

A WHOLE LANGUAGE VERSUS SKILLS BASED
APPROACH TO PRE-SCHOOL EDUCATION

CENTRE FOR NEWFOUNDLAND STUDIES

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A WHOLE LANGUAGE VERSUS SKILLS BASED APPROACH
TO PRE-SCHOOL EDUCATION



by

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A thesis submitted in partial fulfillment of the
requirements for the degree of
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ABSTRACT

Two approaches to the teaching of emerging literacy were investigated. Forty children, all four years of age, enrolled in a St. John's pre-school were randomly assigned to one of two programs. The subjects in the experimental, whole language approach to literacy, and the subjects in the control or traditional approach program received 12 weeks of instruction. Prior to, and at the completion of, the twelve week period of instruction all subjects were tested using the Test of Early Reading Ability (TERA), the Peabody Picture Vocabulary Test - Revised (PPVT-R), and an investigator designed test of writing ability. The writing ability scale was comprised of three sub-scales which measured language level, message quality, and principles of writing direction.

The results showed that the whole language group scored significantly higher on the tests of writing ability than did the control group. Within the sub-scales of the writing sample analysis, the experimental group scored significantly higher on measures of language level and message quality, but showed no significant difference from the control group in terms of measures of principles of writing direction. There were no significant differences between the two groups on the PPVT-R and TERA tests.

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CHAPTER I

Introduction to the Study

Many parents today are aware of the advantages of exposing young children to a pre-school program, but selecting a program that best meets the needs of both the child and the parent often poses problems. According to Machado (1985), parents are concerned about program selection because they believe that early, high quality, educational opportunities provide a sound base for later learning.

When selecting a pre-school program, parents often have several objectives in mind. They may wish to provide a widening circle of friends with whom their child can develop social skills, or they may wish to provide time in a stimulating environment. Often, however, a major objective is to provide experiences that will prepare the child for entry into the school system. Many parents tend to have a narrow view of what constitutes preparation for school entry and will concentrate on finding a pre-school which stresses concrete achievements such as the mastery of reading readiness skills.

The development of specific reading readiness skills lies at one end of a spectrum of ideologies of developing literacy, while at the other end is the holistic approach to literacy learning. Within this spectrum, the reading readiness and whole language approaches predominate and, typically, any given pre-school will use only one of these methods. The more traditional method of instruction is through the direct teaching of isolated reading readiness skills, which is often referred to as the skills approach to learning. The second, and more recent method, is based on the belief that children learn to read and write in a

stimulating environment where they are encouraged to explore and experiment with both oral and written language. This is referred to as the whole language approach to literacy.

A pre-school program should, theoretically, incorporate the method that best meets the needs of children. Developing such a program then becomes a major concern for the pre-school teacher. Knowledge of how children become literate, knowledge of the importance of print in the child's environment, and knowledge of the significance of creating an environment that compliments the learning that has occurred prior to entering pre-school would all be useful in designing such a program.

Harste, Woodward and Burke (1984) studied how pre-schoolers develop the ability to read and write. When their subjects were asked to write letters, names and stories, the researchers observed that they were able to represent their ideas on paper and then read them. These children were attempting to make sense of their world by responding in the best possible way they could. Their responses represented the beginning stages of literacy, or emerging literacy as it is often called. Being able to recognize these early attempts at reading and writing is fundamental in the development of an effective pre-school program.

The print a child encounters in the environment is another important aspect of early literacy development. Many pre-schoolers can identify print frequently seen such as labels on milk cartons, road signs and names of supermarkets. As a result of such exposure to print, children acquire some knowledge of written language before they enter pre-school. They have also observed others around them using print in activities such as writing a shopping list and this observation is instrumental in their understanding of its functions. As well, young children come to understand what reading and writing are all about because they have shared

bedtime stories with an adult and have experienced positive feedback when experimenting with writing. From this it becomes apparent that the home plays a major role in providing young learners with exposure to print. However, an effective pre-school program is one that also accommodates those children who have not engaged in such early literacy experiences at home. Therefore, maintaining continuity between the home environment and the pre-school environment is important in the promotion of early literacy acquisition.

The benefits of a language rich environment were investigated by Durkin (1970) who duplicated a positive home learning environment in a pre-kindergarten setting. The results of her study indicated that the children in this environment had higher reading scores by the time they reached grade four than those who did not experience the simulated home environment. Durkin's study demonstrates the potential of children's language abilities when they have been exposed to a simulated home environment that encourages reading to children and provides writing opportunities. This kind of information is useful when creating an environment that is conducive to the acquisition of literacy. If the pre-schooler is aware that the print on the grocery labels at the supermarket has meaning and recognizes the link between the labels and the parental shopping list, the child probably has begun to understand the importance and function of the printed word. The opportunity to imitate the real-world use of print in a play situation is a vital step in the development of literacy. The child may then be encouraged to read and write in a variety of other play situations such as the play office or the play post office.

Early childhood educators are becoming increasingly aware of the significance of the knowledge that young children bring to pre-school and are attempting to reinforce this knowledge through the simulation of a positive home

environment in the classroom. Since the ability to read and write is dependent on children learning the function of print, the specific activities utilized in the program should reflect this learning. Children's past experiences and their knowledge of language and how it works must be considered when designing a pre-school program that encourages the development of literacy.

