are social animals. If we could exist apart from a social group

altogether, we would not need language. This is not the case, however, so as children's social identities grow, so does their language (Halliday, 1975).

Each of the theories discussed have strengths, but they also have weaknesses. The differences do help to point out how complex the concept of language is. Because of these different viewpoints, consensus about language development remains illusive.

Whichever theory one adopts, it is generally accepted that children do learn to communicate their thoughts, feelings, and ideas through language without any real evidence of a structured teaching-learning process. Language begins with the earliest cries of infancy as a means of conveying feelings of hunger, pain, or frustration. From there, words, gestures, and sentences of ever-increasing complexity and grammatical accuracy are adopted. By the age of four, the average child is as proficient in basic language skills as is the average adult. Despite a smaller vocabulary that continues to grow throughout life, the average four-year-old has mastered most of the grammatical rules of their native tongue and can articulate speech sounds with sufficient accuracy that they can easily be understood by others.

Bruner (1978) outlined four major functions of language in everyday life: (a) indicating, (b) requesting, (c) affiliating, and (d) generating possible worlds. The

indicating aspect of language allows individuals to organize and apply labels to objects. In this sense, a rock is a rock and providing it such a linguistic label contributes to unity in understanding. The second major function, requesting, allows individuals to reach out to others, to collaborate and enlist their aid. Making needs known can be essential to survival, particularly for those who are unable to help themselves. Affiliation, the third function, forms the basis for social exchange. Underlying our language is the "co-operative principle" that involves taking turns, acknowledging presence, and other "rules" for facilitating social relationships. The final function, generating possible worlds, is more abstract. This aspect of language allows one to: (a) transcend the here and now, (b) to remember past events, (c) to imagine the future, and (d) to relate old concepts together in new ways under new circumstances. Language is critical to growth and development throughout life.

Social influences on language development. Attempting to understand language development within the biological confines of the individual is not enough. To understand language development, one must include the influences of the interpersonal setting in which all human activity is embedded. Language develops within a social framework, and for most individuals, that initial framework is the family. It is important to understand the influence of the

language-learning environment provided by the family on the development of language in its children. A complex interaction process takes place beginning in the first weeks of life where significant family members become linguistic teachers and models imparting the structural and social components of language (Cross, 1978; Olson, Bayles, & Bates, 1986).

To precisely define the qualities of a family that will optimally foster child language development is a complex problem. The majority of theorists agree that quality and quantity of care and interaction between child and caregiver from an early age is paramount. More than forty years ago, Brodbeck and Irwin (1946) compared the early speech development of orphanage versus home-reared infants. Although both groups received adequate physical care, the orphanage infants lacked the regular personal attention of being held, played with, or spoken to that the home-reared group received. The orphanage-reared infants fell significantly below the home-reared group in type and frequency of language production. This, the researchers concluded, was due to the infants' inability to readily identify with a fixed, loving adult, a cultural surrogate from whom even the earliest forms of language are encouraged.

That family is important to language acquisition is beyond debate. More recent research has focussed on the

individual differences between families that affect the rate and levels of child language achievement. What, if any, are the underlying commonalities of families of children with high levels of language development versus those without? Hess and Shipman (1965) examined the family's control system in relation to the cognitive behaviour of its children. They defined two family types, each falling at either end of a continuum. "Status-oriented" families regulated behaviour by role expectation, leaving little room for the contributions of unique characteristics and ideas of family members. At the other end of the continuum, "person-oriented" families considered the unique input of all members and offered a wider range of behavioural alternatives. Person-oriented families, by nature, used a more elaborated linguistic code than status-oriented used. The authors postulated that this environment leads to improved cognitive and language development in children from person-oriented homes. Home observations and laboratory assessments of 163 mother-child pairs indicated some support for this idea (Hess & Shipman).

More recent studies have focussed on the relationship between primary caregiver and child and its effect on the shaping of language (Clarke-Stewart, 1973; Cross, 1978; Elardo, Bradley, & Caldwell, 1977; Francis & Self, 1982; Nelson, 1973; Norman-Jackson, 1982; Olson et al., 1986; Petersen & Sherrod, 1982; Snow et al., 1976; Taylor, 1979).

These studies allow for a more precise and measureable breakdown of family dynamics in relation to language acquisition. A review of the literature in this area has revealed the influence of six major factors on language development: (a) structure of maternal speech, (b) content of maternal speech, (c) clarity of maternal speech, (d) mother-child interaction, (e) household environment and routine, and (f) maternal awareness of and responsiveness to the needs of the child.

Studies have shown that the structure of the mother's speech to the child plays an important role in facilitating language development (Cross, 1978; Snow et al., 1976). Careful observations of mother-child interaction revealed that mothers of children with higher levels of language development tend to speak to their children at appropriately simple levels. These levels tend to increase with the language competence of the child.

The content of a mother's speech to her child is also influential. Snow et al. (1976) studied Dutch families to compare "good" and "poor" language learners and mother-child verbal interaction. They found that mothers of good language learners used fewer imperatives, more expansions of their child's utterances, and related their verbalizations more to the relevancies of the environment and situation than mothers of poor learners. Nelson (1973), in a similar but larger study, found that an increased use of

imperatives by parents to their children negatively influenced their language development. An Australian study looked at the verbal interaction of two groups of children and their mothers (Cross, 1978). One group of children was significantly accelerated in language acquisition; the other was normal. It was shown that mothers of children with accelerated rates of development used more expansions of their child's utterances and repeated more often both their own and their child's previous utterance. Petersen and Sherrod (1982) related maternal speech to language development in children with Down's Syndrome, language delay with no associated physical dysfunction, or normal language progress. They found a significant positive relationship between mean length of child's utterance and the degree of relevance of maternal verbalizations to what was going on around them. To summarize, some important content aspects of a mother's speech to her children are: (a) repetition of an utterance of mother or child, (b) expansion of the semantic content of a previous utterance, (c) relating verbal interactions to salient features of the activity or the environment, and (d) avoiding the use of imperatives in speaking to children.

Clarity of a mother's speech to her child also plays an important role in fostering language growth. Again, studies relating maternal behaviour and linguistic development of children have found that clear and distinct

speech on the part of a mother will more favourably affect the language development of her child than less intelligible utterances (Clarke-Stewart, 1973; Cross, 1978).

In addition to the mechanics of the caregiver's speech, the nature of the relationship between child and caregiver and the environment child and caregiver occupy play a role in the development of language. While the physical layout of the home and its contents are not thought to be highly influential (Nelson, 1973), the social aspects of the environment are. Time spent in the company of adults is important, since adults can provide a more mature language model for children. Increasing the time spent interacting with adults enhances language development in the child (Clarke-Stewart, 1973; Nelson, 1973). Francis and Self (1982) compared the imitative responsiveness of children from low versus high child/caregiver ratio environments. The researchers believed that increased opportunity for interaction with adults would optimize learning. In their study, 24 subjects in a daycare setting (child/caregiver ratio of 10:1) and 24 subjects in a home care setting (child/caregiver ratio of 2:1) were compared on their skills for imitating verbal and physical cues. It was found that children in home settings displayed significantly more linguistic and gestural imitation than children in daycare settings. In as much as language

growth is influenced by imitation of language models, contact with adults can be considered important.

Variety offered in the physical and social environment is also a key variable in language acquisition. A daily routine rich in variety with frequent outings can foster language growth (Nelson, 1973). Variety in activities and materials provided also makes a difference (Clarke-Stewart, 1973; Elardo et al., 1977). If language is the medium through which we interact with our world, diversity of experience greatly increases the opportunity for language growth.

In addition, an environment that fosters play is important. Many of children's early life experiences come through play and the link between play and language development is strong. Play can (a) stimulate innovation in language use, (b) introduce new words and concepts, (c) motivate language use, (d) provide practice for language skills, (e) develop metalinguistic awareness, and (f) encourage verbal thinking (Levy, 1984). The provision of rich play opportunities for young children can enhance language growth.

Several characteristics of caregiver behaviour have been isolated that are reliably associated with superior child language development. Overall, the "optimal" caregiver is the one who is aware of a child's psychological state and appropriately responsive to it (Clarke-

Stewart, 1973; Elardo et al., 1977; Norman-Jackson, 1982; Olson et al., 1986; Taylor, 1979). There is a high level of verbal contact between caregiver and child. The optimal caregiver: (a) speaks freely in the company of the child, (b) allows the child to speak freely and to direct the conversation toward their own ends, and (c) listens to the child attentively and provides a high level of feedback, particularly positive feedback regarding the child's utterance (Dudley-Marling & Searle, 1988).

If we can outline the qualities of family life and early social experiences that lead to superior child language development, we can similarly do the opposite. Characteristics related to inferior language development can also be inferred. What are the implications of poor language-learning environments in childhood?

Many studies have investigated the relationship between language proficiency and school readiness or school performance. The results of these investigations have led to confusion regarding the nature and direction of this relationship (Gray, Sasaki, McEntire, & Larsen, 1980). The degree to which subject intelligence is controlled seems to influence the outcome of these studies. This indicates that language proficiency and general intelligence are not mutually exclusive. Language ability may cloud the ability to accurately measure school performance. Intelligence measures are heavily dependent on communication with

language for results. While they may be assumed to measure the degree to which a child assimilates the concepts taught in school, the child's ability to communicate a response to test items can drastically confound this assumption (Hunt, 1982). Children's proficiency with language does not necessarily affect what they can learn, but how they can express that learning to others.

That language development does not preclude overall learning ability does not minimize its importance. Much of the information and ideas that individuals are exposed to both in school and in other social arenas is imparted through language. Superior language ability can enhance the child's receptiveness to learning. Also, while measures of school performance may not accurately reflect concept mastery, they communicate information to the child about the self. Teachers, parents, and others begin to see the child as "successful" or as a "failure", which can influence their social interaction with the child. Interactions like these are the ones that influence a child's definition of self, and the self-image in turn, affects the child's life-long social interaction. Those individuals who can interact linguistically without problems improve their chances of developing social confidence (Hunt, 1961). Whereas language skill can be weakly linked to academic achievement, its primary importance lies in its allowing an individual to effec-

tively interact with the environment (Gray et al., 1980; Silva, 1980). Recognizing and fostering language development is a salient issue for parents, other caregivers, and professionals who work with child development issues.

Preschool language intervention programmes. Over the past three decades, preschool language intervention for language delayed children has been considered desirable. With the belief that, left unattended, language delayed children would later be more likely to suffer academic, social, and linguistic deficits, preschool intervention programmes were begun (Cole & Dale, 1986; Hammill & Larsen, 1974). The initial thrust began in 1965 in the United States with "Head Start", a result of the Economic Opportunity Act of 1964. Head Start provided preschool experiences to economically deprived children to better prepare them for public school (Berman, 1981). From there, a variety of programmes have been implemented and evaluated in an attempt to ameliorate preschool learning environments.

Karnes, Hodgins, Stoneburner, Studley, and Teska (1968) piloted a study aimed at improving the linguistic functioning in culturally disadvantaged three-year-olds by exposing them to a structured preschool programme. Twenty-nine subjects from an economically depressed area were selected and divided into control (n=14) and experimental (n=15) groups. The experimental group attended a struc-

tured preschool programme with materials and activities chosen to foster language development for two hours and 15 minutes a day, five days a week for seven months. The control group remained at home for this period with no specific treatment. Between group comparisons of pre- and posttest measures of intelligence (Stanford-Binet) and linguistic functioning (Illinois Test of Psycholinguistic Functioning [ITPA]; Kirk, McCarthy, & Kirk, 1968) revealed that the experimental group made significant gains in both measures over their control group counterparts.

In an expansion of this study, Karnes, Teska, and Hodgins (1970a) compared the effectiveness of four different preschool programmes at affecting positive change in subject's intellectual and language development. The programmes ranged on a continuum from a low to a high degree of structure. In ascending order of structure, the programmes were: (a) a traditional nursery school setting, (b) a community-integrated programme where children of lower socioeconomic status were integrated into traditional middle class nursery schools, (c) an official Montessori programme, and (d) a highly structured experimental preschool emphasizing language development. Ninety-two four-year-olds selected from economically disadvantaged families were randomly assigned to one of the four programmes. Subjects attended their assigned programme for two hours and 15 minutes a day, five days a week for an

average of seven months. Inter-group comparisons of pre- and posttest measures of intellectual functioning (Stanford-Binet), language development (ITPA), vocabulary comprehension (Peabody Picture Vocabulary Test [PPVT]; Dunn, 1965), and visual perception (Frostig Developmental Test of Visual Perception; Frostig, 1964) revealed significant improvement in all areas for the subjects in the experimental programme. Moderate gains in language development and vocabulary comprehension were found in subjects in the traditional nursery school programme. The least progress overall was exhibited in the Montessori programme.