The Problem

Today there are increasing numbers of children registered in pre-school programs. Parents usually select a pre-school to meet their own needs as well as those of their children. Close proximity to the work-place may be a priority for parents who use pre-school programs as a child care service. These parents often place a secondary emphasis on program content and suitability. Others enroll their children specifically for pre-school enrichment.

While there are many reasons for deciding to send children to pre-school, learning to read seems to take priority. There is a concern that some parents are placing too much emphasis on having very young children become readers (Kontos, 1986). As a result they often select a pre-school program with a strong academic focus where reading readiness skills such as letter recognition and word identification are taught. There is a perceived need for such programs because of the children who have missed the December 31st deadline for kindergarten entry. It is sometimes hoped that the successful completion of reading readiness skills in an academic pre-school program will permit the child to begin formal schooling the following year by entering grade one rather than kindergarten. However, not all parents believe in the academic or skills based approach to pre-school education. The contrasting opinion is to give children the opportunity to develop

intellectually, socially, emotionally and physically at their own rate and to make kindergarten entry a pleasant and enjoyable experience. As supporters of the child-centred approach to learning, these parents have raised concerns about the pre-school programs that are teacher-directed, but are unsure if the child's reading, writing and vocabulary will be enhanced in an environment where play is advocated. It may be perceived that the whole language approach involves too much play and not enough learning. This perception may be due to the lack of program information being made available to parents.

In addition, there are pre-school teachers who are aware of parents' expectations to have their children read and write, but at the same time are uncertain which approach to learning is more effective in meeting this expectation. Still other pre-school teachers believe that reading instruction is the responsibility of the public school system and view literacy development in this way.

The problem is that while there are educators who advocate that the whole language approach is a more viable introduction to literacy than a traditional skills approach, there is little evidence to date to support this assertion. Although many have written about the application of the whole language approach in the primary grades, there is not as much literature indicating its potential effectiveness in pre-school settings.

The Purpose of the Study

There is no program guide for pre-school education in Newfoundland and until 1984, there was no allowance for the specific training of pre-school teachers. These deficiencies were alleviated with the opening of the Early Childhood Training Centre at the Community Service Council and the implementation of the

Early Childhood Education program at the Cabot Institute. These separate programs are government funded and have provided qualified early childhood educators for Newfoundland's pre-school centres. As parents seek appropriate pre-school programs and teachers seek the most effective pre-school methods of learning, it becomes evident that guidelines are needed. It is hoped that the results of this research will provide some support for the formulation of guidelines for both parents and teachers.

In 1985 the Newfoundland Department of Education completed its Kindergarten Guide. The document recommends that children be provided with experiences which will continually improve their reading, writing and vocabulary skills. Since pre-school educators strive to accomplish these same objectives, it is hoped that this study will provide an approach to beginning literacy which is acceptable to both programs. Ideally, the program would be instituted at the pre-school level and continued into kindergarten.

If pre-school education is to provide an effective foundation for future educational experiences, it is necessary to examine the two methods of instruction currently used in pre-schools. This study addressed the question of whether the emergent reading and other language arts competencies of pre-school children were more responsive to a whole language program than to a traditional basic skills program. In particular the study addressed the following questions.

1. Is the meaning vocabulary acquisition of pre-school children more responsive to a whole language program than to a traditional skills program?
2. Is the early reading acquisition of pre-school children more responsive to a whole language program than to a traditional skills program?
3. Is the beginning writing acquisition of pre-school children more responsive to a whole language program than to a traditional skills program?

Definition of Terms

The following key terms have been used throughout this study.

Traditional Approach

The traditional approach to learning focuses on the mastery of reading readiness skills in order to develop literacy in pre-schoolers. These skills include the recognition of colours, shapes, letters and numbers, classification, sequencing, rhyming, and visual and auditory discrimination. This approach uses many commercially made materials to teach children to read and write. The terms skills based approach and traditional approach are used interchangeably throughout this thesis.

Whole Language Approach

The whole language approach is child centered and develops reading and writing abilities through the child's use of language. This approach, which attempts to duplicate the positive home learning environment, encourages the liberal use of children's books, exposure to writing using invented spellings, and allows children to learn at their own pace.

Pre-schoolers

In this study a pre-schooler is a child ranging from three to five years of age inclusive.

Emerging Literacy

Emerging literacy is the child's first attempts at reading and writing. This is exhibited in reading-like and writing-like behaviors.

Limitations of the Study

The sample used in this study represents a middle class group of children. Although there is financial assistance available to families who are unable to meet the costs of pre-school education, many do not avail of it and consequently the sample was not a cross section of socioeconomic groups; that is, the 40 pre-schoolers in the study were not representative of the total pre-school population. Because of the nature as well as the size of the sample, it was not possible to generalize the results obtained to all pre-school programs.

Since it was not possible to control environmental print outside the pre-school setting, all subjects saw language used in a meaningful way. As pre-schoolers and their families went about their everyday activities of shopping, reading traffic signs, reading restaurant menus, reading sign boards and writing cheques and messages, children were being exposed to print. Individual families share different language experiences than other families and this could not be controlled.

The previously established routine of the pre-school in this study meant that both groups utilized the same program room, but at different times. This meant that both the control and experimental groups encountered considerable environmental print within the room. This included logos and signs of supermarkets and restaurants, traffic signs, washroom signs, directional signs such as in, out, up, down, on and off as well as the labelling of furniture and toys.

An Overview of the Thesis

The remainder of the thesis will provide an overview of the whole language and traditional methods of instruction and will identify the research approach taken by the investigator. A theoretical background to the research will be provided through a review of the related literature concerning the ways in which children learn language and how this relates to literacy acquisition. Since this study is concerned with the development of early literacy in pre-schoolers, the stages of early reading and writing will be addressed. The background material will also compare the pros and cons of traditional and whole language approaches to pre-school education.

The study experimentally compares two approaches to the teaching of literacy to pre-schoolers, by way of a pretest-posttest experimental and control group design. Pretests were administered to both groups and after a treatment period of twelve weeks, posttests were conducted. The data analysis is followed by a discussion of the results and suggestions for additional research are outlined.

CHAPTER II

Review of Literature

The two approaches to beginning literacy that are being used in most early childhood programs are the skills method and the whole language method. Since both use language in different ways when teaching children to read and write, it is necessary to describe each method in detail before their relative merits are assessed in a pre-school setting. This section presents the findings of prominent educators in both these approaches. As background to the study, language learning, including vocabulary development and the stages of early reading and writing are discussed.

Early Language Learning and Literacy Acquisition

Children come to kindergarten with prior knowledge of oral and written language and early literacy instruction should build upon that existing knowledge (Doake, 1986; Forrester & Reinhard, 1985; Goodman, 1986; Holdaway, 1979; Morrow, 1989; Shapiro & Doiron, 1987; Weiss & Hagan, 1988). Findings from research on language acquisition are important to pre-school education, since they indicate that literacy learning begins at birth and continues throughout life. Therefore, an understanding of how literacy emerges in the pre-school years is a prerequisite for developing pre-school programs. An examination of how children learn language and how this development is paralleled in stages of early reading and writing is also required.

The child comes to pre-school with language learned through past experiences. Both written and spoken language are acquired through repeated

exposure to adults using language in meaningful ways. Beginning at birth, the child attempts to understand the world. The first time the infant responds to a mother's speech represents early endeavors at understanding language. As the mother speaks to her infant, she uses language in a flowing natural manner. Often the infant responds with gestures, such as pursing the lips, raising an eyebrow or smiling. The parent will then interpret these gestures as an effort to communicate and respond with words of approval. Patterns of behavior such as this occur repeatedly as the child attempts to make sense of speech in the environment. These early responses by the infant represent the beginning stages of literacy (Holdaway, 1979). Verbal responses are in the form of babbling and, through a series of approximations and reinforcements, children eventually improve their attempts at using spoken language (Goodman, 1986). As babblings are reinforced, children see learning to speak as an important part of everyday life.

Parents aid young children in their language learning in three ways (Shapiro & Doiron, 1987). The first is through scaffolding, that is, by providing opportunities for children to improve language. Peak-a-boo games and picture book reading are examples of scaffolding as children are encouraged to participate in conversation during these language learning activities. Children need considerable opportunity to practice language and in scaffolding the adult sets the framework for language to occur. The second method is modelling which encourages children to imitate the adult in the reconstruction of what has been heard in their environment. As children learn to speak they model those in their home and community whom they have heard speak or with whom they have spoken. The third technique is direct instruction where the adult model has the child repeat an utterance. Feedback helps the child improve speech patterns as the adult confirms what has been said while expanding and elaborating.

Parents also aid children in their language learning by providing examples of activities for them to model (Forester & Reinhard, 1985). Children quickly learn the appropriate setting to attempt "bye-bye" and "thank-you" because the setting is familiar and the action has meaning. When children create their own language in these settings the parents give positive reinforcement for approximations rather than insist that the child correct the response. As the child's oral language skills continue to develop there is often evidence of an over generalization of language rules. This is evident in their use of "foots" for "feet" and "goed" for "went". Based on the language they hear in their environment, children generalize, unknowingly, that all plurals have "s" and the past tense always ends in "ed".

Children build and extend their oral vocabulary by playing with language. They try out new words, play with rhymes and poems, sing, listen to music, engage in dramatic and construction play and listen to stories. As they continue this language play, children establish a foundation of sound patterns on which speech can grow. Through observations of adults in the environment, children will attempt to use vocabulary as soon as a meaning can be attached to it. For example, a child may use the word "honey" correctly in a particular situation, totally unaware that it has more than one meaning. When the second meaning is learned, the child uses the word comfortably in that situation as well. Providing children with extensive experiences and encouragement to talk helps to extend their oral vocabulary. As children go about their daily activities, they are learning vocabulary, syntax, sounds and meanings of language (Pflaum, 1986). The non-corrective, no-fail environment of the home encourages experimentation with vocabulary and syntax, the order and structure of word combinations.

Reading can also be viewed as a vehicle for developing literacy. Many pre-schoolers respond to the print that bombards their environment. Some of them may already be able to read road signs, grocery labels and fast food signs. Children as young as three arrive at the conclusion that written language has meaning (Harste, Woodward & Burke, 1984). A child may not be able to identify every word in a road sign, but he or she is aware that it conveys a message to the driver. When children observe others in literacy-related activities such as reading a road map or writing a shopping list, it has significance for them. This helps them understand the relationship between written and spoken language and enables them to see that both can serve the same function. As children learn language they realize that print, like speech, carries a message and has a purpose.