Karnes, Teska, and Hodgins (1970b) examined a further aspect of preschool intervention programmes, the effectiveness of paraprofessional teachers. The researchers sought to determine whether paraprofessionals could implement a highly structured preschool programme through sustained inservice training and daily supervision by professional teachers. Black mothers and 16- and 17-year old high school students enrolled in a work-study programme were recruited as paraprofessionals. Professional teachers currently managing the preschool programme provided inservice training and continued supervision for the recruits. Pre- and posttest measures of intelligence (Stanford-Binet), language development (ITPA), visual perception (Frostig Developmental Test of Visual Percep-

tion), and school readiness (Metropolitan Readiness Test) were compared between: (a) two classes taught by professional teachers, (b) one class taught by black mothers, and (c) one class taught by high school students. It was found that all groups had made significant gains in all posttest measures, but no group made significant gains over another in any area. It was concluded that with supervision and an effective curriculum, preschool intervention programmes could be successfully implemented by volunteers.

Topley and Drennen (1980) conducted a study to determine whether a purely affective curriculum would affect cognitive performance in four- and five-year-olds. Subjects included 48 children attending an existing daycare centre. Half of the subjects were assigned to an experimental group that was exposed on a daily basis to a group interaction programme called "Magic Circle". The programme featured group activities designed to emphasize self-awareness and increase self-esteem. The remaining children served as a control group that carried on with established routines during this daily period. After 18 weeks, the two groups were compared on a pre- and posttest measure of cognitive development (ABC Inventory). Analysis of the data suggested that the affective training procedure resulted in significant positive gain on posttest measures of cognitive achievement.

Cole and Dale (1986) established two different language intervention programmes with language delayed preschoolers and sought to compare their relative effectiveness. The two programmes differed in their technique of language instruction. "Direct" intervention techniques emphasize teacher-elicited imitation with operant reinforcement methods, whereas "interactive" intervention techniques allow the child to assimilate language rules in a naturally-occurring social setting via modelling. Subjects were 44 language-delayed preschoolers randomly assigned to direct or interactive classrooms. Extensive measures of language development, including a battery of standardized tests as well as analysis of subject language samples, were made before and after intervention. Although the improvement of both groups was not significantly different, comparison of pre- and posttest scores between groups revealed that both styles of intervention resulted in significant posttest improvement.

Overall, the results of preschool intervention research have been mixed (Hammill & Larsen, 1974). The degree of effectiveness of different programmes varies greatly. A portion of this variability is due to the procedural differences employed in different projects. Studies vary in: (a) age of subjects at which intervention occurs; (b) total length of intervention; (c) demographic variables in subject populations; (d) delivery systems,

that are home-based or school-based; (e) degree of professionalism of staff interventionists; and (f) the style of curriculum, which are highly structured or more relaxed (Karnes & Teska, 1975). The combination of the nature of these variables found in individual studies make direct comparisons and evaluations difficult. On the whole, preschool language intervention for those children at risk appears to be warranted (Cole & Dale, 1986; Karnes & Teska, 1975).

Game-Oriented Activities for Learning (GOAL): A language development curriculum. One of the outcomes of the extensive research into preschool intervention programmes by Karnes was the development of a specialized cognitive development curriculum to be administered in preschool settings (Karnes et al., 1968; Karnes et al., 1970a, 1970b). The language development component of this curriculum, entitled GOAL Level I: Language Development, was designed for use with children between the ages of three and five years, mentally retarded children, or children for whom English is a second language of any age (Guide to the use of GOAL Level 1: Language Development, 1981). The curriculum was designed for use in any early childhood education centre.

The GOAL language development curriculum is based on the psycholinguistic theory of language development, which is used in the ITPA. This model divides language into 11

components and compares the language processing of an individual to a computer. "Input", or receiving information via the senses is followed by "internal processing of information" (how incoming information is processed in the brain). The final component is "output", which is verbal or gestural expression. The 11 components of language as they fit into the language processing model are defined as follows:

A. Input

1. Auditory Reception, or understanding what is heard.
2. Visual Reception, or understanding what is seen.

B. Processing information

1. Visual Sequential Memory, or the ability to remember in proper sequence what has been seen.
2. Auditory Sequential Memory, or the ability to remember in proper sequence what has been heard.
3. Visual Closure, or the ability to automatically complete a whole image when only part of it has been seen.
4. Auditory Closure, or the ability to complete auditory cues that have only partially been heard.
5. Grammatical Closure, or the ability to use and interpret syntax and grammatical constructs.

6. Auditory Association, or the ability to mentally manipulate, interpret and draw appropriate inferences or conclusions from information presented through the auditory channel.

7. Visual Association, or the ability to mentally manipulate, interpret and draw appropriate inferences or conclusions from information presented through the visual channel.

#### C. Output

1. Verbal Expression, or expressing oneself verbally.

2. Manual Expression, or expressing oneself through gestures (Karnes, Zehrbach & Teska, 1977).

The GOAL curriculum is made up of 289 model lesson plans based on one of the 11 subcategories of language development previously defined. Each lesson plan is explicitly detailed so that it may easily be followed by the teacher. The lesson plans include: (a) indication of the language processing subcategory, (b) lesson objective, (c) materials needed to conduct the activity, (d) exact procedure to be followed, and (e) suggestions of reinforcement and extension activities (see Appendix A for a sample lesson plan). The language activities follow a game-like format to maximize active participation. It is recommended

that activities be conducted in small groups of five to eight children for approximately 20 to 30 minutes per day. With proper training and supervision, the curriculum can be successfully implemented by paraprofessional teachers (Guide to the use of GOAL Level 1: Language Development, 1981).

### Volunteers

Once the notion is accepted that preschool language intervention is effective, the issue of staffing presents itself. Ideally, involved preschools hire professionals to conduct these programmes. Given the economic climate of the times, however, many preschools and daycare centres are financially unable to provide activities beyond routine child care tasks. One answer to this dilemma is to use volunteer workers to fill this void.

Carter (1975) conducted a large scale study on the nature and character of the volunteer sector in Canada. Carter surveyed Canadians nation-wide in an attempt to determine some characteristics of those individuals who do volunteer work and those who do not. Results of the study showed that, "more than half Canada's people are involved in some form of volunteer activity or charitable giving" (p. xix), and that these individuals are not limited to "the bored middle-aged housewife with time on her hands, lots of money, and a zealous desire to do good" (p. xix). Instead, Carter found that volunteers come from all walks

of life: wealthy and poor, old and young, highly educated and little educated; and that a far greater number of males do volunteer work than is commonly believed. The author concluded that Canada has a large and variable untapped volunteer force.

More than a decade has past since Carter's research. Ahwee (1985) outlined some trends in society that may affect volunteerism. Demographically, our society is getting older. An increase in the population of persons 65 years of age and older is significant. Many of these people are still vital and active yet retired from paid jobs. Volunteer work can provide a socially valued role away from paid employment. Economically, more women are entering the work force, which reduces the amount of their free time. In addition, there are greater numbers of people looking for work due to layoffs, a desire for change in career, or school graduation. With the increased difficulty in finding desired employment, volunteer work can offer experience, contacts, and resume material. Changes in attitudes and values at the more individual level may also affect volunteerism. For some, there has been an increased interest in self-improvement and quality of life that has changed the concept of leisure time. A desire for life-long growth and learning has fueled the fight for shorter work weeks and more productive leisure time.

As the social and economic climate of society changes, the dynamics of volunteerism may change. Volunteers have come from all sectors of society. Some of the stable motivations to volunteer include a desire to: (a) learn and improve skills and competence, (b) gain new experiences, (c) have fun and make new friends and acquaintances, (d) help others, (e) give of self and feel needed, (f) exert power and be involved in decision-making, (g) advocate chosen causes, (h) add to a resume, and (i) become more visible and socially mobile (Schindler-Rainman, 1985).

Volunteers have been used in the capacity of interventionists in early childhood education. One study addressed the question of whether or not paraprofessional volunteer staff could be trained to assume major responsibility for the implementation of a preschool intervention programme (Karnes et al., 1970b). Some children were taught by professional teachers, some by adult paraprofessionals, and others by teenaged paraprofessionals. The relative efficacy of each of the types of teachers was assessed by measuring the intellectual gain of the children they taught. Intellectual gain was assessed by a battery of intelligence, language development, and school readiness tests. It was found that all three groups made substantial progress, and that the progress was very nearly equal across all three groups. This study lends support to the idea of using paraprofessional volunteers in the preschool.

A further study suggested using well-trained volunteers to perform routine tasks in a school learning disabilities programme to save the teacher's time so they could put their skills to other uses to increase the quality of the overall programme (Cordoni, 1980). Volunteers were trained to conduct prescribed activities with specific children on a daily basis. Pre- and posttest measures of academic achievement showed greater gains in the children as compared to previous years without volunteer participation. The researcher outlined some of the direct advantages and disadvantages of adding volunteers to the staff of such a programme. Some advantages were: (a) the development of one-to-one relationships between volunteer and child, (b) progress could be more easily monitored and responses could be corrected or reinforced more quickly, (c) more supervision was available to control disruptive behaviour, (d) more hands expedited work, (e) children were able to relate to adults other than parents or teachers, (f) volunteers brought in new ideas and talents, (g) more children could benefit from the programme, and (h) volunteers brought increased awareness of the programme to the community. Some of the disadvantages of the plan included: (a) the need to develop more explicit lesson plans, (b) the need for close supervision of volunteers at first, (c) the need to develop lesson

plans around the abilities of volunteers and (d) the need to reorganize routines.

According to Nicoletti and Flater (1975) and Weinstein, Gibbs, and Middlestadt (1979), volunteers can be a valuable resource in preschool or other settings if they are managed and used effectively. To maximize benefits for both the system and the volunteer, the following conditions should be met. First, thoughtful consideration must be given to placing a volunteer. Their interests, abilities and motivations for volunteering must all be considered and satisfied in a placement. Second, explicit job descriptions and expectations must be set down and made clear to the volunteer before and throughout their term. Third, thorough training must be provided to the volunteer to allow them to comfortably perform all responsibilities and meet all expectations. Finally, there must be continuous, reciprocal feedback regarding the volunteer's performance and frequent displays of appreciation for a job well done.

A thoughtful and effective volunteer programme can provide valuable payoffs to both the community and the volunteer. The community and involved agency may benefit when volunteers provide additional resources that can: (a) increase input and generate new ideas, (b) decrease the workload of paid staff, and (c) improve both the quality and quantity of community services (Schindler-Rainman, 1985). For the volunteer, the direct benefits can be even

greater. A quality volunteer placement can offer new experiences that improve self-image, teach new skills, make new friends, add to a resume, help deal with life changes such as divorce, widowhood or retirement, and improve interpersonal skills (Fretz, 1979; Garcia, Clark & Walfish, 1979; Schindler-Rainman, 1985).

#### Summary

A review of the literature has demonstrated the importance of language in our society. Human contact, especially in the form of family, is the primary influence on language development in children. Where this contact is less than ideal, language growth may be impaired in children, increasing the risk of future social and academic difficulty. Such a situation can be improved however, through preschool intervention programmes offering structured human contact aimed at fostering language growth. To offset the potential economic costs of such intervention, volunteers may be used effectively.

### Statement of the Problem

The purpose of this study was to design, implement, and evaluate a language enrichment programme conducted by volunteers in a daycare setting. The following research questions were addressed: Would children participating in such a programme demonstrate improved levels of language development? Could volunteers effectively conduct such a programme?

### Goals of the Study

The goals of the study were as follows:

1. To select a language development curriculum appropriate for administration by volunteers.
2. To organize and conduct a training session for participating volunteers.
3. To supervise volunteers throughout the implementation of the selected curriculum.
4. To obtain pretest and posttest scores of the language development of subjects and to analyze this data in a meaningful way.

### Delimitations of the Study

The study has the following delimitations:

1. Experimental subjects consisted of children enrolled in the Day Nursery Centre Kennedy Unit for the year 1984-85.

2. Control subjects consisted of children enrolled in the Day Nursery Centre Broadway Unit for the year 1984-85.

3. All participating volunteers were those selected by the Day Nursery Centre volunteer co-ordinator and trained by the experimenter.

4. All language development activities conducted by volunteers were conducted as outlined in the language enrichment curriculum, Game Oriented Activities for Learning (GOAL).