It appears that children entering pre-school for the first time bring with them many experiences in language learning and print awareness. Although parents and teachers are partners in children's education, parents are the child's first teachers and models. It is extremely important to develop a positive relationship between the home and the school at the pre-school level since pre-schoolers still spend most of their time at home. Many aspects of the child's home environment influence early reading. If parents expose children to many forms of written language, model reading behavior, read to their children often, and involve them in quality verbal interactions their children will be better prepared for the demands of school (Greaney, 1986).

According to psycholinguists such as Goodman and Smith, reading is a process in which the reader's knowledge of language is important as the reader attempts to reconstruct the author's message. Language needs symbols which are represented by sounds in spoken language and letters in written language. A system to organize the symbols and a context of usage is also required. Symbols

have no meaning alone, but in an organized system where they are combined to make words, they carry meaning to the reading or listening audience. Grammar is the system of language that includes the rules to make utterances understood and is the most important thing a child learns before entering school (Goodman, 1986). Syntax allows children to acquire vocabulary through experiences and to use the new vocabulary in a stress-free environment. Since the home provides this opportunity, psycholinguists are suggesting that this same type of atmosphere be reproduced in early childhood programs where literacy is being promoted.

There is interaction between the reader and the written language during reading and children use prior knowledge to construct meaning from print (Goodman, 1986). Using what they know of the language structure, children test how each word fits into the context. There are three systems in written language with which children become familiar. These are the graphophonic, syntactic, and semantic systems (Goodman, 1986; Smith, 1979). The graphophonic system is the relationship between the sound and language patterns and the written form. The syntactic system refers to the grammatical relationship and function of sentence patterns or the rules that govern how words work together. The underlining meaning that the words have for the reader is represented by the semantic system. A child who is learning to read uses these systems along with prior knowledge.

Children are always seeking meaning. When sounds and words are attached to personal experiences, they have meaning. Young children are able to "read" a letter they have written without too much difficulty. As children continue to experiment with reading, they learn to make sense of the printed word, based on what they already know. Young readers learn to predict, select, confirm and self-correct. They guess what will occur next and continually, "monitor their own

reading to see whether they guessed right or need to correct themselves to keep making sense" (Goodman, 1986, p. 38).

Comprehending the spoken word and making sense of the written word is part of the process of learning to read. Young children learn to read by reading and being read to and it is this practice with reading that enables them to identify words on sight. As children strive to increase their sight vocabulary, it is acceptable to read for them when they cannot read a word themselves, since the prime objective in learning to read is to make sense of the printed word (Smith, 1979). When they are unable to identify a word young children are encouraged to read ahead to determine the general sense of the sentence and then go back and try again if their prediction is incorrect. Although written language may have the same basic vocabulary and grammatical structure as spoken language, the frequency of some words and structures may differ in written language. Young children can become familiar with these structures or the language of books by having good literature read to them at a very early age. There is evidence of a relationship between language and reading when children use book language, invent words and talk a lot (Morrow, 1989).

Oral language development can be paralleled in written language development as learning to write begins with scribbling in much the same way as learning to speak begins with babbling (Durkin, 1966; Smith, 1982). Children scribble as they attempt to put marks on the paper before they are able to produce conventional letters and words. These scribbles should be seen as constructions, since scribbles are also the beginnings of drawing and painting where the child strives to create something new in the visual world. The scribbling eventually becomes intentional at which time it is a representation. Through invention and exploration children develop a method of writing which they understand.

Therefore, learning to write cannot be seen as a progression from scribble to letters to words and sentences, but rather an endeavour to understand the concept of sentences before attempting letters and finally words (Smith, 1982). Creativity is enhanced when children are encouraged to scribble in a natural and uninhibited atmosphere.

Scribbling and drawing can also be viewed as the starting point of an interest in literacy (Durkin, 1966). Children who live in a language rich environment where they observe others using language in meaningful situations have been observed making scribbles, drawings, random letters and invented spellings in an attempt to model adult written communication. Reading and writing skills can be viewed as building on each other in such instances. For example, a young child may scribble a letter to grandmother while sitting beside an older sibling who is also writing a letter, perhaps as part of a homework task. The child is able to "read" the letter to the sibling. A child's literacy is nurtured in a social environment where others can be observed engaged in literacy (Harste & Woodward, 1986).

In summary, research from Doake (1986), Forester and Reinhard (1985), Goodman (1986) and Smith (1979) indicates that even young readers can utilize semantic and syntactic contents in their efforts to make print meaningful. This information indicates that written language can be presented to children in such a way that it can be connected with children's experiences to make the words meaningful. Spoken and written vocabulary is best developed in a meaningful context where children have opportunities to use words, where they have many experiences and where they are encouraged to talk, read and write. Just as children learn spoken vocabulary, syntax and meaning during everyday

experiences, so too they learn written vocabulary. Children develop vocabulary naturally in their own way and at their own pace in a supportive environment.

Stages of Early Reading

The supportive environment, where children are encouraged to experiment with reading and writing, plays an important role in the development of early literacy. When this model is evident in a pre-school setting, reading and writing emerge naturally. In order to provide an environment that allows literacy to develop naturally it is necessary to be able to recognize the stages of early reading and writing that occur in everyday context of the home and community. Similar stages seem to emerge in children's early reading as in their early writing and they seem to occur at about the same time. For example, the child who is able to narrate a favorite story while looking at the pictures and print, appears to be in the early stages of reading. Similarly, the early stage of writing is evident when a child can distinguish between scribbles and drawings indicating an awareness of the difference between writing and illustration. Reading and writing enhance each other as they are learned concurrently.

One of the most important aspects of early reading is the high level of parental involvement in exposing children to books at a very young age (Doake, 1985). Beginning at birth, parents can provide children with a rich literacy environment that enables reading to develop in a natural way. This environment is created by reading to children from the day of birth. During story reading some babies reach out to touch the book and appear to want to eat it, while others are content to look at the book and listen to the story. If reading is repeated daily, in the same place and the parent talks about the pictures while reading, the baby will

become familiar with story readings and look forward to them. As children grow older, the responses to reading increase. They may be observed pointing to pictures and making sounds as if naming the objects or characters in the book as it is being read. These early experiences with reading are warm and pleasurable for the child and the parent.

Another way parents can provide children with a rich literacy environment is to place books all over the house. If books are accessible to children in the kitchen, bathroom, and play areas and they observe others in the home reading, children develop an interest in reading and attempt to read themselves. In addition to these early attempts at reading, children enjoy participating in the reading of familiar stories, rhymes, and jingles. When parents provide children with repeated readings, opportunities to choose favourites and an invitation to participate, they have become involved in their child's early reading experiences.

Since many children enter kindergarten already reading, it is apparent that the home and pre-school experiences both play a role in fostering this ability to read. Doake (1985) has identified four stages that pre-schoolers go through as they learn to read naturally. Firstly, they form positive and strong attitudes towards books. As mentioned earlier when referring to infants, story reading often takes place in the parent's lap. To simulate this lap reading in pre-school the child is encouraged to sit near the teacher during story reading. In both cases, story reading is a positive experience for the child. Secondly, they become familiar with the oral elements of written language by having favourite books or nursery rhymes read repeatedly. Children who have come to expect print to make sense seem to enjoy reading along, and subsequently are able to reproduce the story. Such retelling of stories is influenced by the characteristics of the child's language,

structure of the book, familiarity of the book and past experiences with books (Schickedanz, 1986).

Children's reproductions of the story will reflect their oral language, for example, the word "felt" in a line from The Very Hungry Caterpillar (Carle, 1969) may be read as "feeled" if that is the verb form that the child uses orally. If the book has a predictable text which has repetition and rhyme, then the child is more likely to be able to retell it. For example, The Very Hungry Caterpillar has repetitive text and patterns. "On Monday he ate one apple. But he was still hungry. (page 6) On Tuesday he ate two pears. But he was still hungry. (page 7)" This sentence pattern is repeated throughout the book. The more frequently the child has heard a story such as The Very Hungry Caterpillar the closer the retellings come to the actual words in the book. As children have more experiences, they become more familiar with book language and recognize that it is sometimes different from spoken language.

Thirdly, children indicate an awareness of print by attempting to match their voicing of words in the story with the written words. During early attempts at matching words with speech, young children often verbalize while finger pointing and as a result may think that each letter in print represents a spoken word or syllable rather than a sound. For example, "the very hungry caterpillar" may be read "the ve-ry hun-gry cat-er-pillar" where the child runs out of print and has words left over. Children receive practise matching speech to print as more stories are read to them, when they write their names, and when they dictate stories to be written down.

Fourthly, children begin to integrate perceptions of words with their knowledge of the story. When this occurs, the child is not only exhibiting reading-like behaviour, but is actually reading the words. It is during this stage of early

reading that children develop an interest in the features of print. Through the reading of familiar stories, children are able to locate many words in the text and consequently develop an interest in the form of print. With the aid of background knowledge the reader then rejects or confirms the accuracy of the reading.

Stages of early reading can be summarized into three main categories, functions, forms and conventions of print (Morrow, 1989). The first words a child learns to read have meaning and purpose, such as family names, road signs and supermarket labels. These observations aid children in their understanding of how print functions, while the next category, forms, refers to the names, sounds and configurations of letters and words. The third category, conventions, relates to the left to right progression in reading, holding a book upright, punctuation and spacing between words. Stages of early reading are not precise as different children pass through them at different times while learning to read.

Stages of Early Writing

The stages of literacy acquisition seem to emerge in children's writing at about the same time as they appear in their reading (Beebe, 1989). When children observe others in the home writing, they recognize it as a useful activity and become interested. This first stage in early writing acquisition is further enhanced when children are provided with many opportunities to write, and when paper and writing tools are made readily available. During the second stage of early writing children can be observed drawing pictures, scribbling, and describing their productions to an adult. As children are given more opportunities to interpret their drawings and scribbles, they become more proficient at writing.

When children start to point to their scribble writing as they tell a story, it is evident that they have reached the third stage of early writing. The child is now able to indicate the relationship between the letter-like symbols and the spoken word by verbalizing and finger pointing at the same time. During the fourth stage, the child purposely attempts to translate speech into print. Often at this stage there is a great deal of talking while writing as children attempt to represent actual words.

The stages of early writing acquisition can be further understood by looking at the elements of early writing. The development of children's early writing can be viewed as an involvement of letters, words and word groups at the one time, rather than occurring sequentially (Clay, 1975; DeFord, 1980; Heald-Taylor, 1984). Children learn to write naturally in an environment where writing is encouraged. The elements discussed in this section are based on the theory that children's writings involve the playing with marks on paper, the development of social relationships during writing and the personal satisfaction when the product is finished.