#### Limitations of the Study

The limitations of this study are as follows:

1. There are no matched controls in the study so maturity, learning abilities, and influencing life experiences may differ between groups.

2. Subjects were not randomly selected from a broad population.

3. The time-frame for the project was relatively short.

4. The sample size for both the experimental and control group was relatively small.

5. The reality of the daycare environment prevented posttesting from occurring completely as proposed.

#### Assumptions of the Study

The following assumptions were made for this study:

1. The children fully comprehended the instructions for all language development testing and responded appropriately based on that understanding.

2. The volunteers conducted their language enrichment activities and record-keeping activities in accordance with the training they received.

### Definitions

The following operational definitions were adopted for the purposes of this study:

1. Language. A language is a shared system of signals used by members of a given society for the purpose of communicating thoughts and ideas to each other.

2. Language development or language acquisition. Language development or acquisition refers to the process whereby an individual's ability to effectively use language grows to a more advanced state.

3. Family. A family is any group of individuals who live together in a common household with the shared goal of maintaining that household over time.

4. Primary care-giver. A primary care-giver refers to the individual or individuals who spend the greatest amount of time attending to the physical and psychosocial development of a given child.

5. Intervention. Intervention refers to the act of

attempting to modify or prevent a course of development from taking place as it would have if left alone.

6. Language enrichment programme. A language enrichment programme is an educational programme designed to offer specific experiences that are thought to foster language development.

7. Volunteer. A volunteer is any individual who freely chooses to undertake a specific job in the community with no expectation or provision of monetary reward for their services.

#### Hypotheses of the Study

Based on the review of the literature, specifically on the theories of language development cited, it was hypothesized that significant differences in language development would be revealed between those children who participated in a volunteer-run language enrichment programme and those who did not. The behaviourist, cognitivist, and sociological theories all postulate that the pattern of child language development may be influenced by environmental experience. For the purposes of this investigation then, it was hypothesized that, first, children participating in such a programme would demonstrate significant increases in measures of language development as compared to those who did not participate in such a programme. Second, it was hypothesized that a

significant positive correlation would be found between the amount of language enrichment received and performance in subsequent measures of language development.

### Research Design

This demonstration project took place at the Broadway and Kennedy Units of Day Nursery Centre. The Gretta Brown Unit was involved in a health education programme running concurrently with this project. To avoid any influencing factors that the health education programme may have had on language development, the Gretta Brown Unit was not selected for participation in this project.

The present study used a classical experimental design with one experimental group and one control group. The experimental group received a 15-week language enrichment curriculum (GOAL) implemented by volunteers, whereas the control group received no language curriculum. Because the research took place in a naturally-occurring social setting, true randomization of groups was not possible. The Broadway Unit had the least-developed volunteer programme of the two participating units. To avoid reducing existing services at the Kennedy Unit, Broadway was selected as the control group (n=12). Kennedy served as the experimental group (n=16).

Subjects in both the control and experimental groups received a pre- and posttest measure of language develop-

ment (PPVT) plus a posttest-only measure of receptive and expressive language ability (ITPA) was administered to randomly selected subjects in both groups. The reality of the daycare setting limited both the time and space available for testing. Because the PPVT is relatively simple to administer, it was chosen to be administered to all subjects as a pre- and posttest. The ITPA would have been a more sensitive measure of language development than the PPVT for the purposes of this investigation. It measures more aspects of language development than the PPVT, and the GOAL curriculum which was used in this study, is directly based on the same model of language development as the ITPA. However, the ITPA is a lengthy test to administer, and given the time and space restrictions imposed by the daycare, it could not be given in its entirety as a pre- and posttest to all subjects in both groups. However, as an added control of testing effects, five subtests of the ITPA were randomly selected for administration to randomly selected subjects in the control (n=10) and experimental (n=15) groups at post-testing only.

#### Analysis of the Data

Nonparametric statistics were used to analyze the data collected in this study. Small sample size made assumptions of normal population distribution uncertain.

Nonparametric statistics are less powerful than parametric statistics, but they do not require that any assumptions be made regarding the shape of a distribution. The statistics chosen for analysis were as follows:

1. The Kruskal-Wallis H test was used to directly compare the performance of the two groups on both measures of language development (PPVT and ITPA). The Kruskal-Wallis H test is a distribution-free test based on ranks that is used to compare the locations of two or more independent samples (Welkowitz, Ewen, & Cohen, 1976). It is analogous to the parametric one-way analysis of variance used to test null hypotheses about the differences between the means of independent samples. The null hypothesis states that the groups are the same. In the present study, the Kruskal-Wallis H test was used in the following three ways:

(a) Pretest PPVT scores were compared between groups to test for equivalence of groups at outset. Establishing that the two groups did not differ significantly in PPVT scores before the study began aids in drawing inferences regarding future comparisons of posttest scores.

(b) Posttest PPVT scores were analyzed to assess the possible differences between the control and experimental groups on the PPVT following the implementation of the language enrichment curriculum.

(c) Posttest scores of each of the five subtests of the ITPA were individually analyzed to assess the possible differences between the control and experimental groups on the ITPA subtests following the implementation of the language enrichment curriculum.

2. The Spearman-r rank order correlation coefficient gives the relationship between two continuous variables, each of which has been independently ranked. It is analogous to the parametric Pearson-r correlation coefficient (Welkowitz et al., 1976). Scores obtained from the calculation of the Spearman-r range on a continuum from -1.0, which indicates a perfect negative relationship to +1.0, which indicates a perfect positive relationship. A score of zero indicates no relationship. In the present study, the Spearman-r rank order correlation coefficient was used to determine the strength and direction of any relationship existing between subject's attendance at specific language enrichment activities and their posttest scores on corresponding subtests of the ITPA. All tests for significance used a two-tailed, .05 level of significance.

## Chapter 3

### Methods of Procedure

#### Sample

The parents of all children enrolled in the Broadway (n=30) and Kennedy (n=30) Units were issued a written request for permission for their child's participation in the study (see Appendix B). All children for whom parental permission was granted were selected as subjects. The control group had an original sample of 16 two-, three- and four-year-olds. At posttesting, four of the 16 subjects were no longer enrolled at Day Nursery Centre, leaving a final sample of 12 children. At the outset of the study, the mean age of subjects was three years, 10 months with a range of two years, seven months to four years, 10 months and a standard deviation of 7.85 months. Of the 12 subjects, eight were male and four female.

The original experimental group consisted of 22 two-, three-, four-, and five-year-olds. At posttesting, five of the subjects were no longer enrolled at Day Nursery Centre, and one was consistently absent on testing days due to illness, leaving a final sample of 16 children. At the outset of the study, the mean age of subjects in the experimental group was three years, 11 months with a range of two years, five months to five years, six months and a standard deviation of 10.71 months. Of the 16 subjects, seven were male and nine female.

## Recruitment and Training of Volunteers

Ten volunteers were recruited by the existing volunteer co-ordinator of Day Nursery Centre in accordance with a job description provided to him by the experimenter (see Appendix C). These volunteers consisted of nine females and one male between 19 and 30 years of age. The mean age of volunteers was 21.7 years. All volunteers were full time university students pursuing undergraduate degrees. All of the volunteers continued with the project until its completion. Sex, age, and attendance of volunteers is presented in Table 1.

Table 1

### Sex, Age, and Attendance of Volunteers

Volunteer	Sex	Age (yrs.)	Sessions Attended
1	F	19	13 (87%)
2	F	21	12 (80%)
3	F	20	11 (73%)
4	F	21	13 (87%)
5	F	19	13 (87%)
6	F	20	13 (87%)
7	M	21	12 (80%)
8	F	24	11 (73%)
9	F	30	12 (80%)
10	F	22	12 (80%)

In October, 1984, all volunteers underwent a three-hour training session conducted by the experimenter. The training session followed a pre-outlined format (see Appendix D). The volunteers were briefly introduced to the project. Although they were told that they would be a part of a research project of a 15-week duration and would be providing language enrichment to children, they were not informed of the study's design or hypotheses. They were strongly encouraged to maintain their commitment for the duration of the study. The physical layout, daily routine, and child management ideals of Day Nursery Centre were explained to the volunteers. The remainder of the workshop was spent teaching the volunteers about the GOAL curriculum, including its history, its content, and practice at conducting selected activities.

#### Implementation of the Curriculum

The ten volunteers were divided into five pairs based upon their time availability. Each pair was assigned one half-day per week to implement one section from the GOAL curriculum. This established a fixed schedule of events for the 15-week language development programme. Table 2 outlines the assignment of volunteer responsibilities.

Table 2

Assignment of Volunteer Responsibilities

Volunteers	Assigned Time	Assigned Curr. Sections
1 and 2	Monday, A.M.	Visual Reception Auditory Reception
3 and 4	Tuesday, A.M.	Visual Association Auditory Association
5 and 6	Wednesday, P.M.	Visual Closure Auditory Closure Grammatic Closure
7 and 8	Thursday, A.M.	Visual Sequential Memory Auditory Sequential Memory
9 and 10	Friday, P.M.	Manual Expression Verbal Expression

Each volunteer was free to select any activity they wished from their section of the curriculum. A total of 63 activities from the GOAL curriculum were presented in the 15-week period. The presentation of activities is presented in Table 3.

Table 3

Presentation of Curriculum Activities

Curriculum Section	Activities Available	Frequency of Presentation
Visual Reception	35	7
Auditory Reception	35	6
Visual Association	35	8
Auditory Association	35	5
Visual Closure	11	6
Auditory Closure	11	3
Grammatic Closure	23	4
Visual Sequential Memory	11	6
Auditory Sequential Memory	11	6
Manual Expression	23	7
Verbal Expression	<u>59</u>	<u>5</u>
TOTAL =	289	63

On their assigned day, volunteer pairs assembled a group of approximately five to seven children. They moved the group to a "quiet zone" of the daycare space and conducted their chosen activity. Activity periods ran from 10 to 15 minutes for two- and three-year-old children and 15 to 20 minutes for four- and five-year-old children. Participation on the part of the children was completely

voluntary. Volunteers repeated their chosen activity for the day until all children who wanted to participate had done so. Records were kept daily on which activity was conducted and which children attended. (See Appendix E for subject attendance data).

For the same 15-week period, subjects in the control group continued with daily routines as usual. Volunteers were occasionally present in the daycare setting, but their activities were not structured and organized to the same degree that they were in the experimental group. Basically, they assisted staff members in the management of daily routines and provided episodic assistance to children as needs arose.

#### Instrumentation of the Language Tests

The Peabody Picture Vocabulary Test (PPVT). The revised edition of the PPVT (Dunn & Dunn, 1981) was administered to the control and experimental groups at pre- and posttesting. Two parallel versions of the test are provided to control the testing effect. Form L was administered at pretesting and Form M at posttesting. The purpose of the PPVT is to measure verbal intelligence through hearing vocabulary.

Materials included in the PPVT are: (a) a book of 150 picture plates of four pictures per plate, (b) individual subject score sheets, and (c) a tester's manual. Subjects

are instructed by the tester to look at the picture plate presented and place their finger on the box corresponding to the test word spoken by the tester. The tester records the subject's response on the test sheet for each item. Subjects were encouraged through the test by verbal praise from the tester.

Both the original and revised edition of the PPVT were developed by Lloyd Dunn, a Professor of Special Education at the University of Hawaii, and Leota Dunn, a psychometric examiner with a degree in elementary education. The original PPVT was developed between 1956 and 1959 as a measure of hearing vocabulary that did not require reading or oral responses making it nonbiased for subjects with related disabilities. Words that could be clearly represented by a line drawing were selected from a dictionary for inclusion in the PPVT. The test words and drawings were repeatedly field tested and refined. The final version of the PPVT was standardized using a sample of white children in a small geographical area of the United States.

The revised edition of the PPVT was developed and standardized between 1976 and 1980. All drawings from the original version were reviewed and revised to correct any racial, regional, or sexual biases. The test was expanded in length to increase sensitivity and a larger, nationally

representative sample of children and adults was selected for standardization.

According to Dunn and Dunn (1981), the split-half reliability of Form L of the PPVT is .80 and .81 for Form M. The alternate forms reliability based on an immediate retest is reported as .79. Administration of the PPVT results in a raw score (based on number of items correct) which, in combination with the subject's chronological age, can be translated into: (a) a standard score equivalent (comparison of a subject's score with the scores of the standardization sample, a score of 100 being "average"), (b) a percentile rank (the percentage of subjects in the standardization sample scoring below the testee's score), (c) a stanine (a number from one to ten indicating the testee's performance in comparison with the standardization group, five being "average"), and (d) an age equivalent (the chronological age at which the testee is performing in comparison with the standardization sample).

The Illinois Test of Psycholinguistic Abilities (ITPA). The revised edition of the Illinois Test of Psycholinguistic Abilities (Kirk, McCarthy, & Kirk, 1968) was administered in part to randomly selected members of the control and experimental groups at posttesting. The complete ITPA is designed to measure receptive and expressive language in children and consists of 10 main subtests and two supplementary subtests. For the purposes

of this investigation, five subtests were randomly selected for administration to subjects and these included: Auditory Association, Visual Association, Verbal Expression, Grammatical Closure, and Manual Expression. Each subtest is administered separately using separate materials and procedures.

The ITPA was developed by S. A. Kirk, Professor of Special Education at the University of Arizona, J. J. McCarthy, Professor of Studies in Behavioural Disabilities at the University of Wisconsin, and W. D. Kirk, former Professor of Speech and Hearing at the University of Arizona. Development of the ITPA began in 1950 to evaluate receptive and expressive language in children. The authors generated a model of children's communication skills, dividing language into 11 components and comparing language processing to a computer. The authors developed separate subtests corresponding to the components of the language model. The revised edition was published in 1968, which expanded on the original version (Kirk, et al., 1968).

The Auditory Association subtest measures the ability to relate information received via the auditory channel in a meaningful way. The subtest consists of 42 test items where the subject is required to complete an analogy presented by the tester; for example, "A daddy is big, a baby is \_\_\_\_.". The tester records whether the subject's response to each item was correct or incorrect.

The Visual Association subtest measures the ability to relate visually received stimuli in a meaningful way. There are 42 test items, each consisting of five line drawings. The subject is required to look at the indicated drawing and choose from the remaining four the one that relates the most meaningfully to it. The tester records which drawing the subject selects.

The Verbal Expression subtest measures the ability to express oneself vocally. The subtest consists of five objects: a nail, a ball, a block, an envelope, and a button. The tester presents each item in turn to the subject with the instruction, "tell all about this". All of the subject's subsequent vocalizations are recorded.

The Grammatical Closure subtest measures the degree to which the subject can automatically handle syntax and grammatical inflections. There are 33 test items each involving two line drawings. The tester points to the first drawing and makes a statement about it; for example, "Here is a bed". The tester then points to the second drawing and makes an incomplete statement about it requiring the subject to complete the statement; for example, "Here are two \_\_\_.". The tester records whether the subject's response to each item was correct or incorrect.

The Manual Expression subtest measures the ability to express ideas manually. The subtest consists of photo-

graphs of 15 common items. The tester presents each photograph in turn to the subject and asks them to show what is done with the objects by pretending to use real objects. The tester records which behaviours were demonstrated. In addition to the materials required for the administration of each subtest, the ITPA consists of individual score sheets for each subject for each subtest and an examiner's manual.

Test-retest reliability across all subtests of the ITPA ranges from .28 to .90 with a median of .71. Administration of the ITPA results in a raw score for each subtest which, in combination with the subject's chronological age, can be translated into a scaled score norm which compares the subject's score with norms of same-aged peers. A scaled score norm of 36 is considered "average" performance.

#### Administration of Pre- and Posttests

Subjects in the experimental and control groups were given the PPVT form L as a pretest of language development. All tests were administered by a professional tester who was blind to the experimental design and hypotheses. All tests were administered in a separate room in the daycare where only the tester and the subject were present. Subject names were coded onto the score sheets to preserve

anonymity. All pretests were administered within a one-week period.

At the conclusion of the language enrichment programme, subjects in the experimental and control groups received the PPVT form M as a posttest of language development. The ITPA was also administered to subjects in both groups as an additional measure of language development. Unanticipated constraints on time and physical space on the part of daycare staff at both units made the administration of the ITPA in its entirety to all subjects impossible. To achieve an acceptable compromise, five of the 11 subtests of the ITPA were randomly selected by the experimenter for administration.

Ten subjects from the control group, and 15 subjects from the experimental group were randomly selected by the experimenter to receive these subtests. All posttests were administered in identical fashion as the pretests by the same tester. After all subjects had received the PPVT-M, the five subtests of the ITPA were administered to the selected subjects. All posttests were administered within a 10-day period.

## Chapter 4

### Results

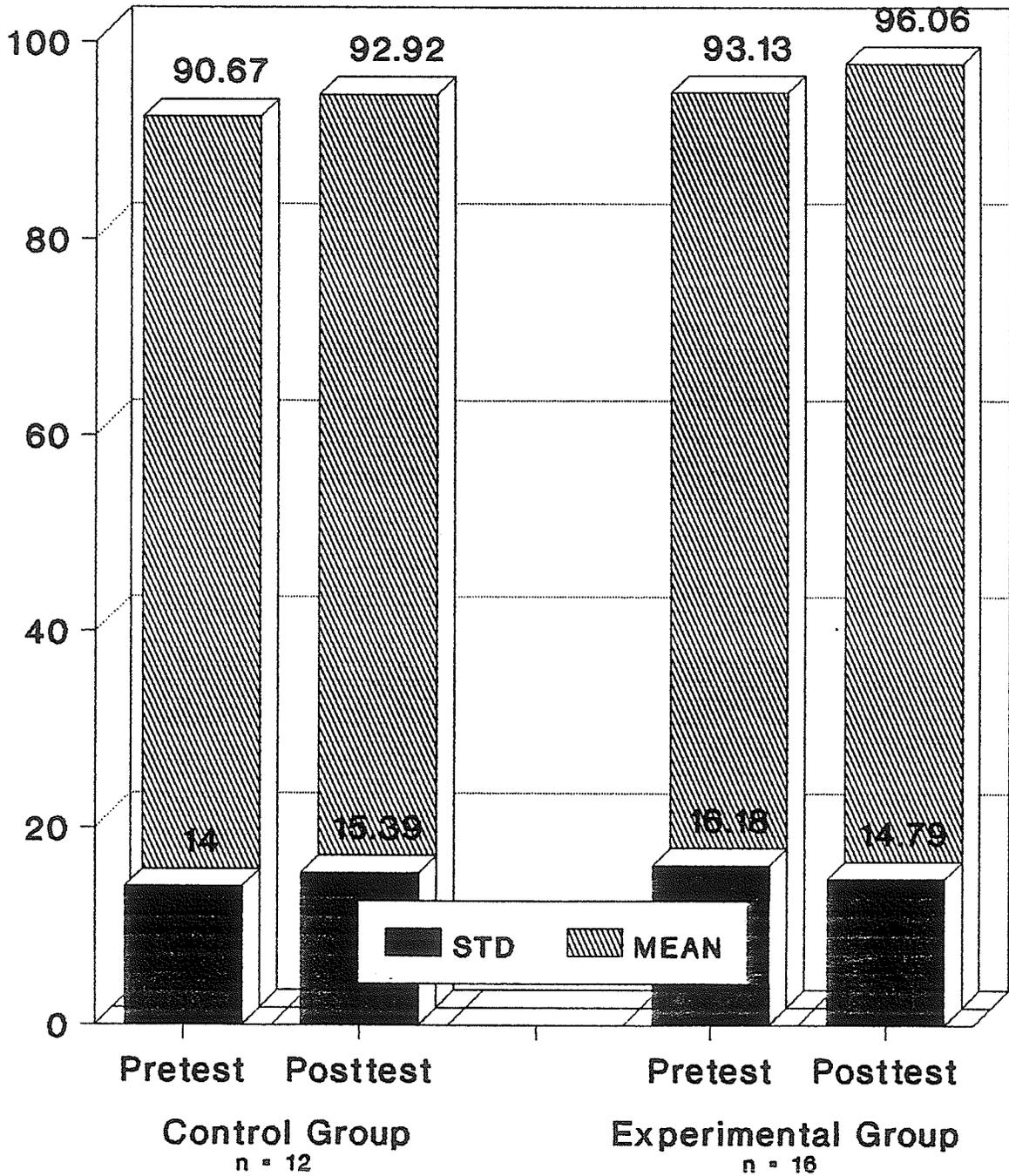
#### Descriptive Statistics

The mean and standard deviation were calculated for each group for pre- and posttest PPVT standard score equivalents, ITPA posttest raw scores and language activity attendance scores. The mean PPVT score at pretesting was 90.67 for the control group with a range of 60 to 106, and 93.13 for the experimental group with a range of 59 to 114. The standard deviations for the PPVT pretests were 14.00 for the control group and 16.18 for the experimental group.

For posttest scores, the mean PPVT for the control group was 92.92 with a range of 63 to 110, and 96.06 for the experimental group with a range of 64 to 116. Standard deviations of posttest PPVT scores for the control and experimental groups were 15.39 and 14.79, respectively. Figure 1 represents in bar graph form the mean pre- and posttest PPVT scores for the control and experimental groups.

In order to better analyze the PPVT scores from pretest to posttest, a "difference score" was calculated for each subject in each group. This score was obtained by subtracting each subject's pretest score from their posttest score. A positive difference score represented an increase from pretest to posttest while a negative score represented a decrease. The mean difference score for the

Figure 1  
 PPVT Scores at  
 Pretest and Posttest

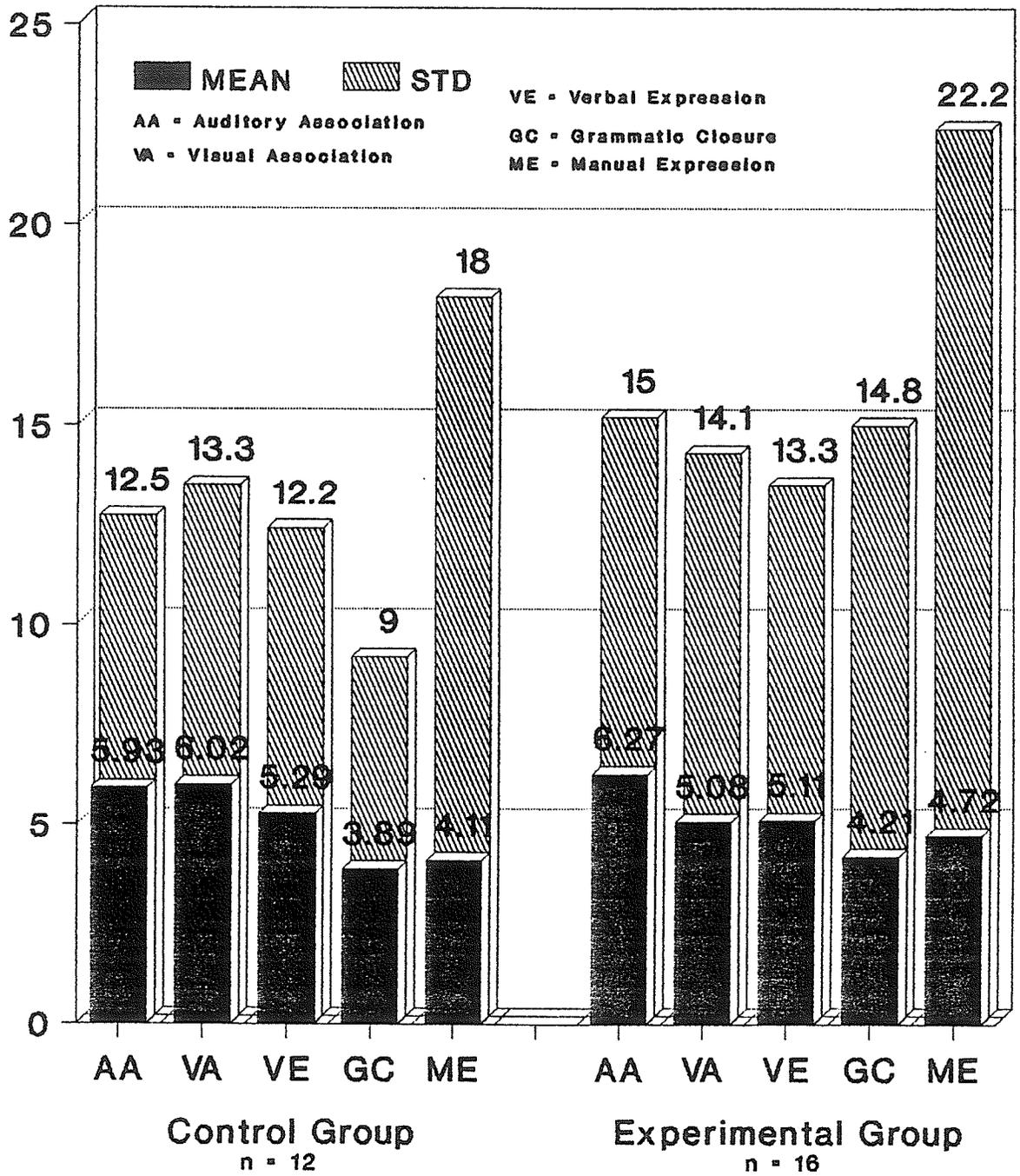


control group was +2.25 and +2.94 for the experimental group. The standard deviations of the difference scores for the control and experimental groups were 10.81 and 11.02, respectively. Both groups displayed a mean increase in score from pretest to posttest. (See Appendix F for all PPVT scores for the control and experimental groups).