The young child's first scribble on the kitchen wall represents the early developmental stage of writing. Some researchers liken scribbling to babbling or the early developmental stage of speaking. First scribbles are precommunicative because children are unable to "read" their own productions (Heald-Taylor, 1984). This type of scribble (see Figure 1) often has vertical as well as horizontal movement and a sense of left to right directionality, but there is no ability to create meaning.



Figure 1. Example of precommunicative scribble.



Figure 2. Example of meaningful scribble.

Meaningful scribbling (Figure 2) usually has systematic repeated marks such as circles, squares, dots and vertical lines and closely resembles handwriting. Some form of directionality is evident as writing starts at the top left corner, moves from left to right and/or returns down the left side of the page. There is some spacing and word matching in this element of early writing and although it may not appear so to the adult reader, there is a sense of a story being told. In Figure 2 the letters x, f, and t can be distinguished. In addition, there was verbal interaction between the child and the adult during writing.

Early writing may also have an integration of scribbling, drawing, letters and words which can be seen in the face and letters of Figure 3. Children as young as three can demonstrate the difference between drawing and writing when requested to produce samples of each (Harste, Woodward & Burke, 1984). However, children are very flexible in their early writings and switch back and forth from scribble to drawing letters quite freely since both can be organized for communication. When scribble is integrated with words, scribble begins to diminish for some children. It is an individual process since the shift is gradual for some and rapid for others. Although these conclusions were drawn by Heald-Taylor (1984) after studying hundreds of writing samples, they were not intended to be a developmental measure, but rather a guideline for observing children's growth in writing.

Random letters are often used to represent words, in particular the child's name. Figure 4 is an example of random letters, some of which are reversed. When young children use random letters in their writings, numerals and letters are often tacked on and both capital and lower case letters are used as in "moMMY". They like to produce letters that are familiar and easy for them.



Figure 3. Example of integrated scribble.

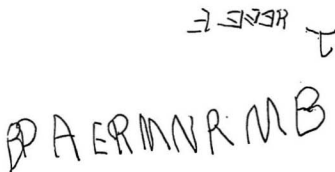


Figure 4. Example of random letters.

Directionality may also be evident when experimenting with letters. Some pre-school writing samples of random letters appear to contain letters or clusters of letters that are not intended to represent a specific word whereas other samples appear to have one letter representing an entire word (Vukelich & Golden, 1984). Each writing sample may change as children do not seem to be functioning at any single stage of writing random letters.

Some pre-schooler's writings demonstrate a sound/symbol relationship. This can be seen in Figure 5 as "mom" and "mi" are easily recognized. Often during these writings the child's name is recognized as well. When there is spacing and distancing between symbols, it usually indicates the development of syntax. The sound/symbol relationship is a difficult concept for young children to master since the sounds of the letters in oral language often confuse children when they are recreating words (DeFord, 1980). They are unable to determine where the spacing occurs and often run the words together. For example, a child's attempt to write "Kentucky Fried Chicken" may look similar to "TCCFRCHKN". This often results in words that are not considered standard English. Wiseman and Watson (1980) found that the word production of the pre-schoolers in their study was either represented by the beginning, medial or ending letters. The examples used by the researchers were the use of A for airplane, K for Erika and E for Mickey.

Another element of children's early writings is their use of invented spelling (Figure 6). As they attempt to convey a message, children often practice their own spellings. A great deal of pleasure is derived from writing known isolated words such as "mom" or "love". When exploring with the creation of words, children may use words they know, words around the room or words from



Figure 5. Example of sound/symbol relationship.

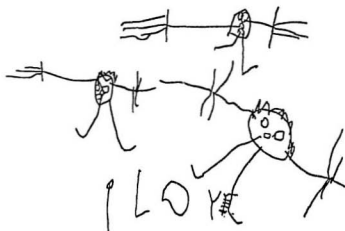


Figure 6. Example of invented spelling.

previous experiences. Invented spelling can be seen in Figure 6 when this child attempted to write, "I love you"

It appears that the stages of early writing unfold when children are provided with an environment to write. If writing is modelled for them and they receive positive reinforcement for early scribbles, writing will develop naturally. Some researchers believe that writing development begins with scribbling and progresses to invented spelling. However, these developments may all occur at once as opposed to sequential stages.

The Traditional Model

One of the approaches to learning that parents may choose for their pre-schoolers is the skills approach. When used in pre-school its goal is to teach children clearly defined academic skills that are believed to prepare them for reading and are usually referred to as reading readiness skills. These skills focus on the recognition of shapes, colours, the alphabet and numbers. Visual discrimination, rhyming and classification also constitute readiness skills.

Readiness materials consisting of workbooks, worksheets and flashcards are the backbone of the skills program. Materials are used to reinforce specific concepts such as rhyming words. The child's first experience with a worksheet that teaches rhyming words may have only the illustrations of a "fan", a "can", a "foo", and a "man", and together with the teacher the group decides which three words rhyme. The children then colour the three correct illustrations. When most of the children can master this type of worksheet independently, the class is introduced to a worksheet that contains words that label the illustrations. For example, the worksheet will now include the words "fan", "can", "foot" and "man". Again they

have to colour the correct illustrations. The next worksheet will contain the words "fan", "can", "foot" and "man" without the illustrations. The children now have to locate the rhyming words. This gradual use of worksheets to introduce children to words is one way in which the traditional approach deals with vocabulary development. Although the vocabulary is controlled, it is hoped that by the end of the exercise children will have developed a listening and sight vocabulary for the words that have been used.