The five subtests of the ITPA administered at posttest only were analyzed in a similar way to that of the PPVT. Means and standard deviations were calculated for each subtest for each group. In the control group, Auditory Association had a mean of 12.5, a standard deviation of 5.93, and a range of 5 to 22; Visual Association had a mean of 13.3, a standard deviation of 6.02, and a range of 6 to 22; Verbal Expression had a mean of 12.2, a standard deviation of 5.29, and a range of 4 to 15; Grammatical Closure had a mean of 9.0, a standard deviation of 3.89, and a range of 5 to 17; and Manual Expression had a mean of 18.0, a standard deviation of 4.11, and a range of 11 to 23.

In the experimental group, Auditory Association had a mean of 15.0, a standard deviation of 6.27, and a range of 5 to 31; Visual Association had a mean of 14.1, a standard deviation of 5.08, and a range of 6 to 25; Verbal Expression had a mean of 13.3, a standard deviation of 5.11, and a range of 6 to 26; Grammatical Closure had a mean of 14.8, a standard deviation of 4.21, and a range of 6 to 23; and

Figure 2  
ITPA Subtest Scores for the  
Control and Experimental Groups



Manual Expression had a mean of 22.2, a standard deviation of 4.72, and a range of 14 to 30. Figure 2 represents in bar graph form the mean scores and standard deviations of the five subtests of the ITPA for the control and experimental groups.

Records were kept for each subject in the experimental group detailing the number of language enrichment activities attended and the language category to which the activity belonged (see Appendix E). Means and standard deviations were calculated for attendance in each language enrichment subsection. A total of 63 activities were presented by the volunteers throughout the project. The mean number of activities attended by each subject was 41.27 with a standard deviation of 13.43 and a range of 16 to 61. Of the total activities conducted, 8 pertained to Visual Association, 5 to Auditory Association, 4 to Grammatic Closure, 7 to Manual Expression, and five to Verbal Expression. Means, standard deviations, and ranges for attendance at each of the five subcategories were as follows: Auditory Association had a mean of 3.27, a standard deviation of 1.53, and a range of 1 to 5; Visual Association had a mean of 5.33, a standard deviation of 1.76, and a range of 2 to 8; Verbal Expression had a mean of 2.87, a standard deviation of 1.55, and a range of 0 to 5; Grammatic Closure had a mean of 2.27, a standard deviation of 1.49, and a range of 0 to 4; and Manual

Expression had a mean of 4.53, a standard deviation of 2.29, and a range of 0 to 7. Table 4 represents the total activities conducted, and the mean, standard deviation, and range for subject attendance for each of the five subsections of the GOAL curriculum involved in ITPA data analysis.

Table 4

Mean, Standard Deviation, and Range for GOAL Activities Attended

GOAL SUBSECTION	ACTIVITIES CONDUCTED	<u>SUBJECT ATTENDANCE</u>		
		MEAN	SD	RANGE
Auditory Association	5	3.27	1.53	1-5
Visual Association	8	5.33	1.76	2-8
Verbal Expression	5	2.87	1.55	0-5
Grammatic Closure	4	2.27	1.49	0-4
Manual Expression	7	4.53	2.29	0-7

Test of Hypotheses

The first stage in data analysis was to ensure that the control and experimental groups were "equivalent" at the pretest. Knowing that the two groups were not significantly different in measured levels of language development at outset simplifies the explanation of any measured changes noted after the completion of the study.

A Kruskal-Wallis H test was performed on the pretest PPVT scores for the experimental and control groups. An H value of 0.1558 assessed at the .05 significance level demonstrated no significant difference. The control and experimental groups were, therefore, not significantly different on language development at the outset.

In order to test the hypothesis that the subjects exposed to the language enrichment programme would show significant improvement over subjects not exposed to the programme, the second stage in data analysis involved comparing the control and experimental groups in their response to treatment. Following the implementation of the language enrichment curriculum in the experimental group and the administration of the posttest PPVT in both groups, a difference score was calculated for each subject. This score was obtained by subtracting the subject's pretest score from their posttest score. A Kruskal-Wallis H test was performed on the difference scores for the control and experimental groups to test for equivalence of response to treatment. An H value of 0.0538 assessed at the .05 significance level revealed no statistically significant differences. Contrary to the original hypothesis, the experimental group did not display significantly higher posttest scores as compared to the control group following the implementation of the language development curriculum.

In addition to the PPVT, randomly selected subjects in both groups also received five subtests of the ITPA as posttest measures of language development. To compare the performance of the control and experimental groups on these subtests, a Kruskal-Wallis H test was performed on each of the five subtests. The Auditory Association subtest resulted in an H value of 0.6923, which was not significant at the .05 significance level. Visual Association had an H value of 0.2225 which was also not significant at the .05 level. Verbal Expression, with an H value of 3.351 was also insignificant at the .05 level. Grammatical Closure with an H value of 9.139 and Manual Expression, with an H value of 4.443 were both found to be statistically significant at the .05 level. The experimental group then, did not perform significantly better than the control group on posttest measures of Auditory Association, Visual Association or Verbal Expression. The experimental group did score significantly better than the control group on posttest measures of Grammatical Closure and Manual Expression. Table 5 represents the Kruskal-Wallis H values for the PPVT and the five ITPA subtests.

Table 5

Kruskal-Wallis H Values for the PPVT Pretest, PPVT  
Difference Score, and the ITPA Subtests

MEASURE OF LANGUAGE DEVELOPMENT	KRUSKAL-WALLIS H
PPVT	
Pretest	0.1558
Difference Score	0.0538
ITPA	
Auditory Association	0.6923
Visual Association	0.2225
Verbal Expression	3.351
Grammatic Closure	9.139*
Manual Expression	4.443*

\*  $p < .05$

Detailed records were kept throughout the duration of the language development curriculum including the numbers of activities attended by each subject and to which subcategory of language development the activity belonged. In order to assess any correlation between numbers of activities attended in each subcategory and resulting score on posttest measures, a Spearman-r rank order correlation coefficient was calculated, and scatterplot diagrams constructed for each of the five ITPA subtests (see Appendix G). The resulting correlation coefficients were as follows: Auditory Association was +0.29; Visual Association was +0.24; Verbal Expression was +0.37;

Grammatical Closure was +0.25 and Manual Expression was +0.79. Whereas all of the correlation coefficients were positive in value as originally hypothesized, the only one to be considered statistically significant at the .05 significance level was Manual Expression. Table 6 represents the Spearman-r correlation coefficients for each of the ITPA subcategories.

Table 6

Spearman-r Rank Order Correlation Coefficient Relating GOAL Activity Attendance with Posttest ITPA Subcategory Score

ITPA SUBCATEGORY	SPEARMAN-r
Auditory Association	+0.29
Visual Association	+0.24
Verbal Expression	+0.37
ITPA SUBCATEGORY	SPEARMAN-r
Grammatical Closure	+0.25
Manual Expression	+0.79*

\* p < .05

The original hypotheses of the study, that subjects participating in the language development curriculum will score significantly better in posttest measures of language development than those who did not participate; and that

a significant positive correlation will exist between attendance in language activities and resulting posttest scores have been only partially supported by the data collected in this study. The experimental group did not score significantly better at posttesting than the control group on the PPVT nor on the ITPA subtests, Auditory Association, Visual Association, or Verbal Expression. The experimental group did, however, score significantly better than the control group in posttest scores of Grammatical Closure and Manual Expression. Regarding the second component of the hypotheses, positive correlations were found between attendance in language activities and scores in corresponding posttests. The only correlation coefficient that could be considered statistically significant however, was Manual Expression.

## Chapter 5

### Discussion

#### Effects of Curriculum Implementation on Language Development

The present study hypothesized that an organized, volunteer-run language enrichment curriculum would positively affect the language development of those children exposed to it. Analysis of collected data reveal partial support for this hypothesis.

The Kruskal-Wallis H test performed on PPVT pretest scores for the control and experimental groups revealed no significant difference between the two groups at the study's outset. According to Dunn and Dunn's (1981) classifications, the mean scores of subjects in both groups could be classified as representing "low-average" levels of language development for chronological age. While the two groups were similar at outset in level of language development, no effort was made to select subjects based on their level of language development as was the procedure followed by Cole and Dale (1986); nor were subject groups carefully matched on other variables such as race, socioeconomic status, age, sex, or IQ as was done consistently in Karnes' work (Karnes et al., 1968; Karnes et al., 1970a, 1970b).

The statistical comparison of PPVT difference scores between the control and experimental groups revealed no

significant change in scores between the groups following the administration of the language enrichment programme. In this respect, the present study did not support the hypothesis that subjects exposed to the language enrichment programme would demonstrate significantly larger difference scores in a positive direction than those subjects who were not exposed to the programme. The PPVT is specifically a measure of a subject's receptive vocabulary (Dunn & Dunn, 1981). While receptive vocabulary is one major component of language, it does not define it completely. The language enrichment programme administered by the volunteers encompassed many other aspects of language. In this respect, the PPVT cannot be considered the most sensitive measure of what was being presented to and assimilated by the subjects.

Other studies of a similar nature did support hypotheses of language enrichment programmes facilitating improved language development as measured by posttest PPVT scores (Cole & Dale, 1986; Karnes et al., 1970a). Procedural differences between these and the present study may account for the difference in results. The intervention programmes conducted by Cole and Dale and by Karnes et al. ran on a daily basis for a period of eight months. The present study ran on a daily basis for just under four months. In a review of research projects focusing on preschool cognitive intervention, Karnes and Teska (1975)

concluded that programmes should run for at least one year to affect maximum change. It is not unlikely then, that the present study was not long enough, or given enough of a chance to effect a noticeable change in receptive vocabulary specifically.

Posttest-only scores of five subtests of the ITPA were also statistically compared between groups. The reason for this comparison was to test the hypothesis that subjects exposed to the volunteer-run language enrichment programme would score significantly higher on each of the five subtests than those subjects who were not exposed to the programme. No significant difference was found between control and experimental subjects on Auditory Association, Visual Association, or Verbal Expression, whereas subjects in the experimental group did score significantly higher than posttest subjects on Grammatic Closure and Manual Expression. A lack of previous research using only selected portions of the ITPA rather than a combined score based on results of all the subtests combined, makes direct comparisons between this and previous works difficult.

In a review of studies using ITPA scores as a criterion of language improvement, Hammill and Larsen (1974) concluded that the subcategories of language development measured by the ITPA are differentially responsive to treatment. In particular, teaching specific language skills (training) seems to be most successful at

the "output" level of the ITPA language model, which includes Verbal and Manual Expression. In contrast, the least success was associated with training at the "information processing" level, which includes: (a) Visual and Auditory Sequential Memory; (b) Visual, Auditory, and Grammatical Closure; and (c) Auditory and Visual Association.

The results of the present study partially support the conclusions drawn by Hammill and Larsen (1974). These researcher's conclusions suggested that no significance would be found in posttest comparisons of Auditory Association, Visual Association, and Grammatical Closure. In the present study, no significance was found for Auditory or Visual Association, but Grammatical Closure was found to be significant. Similarly, Hammill and Larsen's findings suggested that significance would be found for Verbal and Manual Expression. In the present study, Manual Expression was found to be significant, whereas Verbal Expression was not.

The underlying "trainability" of the ITPA subcategories as postulated by Hammill and Larsen (1974) may partially account for the pattern of results found in the present study. Other factors, however, may have been influential. No control was exercised over the volunteers to ensure that they were following the curriculum activities exactly as outlined. In an activity designed to foster verbal expression, for example, the volunteer may

have been unwittingly emphasizing other areas of language development in their presentation of the activity or in their responses to the children.

As with the PPVT, The length of the intervention project may have partially determined the results found for the five subtests of the ITPA. More time with the volunteer-implemented curriculum may have been needed to affect the language development of the subjects in a manner measureable by the selected subtests of the ITPA.