The use of worksheets is popular in pre-school because manipulative materials, which enhance fine motor control are too costly. As well, worksheets are more convenient and are easier to prepare (Stone, 1987). Worksheets can also be taken home, providing parents with evidence of useful work. Early childhood educators sometimes feel pressured by parents to have children bring something concrete home at the end of the day. Worksheets usually require that children select or fill in the correct answer and reinforce success. For example, a worksheet that teaches visual discrimination may require children to select from a row of pictures, the apple that is different. Over the next couple of days, the children are given similar worksheets which contain pictures of other foods and they are instructed to find the picture that is different. Again, it is the completion of the task that is being reinforced. If children notice similarities and differences in pictures, it is assumed that they have the ability to see similarities and differences in letters and words. The next series of worksheets may contain a row of letters and children are required to find the letter that is different. When visual discrimination of letters has been mastered, children may then proceed to similar worksheets containing words.

The skills approach supports the theory that the more drill and practice given to a skill, the greater the retention of that skill for young children and, hence,

the more ready they are to learn to read. In order to achieve this level of retention, skills are usually taught in isolation. For example, the recognition of letters is often perceived as the important element which must be mastered before proceeding to beginning consonant sounds and on to the mastery of words. One method of achieving this progression is through repetitive daily flashcard exercises. Flashcards, each bearing a letter of the alphabet, may be used in this way to reinforce the skill of letter recognition. In this activity the teacher shows the group a card approximately 5" x 7" bearing the letter "B" and each child in turn is asked to make the correct response which is the name of the letter. A new letter is introduced each day the class meets until all the letters of the alphabet are covered. As a review exercise, the teachers holds up an alphabet flashcard and the children are expected to respond in unison at a pace that is repetitive and rapid. This method is repeated to teach the sound of the letter, but this time the flashcard contains "B" and the picture of a "ball". Many early childhood educators find it easy to teach skills in this way (Willert & Kamii, 1985).

There is a strong emphasis on correct letter formation in the skills approach to learning (Newman, 1985). The mechanics of writing are often stressed in pre-schools because early childhood educators are aware that some kindergarten teachers consider the ability to use a pencil a necessary readiness skill for entering kindergarten. Early attempts at alphabet writing may be imitations of the teacher's correct forms at the top of the page or the alphabet charts around the room. This is supported by the belief that children should learn to write correctly from the beginning since it is difficult to unteach, once bad habits have been formed. As a result children are asked to imitate adult-made models of writing, to over-write letters, to do hand-held writing, and to colour within predefined lines. Such skills are considered necessary to prepare children for the difficult task of writing.

The skills approach also includes activities where the whole class works together to write a story on an experience chart. The teacher usually suggests what the group will write about, the form it will take and the tools and materials to be used. The ideas of the children and teacher are utilized in this method. An example of this skill would be the writing of a thank-you letter to the firemen after a field trip to the fire station. The teacher does the writing, suggests ideas and corrects sentences contributed by the children when they are not grammatically correct. It is the end product which is considered important rather than the process.

The program content may also reflect items on a standardized kindergarten readiness test. These tests are concerned with the skills that are typically prerequisite for specific instructional programs (Meisels, 1987). Usually reading readiness tests are group pencil and paper tests made up of different sub-tests which include items dealing with vocabulary development and visual and auditory discrimination. The decision to incorporate these skills in a pre-school program may result from pressures placed on early childhood educators to prepare children for kindergarten.

The skills approach is also product oriented and children are sometimes rushed through activities in order to have a product at the end of the day. For example, every child in the class is individually brought to the arts and crafts centre then quickly brought to the next centre, learning games, to ensure that everyone has something to bring home and has participated in all the activity centres. The completion of products in this manner offers reassurance to parents that learning has occurred in a quiet atmosphere and that there has been a concentration on the mastery of important basic skills (Williams & Kamii, 1986).

The characteristics of the skills approach that have been outlined in this section of the paper suggest the following outcomes: (a) children should conform to the pre-school program; (b) emphasis should be placed on preparing children for kindergarten; and (c) daily repetitive drill and practice is necessary to ensure learning. This represents one of the approaches to learning that parents of pre-schoolers may choose for their children.

The Whole Language Model

The whole language approach is an alternate way of learning that may be utilized for developing emerging literacy in pre-schoolers. Before this approach can be considered as an effective one, it is necessary to look at its characteristics and how it relates to what is currently known about literacy development.

Emerging literacy refers to the functions and conventions of print and how they are used by children in their attempts to read and write (Teale, Heibert & Chittenden, 1987). The whole language approach is based on this concept as it uses the regular reading of stories with predictable endings to encourage the child to "read" consistently while at the same time providing a model for early attempts at writing. The whole language approach is child centered and encompasses many characteristics for developing emerging literacy.