The third hypothesis of the present study; that a significant, positive correlation would exist between the number of activities attended by subjects in each ITPA subcategory of language development and their score on the corresponding ITPA subtest was partially supported by the results obtained. Whereas all of the correlation coefficients were positive in direction, the only one considered significant was Manual Expression. The correlation found for Verbal Expression was slightly stronger than the other three, but could not be considered significant. Whereas small sample size may have distorted correlation coefficient values, the presence of outlying values was not an influencing factor as evidenced by the scatterplot diagrams (see Appendix G). These results do tend to support the conclusions drawn by Hammill and Larsen (1974) regarding underlying trainability of the ITPA subcategories. Specifically, Manual and Verbal Expression

should be the most highly trainable. In this study, subjects who participated in the language enrichment programme did score significantly higher than control group subjects on posttest measures of Manual Expression. A significant positive correlation between attendance in activities emphasizing manual expression and subsequent posttest scores suggests that the activities conducted by the volunteers were influential in fostering manual expression in the subjects.

Experimental group subjects scored significantly higher than their control group counterparts on Grammatical Closure. Attendance in activities emphasizing grammatical closure, however, was insignificantly correlated in the positive direction to posttest scores (+0.25). These results suggest that participation in the language enrichment programme overall did influence the grammatical closure ability of the subjects, but that attendance in specific activities geared toward grammatical closure was not specifically influential. Hammill and Larsen (1974) pointed out that Grammatical Closure is not highly trainable in the specific sense. Findings of the present study support this and offer the further suggestion that development in grammatical closure comes not from specific training, but from language enrichment experience in general.

## Contributions of the Present Study to the Prevailing Body of Literature

While the results of the present study do not correspond entirely with results of previous, similar works (Cole & Dale, 1986; Karnes et al., 1968; Karnes et al., 1970a, 1970b), procedural differences may be held accountable for this. First, a relatively small and convenient sample was used in this study, with language enrichment being offered to 16 subjects. Cole and Dale (1986) worked with 44 subjects and Karnes, in her two major works (Karnes et al., 1970a, 1970b), used over 90. Both Cole and Dale and Karnes carefully selected subjects based on initial assessments of cognitive and linguistic functioning and randomly assigned subjects into treatment groups. Second, all of the aforementioned studies ran for approximately eight months, while the present study ran for less than four months.

Despite these differences, this study does make a contribution to the prevailing body of literature. It has been shown that manual expression and grammatic closure can be influenced by an enrichment programme, and that manual expression may indeed be specifically trainable. These results were found after a relatively brief period of intervention. Based on this, one may ask whether a longer period of intervention would have resulted in more significant findings. Another contribution of this study

is that the enrichment programme was conducted by volunteers with relatively little training or ongoing supervision. In addition, the programme was incorporated into an existing daycare setting with little disruption to the daycare routine.

### Implications and Conclusions

Based on the results of the present study, implications can be suggested for those with an interest in early childhood development and care, the use of volunteers, and future research. If language development is to be a priority for young children, it can be successfully fostered in group settings. A specific, language enrichment curriculum can be selected and incorporated into the daycare programme on a daily basis or, an awareness of those practices that encourage language growth can be communicated to child care workers and adopted into existing routines. An ongoing assessment of children's progress in language development can help to evaluate and redirect language enrichment programmes. Further, parents can be educated in language enriching activities and behaviours for use outside of the daycare setting, expanding the enrichment experience.

Volunteers were an important component of the present study, and results indicate that the addition of volunteers can make a difference. In accordance with the stipulations

for maximizing the effectiveness of volunteer placements presented by Nicoletti and Flater (1975) and Weinstein, Gibbs, and Middlestadt (1979), the volunteers in this study were placed according to their expressed interest in a detailed job description. Although their training and supervision were not extensive, the curriculum they followed throughout the programme was clear and direct in its statement of procedure and objectives.

The success noted in this project implies that it can be used as a model for future undertakings of a similar nature. Its shortcomings, however, raise many suggestions and questions for future research.

First, an intervention period of eight months to one year would be recommended. Cole and Dale (1986) and Karnes et al. (1970a, 1970b) achieved significant results with an intervention period of eight months, and Karnes and Teska (1975) concluded that programmes of a one year duration would affect maximum change.

Second, subjects should be carefully selected based on an initial assessment of language development and randomly assigned to treatment groups. In the present study, significance was found in areas of the ITPA. However, subjects in control and experimental groups were initially compared only on the PPVT, a measure of receptive vocabulary. While the groups were similar at outset on pretest PPVT scores, the ITPA was not administered at this time.

Administration of the ITPA at pretesting would provide a baseline against which to compare posttest ITPA scores between groups.

Third, detailed records should be kept regarding presentation of curriculum items including content, frequency, duration, and subject attendance. Detailed records may provide answers to questions regarding what factors of curriculum presentation are associated with language enrichment.

Fourth, assessment instruments should be selected carefully. Instruments should be maximally sensitive to the content of the enrichment programme presented to the subjects. In the present study, the ITPA would have been a more sensitive measure of language development. Because the GOAL curriculum utilized was developed from the same model of language development as the ITPA, and followed the same format, it would have been a more valid measure of what was being exposed to the subjects.

Finally, detailed records should be kept regarding the performance of the volunteers. While some positive language development was observed in the present study through the use of volunteer interventionists, all aspects of volunteer behaviour that may have contributed to the explanation of the pattern of results were not evaluated. Volunteers could be observed throughout the study and their performance measured regarding to what extent they prepared

for their activities and how the nature of their interaction with the children may have fostered language growth. Records of this nature would also help to assess overall procedural validity of the study.

While the inclusion of some of the aforementioned experimental controls may make the present study more empirically sound, its lack of them does not preclude its value. Intended as a demonstration project, the present study was conducted in a naturally occurring social setting, subject to the constraints of time and space imposed by the daycare organization. Although the statistical significance found may contribute in a limited way to the existing body of literature, its practical implications are far-reaching in that it may serve as a model for other groups with similar goals.

## Chapter 6

### Summary

The purpose of the present study was to design, implement and evaluate a language enrichment programme conducted by volunteers in a daycare setting. The following research questions were addressed: Would children participating in such a programme demonstrate improved levels of language development? Could volunteers effectively conduct such a programme?

Based on the review of the literature, it was hypothesized that first, children participating in the language enrichment programme would demonstrate significant increases in measures of language development as compared to those children who did not participate in the programme. Second, it was hypothesized that a significant positive correlation would be found between the amount of language enrichment received and performance in subsequent measures of language development.

Subjects for this study included a control group of 12, two-, three-, and four-year-old children and an experimental group of 16, two-, three-, four-, and five-year-old children. Ten volunteers were recruited by the daycare centre involved and trained by the experimenter.

All subjects in the control and experimental groups were given the Peabody Picture Vocabulary Test (PPVT) as a pretest measure of language development. Following the

pretesting, the recruited volunteers implemented a language enrichment curriculum to subjects in the experimental group. Subjects in the control group carried on with daily routines as usual, receiving no special programme of language enrichment.

Divided into five pairs, the volunteers were assigned specific sections of the selected language enrichment curriculum (Game Oriented Activities for Learning. Level 1: Language Development [GOAL]) and one-half day per week to spend in the daycare centre. Activities from the curriculum were conducted by the volunteers, with small groups of children on a daily basis for 15 weeks. The volunteers completed daily reports detailing which curriculum activity was conducted and which children participated.

Following the curriculum implementation, subjects in the control and experimental groups were given the PPVT as a posttest measure of language development. As an additional measure, randomly selected subjects in the control (n=10) and experimental (n=15) groups were given five randomly selected subtests of the Illinois Test of Psycholinguistic Abilities (ITPA). Unavoidable restrictions of time and space imposed by the daycare made it impossible to administer the ITPA in its entirety to all subjects.

In analyzing the collected data, the Kruskal-Wallis H test was used at the .05 significance level to directly compare the performance of the control and experimental group on the measures of language development. Contrary to the original hypothesis, the experimental group did not show significant increases as compared to the control group in performance on the PPVT from pretest to posttest. This lack of significance, it was concluded, could have been due to the PPVT's lack of sensitivity in measuring what the curriculum was presenting to the subjects. In addition, the relatively short time frame of the study may not have allowed for noticeable change in subject performance.

With the ITPA, the experimental group did score significantly higher than the control group on measures of grammatic closure and manual expression, but did not score significantly higher on measures of auditory association, visual association, or verbal expression. Results of ITPA data analysis partially support the original hypothesis. These findings may be attributed to the fact that all subcategories of the ITPA are not equally trainable, as suggested by Hammill and Larsen (1974), and to the short period of intervention.

Spearman-r rank order correlation coefficients were calculated to assess any correlation between numbers of activities attended and corresponding ITPA subtest scores. All correlation coefficients were assessed at the .05

significance level. Contrary to the original hypothesis, significant positive correlations were not found for all of the ITPA subtests. Posttest scores for Manual Expression alone were found to be significantly correlated in a positive direction to language activity attendance. Again, underlying trainability of ITPA subcategories and length of intervention were suggested as possible explanations for this pattern of results.

Based on the results of the present study, implications were suggested for those with an interest in early childhood development and care, the use of volunteers, and future research. It was implied that language growth could be fostered in the daycare setting and that volunteers could be successfully used in this capacity. Regarding future research, suggestions were made with respect to length of intervention, selection of subjects, control of curriculum implementation and volunteer performance, and selection of assessment instruments.

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Appendix A

Sample Lesson Plan from the GOAL Curriculum

## LESSON 6. Visual Reception

Objective. To match identical mittens from an assortment.

Materials. (1) Twelve pairs of construction paper mittens. All mittens to be made from the same color paper. Each pair of mittens should be different. The difference should be in the decorations on the mittens. Do not use color or size as the differentiating element. (Trace around a child's hand for size of mittens). (2) Picture of the Three Little Kittens.

Procedure. (1) Show children a picture of the Three Little Kittens before you ask, "Do you remember what the Three Little Kittens lost?"

"That's right, they lost their mittens. I have some mittens here." Show the children a pair of mittens. "Look at these mittens. How are they the same? What do the mittens have on them? Yes, they each have a flower." Have a child point to both flowers.

Show another pair of mittens. "Look! I have another pair of mittens. Are they the same? How are they the same? Yes, these mittens are the same. Children, you say, 'The mittens are the same.'"

(2) "Now we're going to play a game. You're just like the Three Little Kittens. Let's start with child's name (give the child one mitten, and place its mate and one other mitten in the center of the table). Child's name, find the mitten that's the same as yours."

If the child has difficulty, let him put his mitten next to one of the mittens and compare the patterns.

Continue the procedure until all the children have had several turns. Stress often that the mittens are the same.

(3) Separate five pairs of mittens into two sets. Place the right hand mittens in one set and the left hand mittens in the other. Ask a child to choose a mitten he likes from one of the sets and find the matching mitten in the other set. Then say, "Good! Child's name has two mittens that look the same."

Continue the procedure until each child has had a turn. Repeat the activity two or three times, putting out more pairs of mittens each time.

Note. At Easter time, the teacher may use eggs for matching patterns. In fall, leaf patterns may be used.

Criterion Activity. During a play period, ask each child to come with you and play the Mitten Game. Arrange the mittens on the table. "Find a mitten, and then find another one that looks the same. Good." Have child continue the procedure until he has matched all the mittens. The child must match three pairs to reach criterion.

Reinforcement. For extension lessons on the concept of same and not the same, Picture Cards, Set 2, Picture Dominoes, can be used. (Karnes et al., 1977, pp. 264-265)

Appendix B

Letter of Permission

## REQUEST FOR PERMISSION

November 9, 1984

Dear Parent:

As you may know, Day Nursery Centre has utilized volunteer workers in their centres to supplement the care provided by Day Nursery Centre staff. As of September, 1983, Bruce Tallman was hired to co-ordinate volunteer services. In order to demonstrate the benefits to the children of Day Nursery Centre, it is necessary to carry out research so that it may be passed on to others working in the area of child care.

It is for this reason that researchers from the University of Manitoba, Department of Family Studies, under the direction of Dr. Nancy Kingsbury, request your permission for the participation of your child in this research project. As a research subject, your child would be participating in two short testing sessions (one in November, one in March) designed to assess your child's learning. The testing sessions will involve your child sitting down with an experienced tester and responding to her questions regarding a series of picture cards. Each session will average one half hour in length and will deal with the language development of your child. Please bear in mind that your refusal to participate can in no way interfere with the provision of your child's accessibility to day care. However, we would like as many children as possible to participate in the research in order to make

the results more reliable. The responses and observations will be held in strict confidence. A summary of the research results will be available to Day Nursery Centre staff and parents upon completion of the project. Individual test scores will not be available to Day Nursery Centre staff or parents in order to ensure confidentiality of results.

Please take this letter home to read. We would appreciate that your prompt reply be dropped off at the day care centre where an envelope for deposit will be provided. Please keep in mind that your child's participation in this study can aid in the design of future preschool programs. Thank you for your time and consideration.

Sincerely,

Dr. N. Kingsbury,

PhD.

Assistant Professor

AS A PARENT OF A CHILD AT DAY NURSERY CENTRE, I HEREBY AGREE TO ALLOW MY CHILD TO PARTICIPATE IN THE RESEARCH PROJECT CONDUCTED BY THE DEPARTMENT OF FAMILY STUDIES AT THE UNIVERSITY OF MANITOBA.

CHILD(REN'S) NAME(S)

DATE OF BIRTH

SIGNED

DATE

Appendix C

Volunteer Job Description

DAY CARE VOLUNTEER PROGRAMME

VOLUNTEER JOB DESCRIPTION

TITLE: Language Development Volunteer      DURATION OF POSITION: Oct., 1984 to Feb., 1985

SUPERVISOR: Bruce Tallman / Leah Rondeau      PHONE: Leah @ 474-8344 Bruce @ 775-6513

AGENCY ADDRESS: 355 Kennedy Street      DATE SUBMITTED:

PURPOSE: To conduct language development activities with small groups of children in the day care setting.

RESPONSIBILITIES: To implement a pre-designed language development program to small groups of children (<7) for at least 20 to 30 minutes per group. There are also some simple record-keeping tasks to be completed with every shift. All work will be done in partnership with another volunteer.

QUALIFICATIONS: Some training will be provided, but some knowledge of child development or language development along with some experience working with young children would be beneficial.

TIME COMMITMENT: Three hours one day a week

NUMBER OF VOLUNTEERS NEEDED: 10

TRAINING PROVIDED: A three hour training session introducing the language development curriculum to be followed will be offered in early to mid October. Attendance is required.

BENEFITS TO VOLUNTEER: Training in curriculum implementation. Opportunity to fulfill a needed role. Work experience. Opportunity to seek future employment contacts. Opportunity to obtain valuable job references.

Appendix D

Format of Volunteer Training Workshop

VOLUNTEER TRAINING WORKSHOP

OCTOBER --, 1984

DAY NURSERY CENTRE, Kennedy Unit

30 minutes	INTRODUCTION TO THE PROJECT
	-emphasis on volunteer commitment
	-introduction to Day Nursery Centre ideals
45 minutes	INTRODUCTION TO THE G.O.A.L. CURRICULUM
	-brief description
	-how to use it
	-distribution of and explanation of materials
	-question and answer
15 minutes	COFFEE BREAK
45 minutes	DEMONSTRATION OF ACTIVITIES FROM G.O.A.L.
30 minutes	WRAP-UP DISCUSSION, QUESTION AND ANSWER

Appendix E

Subject's Attendance at Curriculum Activities

# Subject's Attendance at Curriculum Activities

## Curriculum Area

Subject	VR	AR	VA	AA	VC	AC	GC	VSM	ASM	ME	VE	
<u>Total</u>												
1	7	5	5	2	2	1	4	4	4	4	2	40
2	6	6	5	4	6	3	4	6	6	7	5	58
3	4	4	8	3	4	2	3	5	6	6	5	50
4	5	4	5	2	3	1	1	5	3	4	2	35
5	5	6	6	1	4	1	2	2	5	5	3	40
6	7	5	7	4	4	3	3	3	6	6	3	51
7	5	5	5	3	4	2	0	5	3	4	2	38
8	2	3	4	1	2	2	0	3	2	2	1	22
9	4	6	3	4	3	1	2	4	3	7	4	41
10	6	3	5	4	4	2	3	3	2	5	2	39
11	7	3	6	2	0	3	2	5	3	3	3	37
12	6	6	8	5	5	3	4	6	6	6	5	60
13	3	2	3	1	2	1	0	2	1	0	1	16
14	4	2	5	5	2	1	2	2	1	0	1	25
15	7	4	3	5	6	1	2	3	5	5	2	43
16	6	6	8	5	6	3	4	5	6	7	5	61

VR = Visual Reception

ME = Manual Expression

AC = Auditory Closure

GC = Grammatic Closure

Association

VSM = Visual Sequential Memory

VE = Verbal Expression

ASM = Auditory Sequential Memory

VC = Visual Closure

AR = Auditory Reception

VA = Visual Association

AA = Auditory

Appendix F

Standard Score Equivalent PPVT Scores for the  
Control and Experimental Groups

Standard Score Equivalent PPVT Scores for the Control Group

PPVT SCORES

<u>SUBJECT</u>	<u>PRETEST</u>	<u>POSTTEST</u>	<u>DIFFERENCE</u>
1	77	98	+21
2	105	106	+1
3	97	97	0
4	88	86	-2
5	60	70	+10
6	104	108	+4
7	88	81	-7
8	93	110	+17
9	106	109	+3
10	85	92	+7
11	105	95	-10
12	80	63	-17

Standard Score Equivalent PPVT Scores for the  
Experimental Group

PPVT SCORES

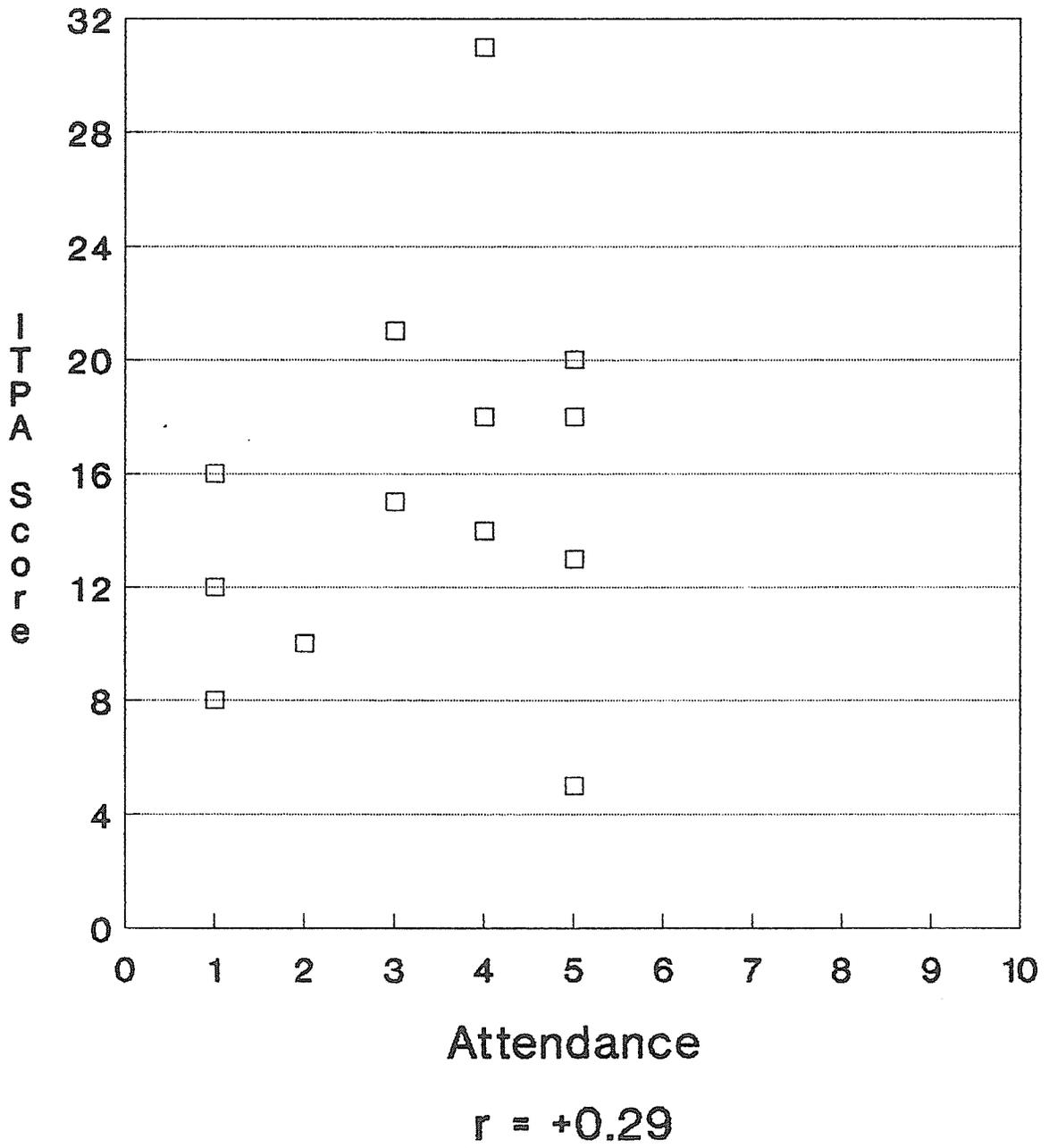
<u>SUBJECT</u>	<u>PRETEST</u>	<u>POSTTEST</u>	<u>DIFFERENCE</u>
1	81	96	+15
2	114	114	0
3	114	105	-9
4	79	90	+11
5	89	82	-7
6	94	105	+11
7	98	99	+1
8	84	94	+10
9	102	101	-1
10	87	64	-23
11	72	93	+21
12	104	104	0
13	89	84	-5
14	59	74	+15
15	110	116	+6
16	114	116	+2

Appendix G

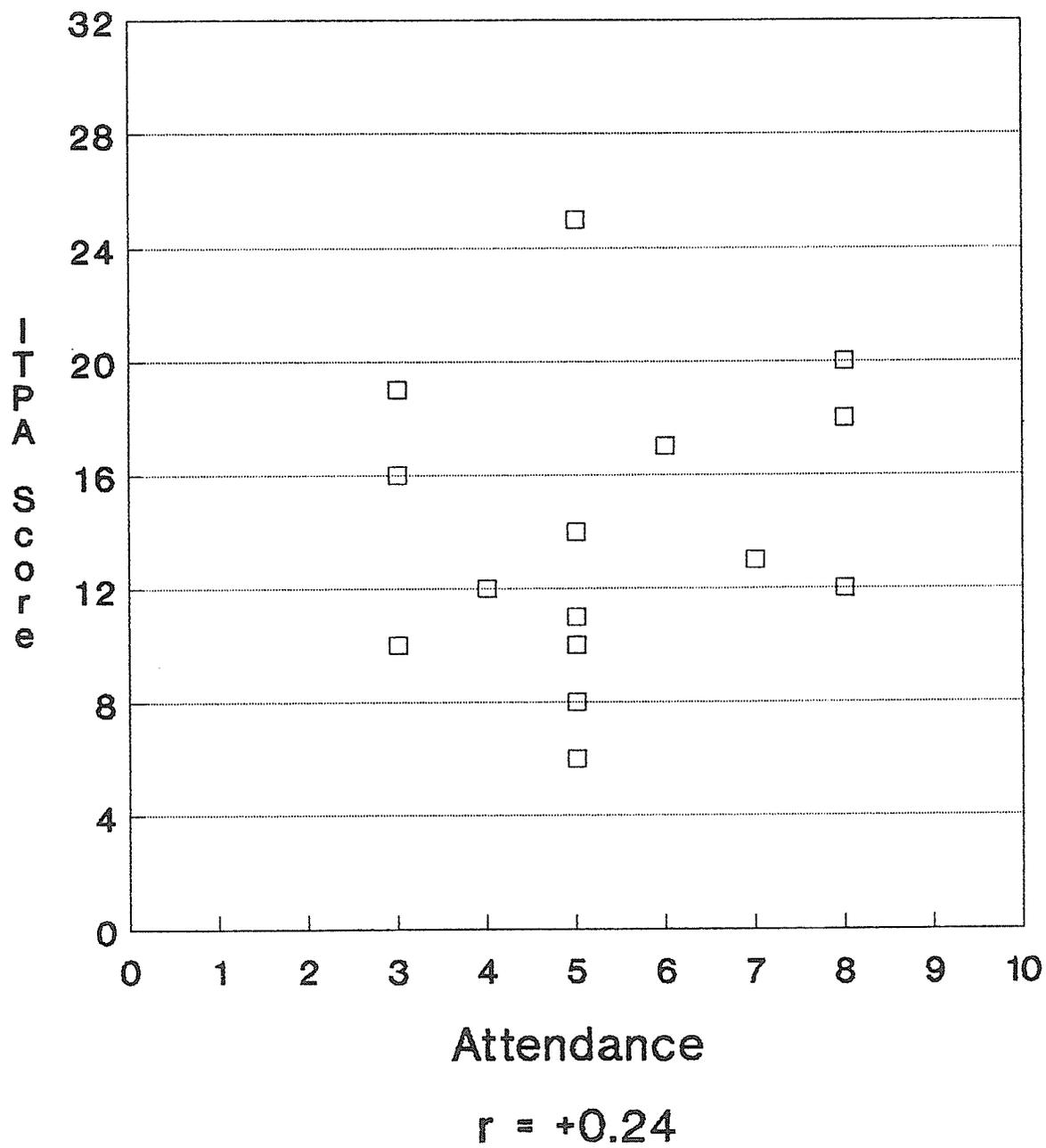
Scatterplot Diagrams for Spearman-r Correlation

Coefficient Calculations

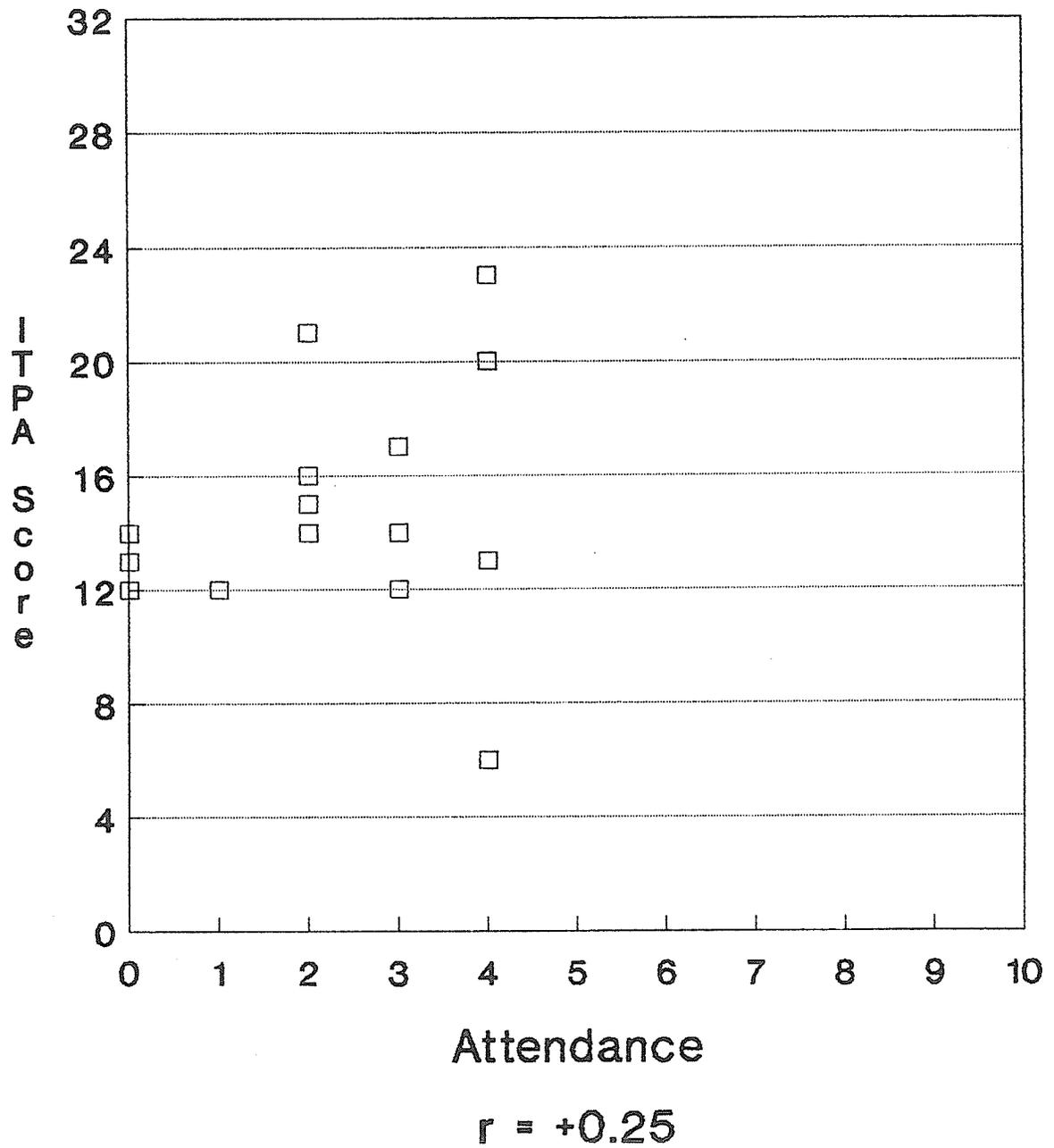
# Auditory Association by Activity Attendance



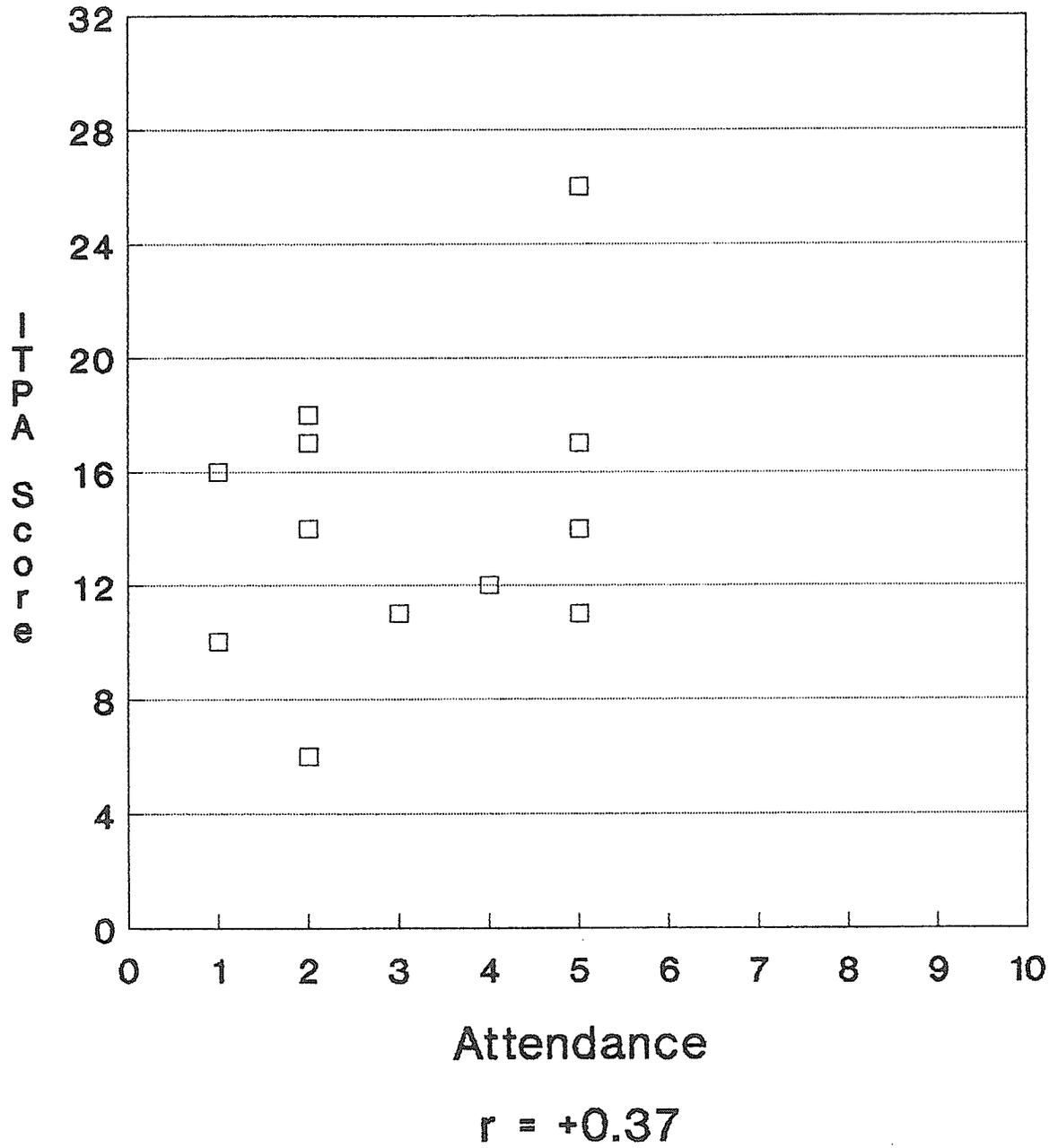
# Visual Association by Activity Attendance



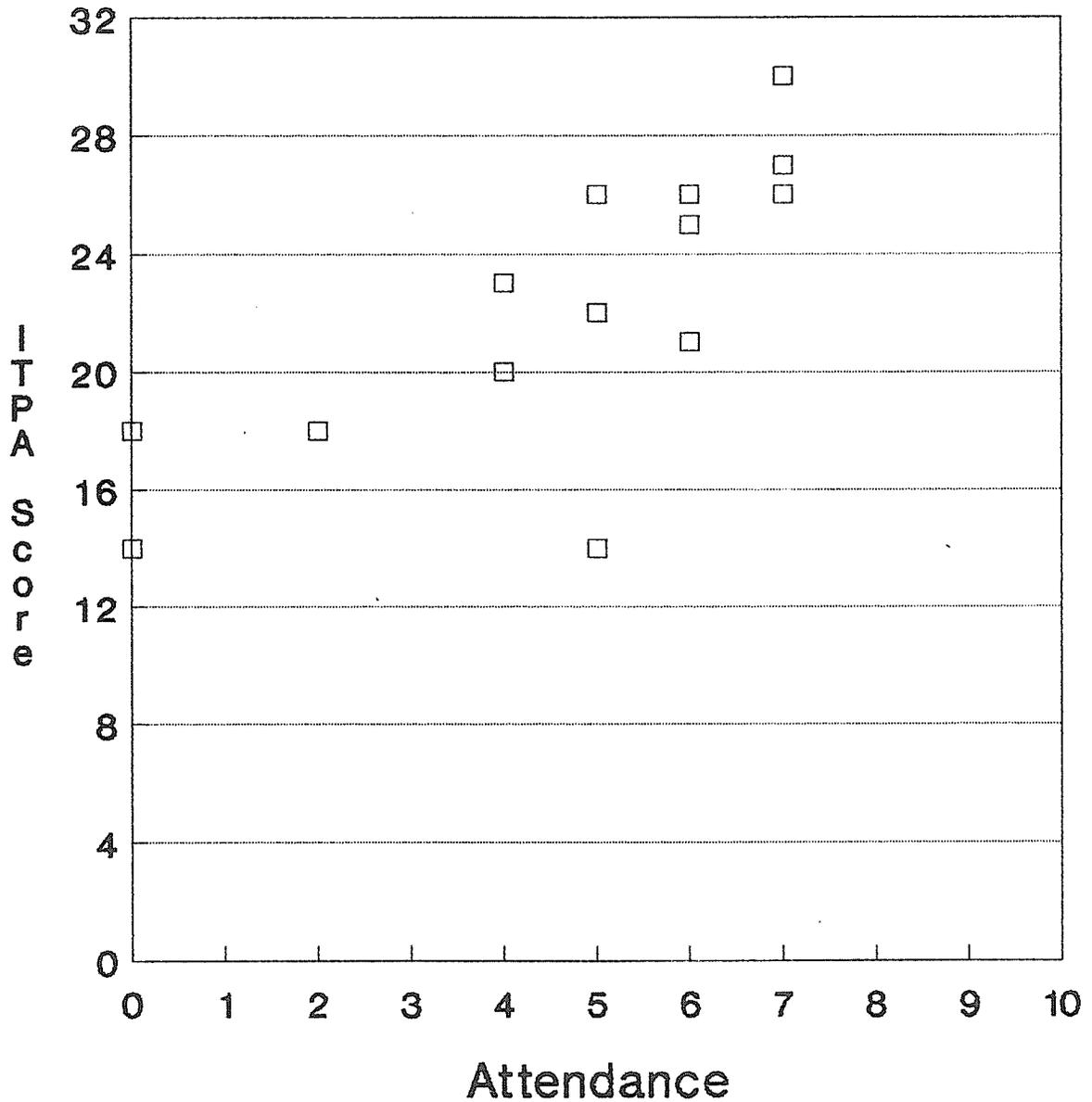
# Grammatical Closure by Activity Attendance



# Verbal Expression by Activity Attendance



# Manual Expression by Activity Attendance



$r = +0.79$  (  $p < .05$  )