One of the characteristics of a whole language approach to learning is the treatment of language in its entirety. Language should be kept "whole, meaningful and relevant for the learners" (Goodman, 1986, p. 9). The time spent breaking language into bits and pieces as it is often done in the teaching of beginning phonic skills could be used more effectively if reading, writing, talking and listening were integral parts of the lesson. When language is real and natural it makes more

sense to the young child. The focus is then placed on obtaining meaning rather than on the mechanics of the language.

In whole language classrooms children use language to talk, listen, read and write every day (Hopkins, 1977). Children are encouraged to participate in activity centres where language is promoted such as the writing corner, the dress up corner and the talk and listen corner. This type of classroom organization utilizes the print and speech in the environment and encourages a balance between the development of the four language processes: speaking, listening, writing and reading. Children need opportunities to read and write frequently and in an uninterrupted manner just as they do when they are talking and listening. A warm and secure setting which invites children to read, paint and draw, dress-up, observe and tape record, display, sit, think and write will achieve this. Allowing children to explore and experiment in quiet places, noisy places, messy places as well as clean and tidy places in a print filled environment promotes reading and writing in a natural, functional way. Vocabularies are also extended as children interact with one another and the teacher.

An initial reading environment, such as pre-school, should be one where children learn to read and write as naturally as they learn to talk (Goodman & Goodman, 1979). One way to accomplish this is by maximizing the use of the dramatic play area. When this area is converted into a restaurant, children are very anxious to recreate a real-life situation of a family dining out. Role playing the waitress, the *matre d'hotel* and the family becomes a learning experience as the participants decide about writing and reading the menu. There should be no difference in the way a child learns to read and the way he or she learns oral language since both should be learned at the same time. Therefore, it is not accurate to refer to learning to read as having a reading readiness component since

"children begin to learn to read from the time they are first read to in the home" (Doake, 1986, p. 14). Children's language development is enhanced and supported when they are given occasions to experiment with functional language in a natural supportive environment. For example, the recognition of the colour word "red" may be aided by reading a picture story book such as Red is Best (Stinson, 1982) which contains whole, meaningful, exciting and inviting language. In a classroom setting where children can go to the library corner and request a book for the teacher to read, learning concepts such as the recognition of colour words occurs in a natural way. When language is whole the beginning stages of literacy become a natural learning process that is linked with the whole development of the child.

A second characteristic of the whole language approach to learning is that it is child-centered. With the child at the centre of literacy learning, efforts are made to meet individual interests and needs. Since the teacher seeks suggestions in planning classroom activities, the children feel that they have an input in the choices and decisions made, thus making learning more enjoyable (Doake, 1986; Goodman, 1986; Hohmann, Barnett & Weikart, 1986; Newman, 1985; Rich, 1985). Giving children the freedom to make choices encourages them to develop their own projects and allows them to experiment as they become engaged in literacy. However, it is important to maintain a balance between freedom and control in program planning. It is appropriate to accept young children's suggestions as efforts are made to meet individual needs, but because children lack experience it is advisable for it to be a sharing process. In this way, the teacher is a learner as well. For example, the children rather than the educator, may suggest converting the playhouse into a play supermarket because they enjoy experimenting with the environmental print on the boxes and cans as well as developing price lists.

As this comfortable, secure and supportive environment unfolds in the child-centered classroom, young children are assisted in their decision making while experimenting with the activity centres that are developed around thematic units. If the theme is Fall, for example, a child may select a book about Fall from the library corner and ask the teacher or another friend to read to him or her. Because it is a warm and supportive classroom, he or she does not feel inhibited about choosing this particular activity when there are so many others from which to choose. It may also be a book that the child has asked to have read repeatedly. The early childhood educator is then a stimulator, facilitator and a provider of necessary materials. The facilitator provides pre-schoolers with opportunities to take responsibility for their own learning in stimulating and enjoyable ways. This is accomplished through the selection of materials that meet the needs of the children rather than forcing them through a prescribed program.

A third characteristic of the whole language approach to learning is that it is literature based. This characteristic allows children to become immersed in natural, meaningful language and develops a habit of reading for pleasure. A literature based program utilizes all the trade books that are available from public libraries and book stores as well as pharmacies, department stores, book clubs and magazine subscriptions. It is a good idea to expose young children to as many well written books as possible in order to extend their vocabularies. Texts such as Children's Literature (Huck, 1979) can be instrumental in developing a list of good children's books.

When some children enter pre-school, they have already experienced story reading at home because many parents believe that no child is too young to derive pleasure from books (Doake, 1986; Taylor & Strickland, 1986). When parents create a warm and loving atmosphere while reading a book such as Goodnight

learning, parents read to their children regularly. There is usually interactive behavior between the parent and child during story book reading which helps the child construct meaning from print. Reading to young children also aids them in developing a sense of how stories are constructed which is essential in learning to read and write. As discussion continues in experiences with literature, parents help children in their comprehension of stories, their sense of story structure and their language development.

If young children develop a sense of how to read and write as a result of family story book reading, a pre-school environment that utilizes a great variety of children's literature can become a natural extension of the home. Predictable books, such as Brown Bear, Brown Bear (Martin, 1970), made into big books to develop reading in a shared approach is one way of extending home reading into pre-school (Holdaway, 1979). A "big book" can be either commercially made or homemade. It is an enlarged version of a text which allows children to see easily and to follow the print in a group situation. Big books encourage young children to role play as successful readers which creates a confidence in beginners as they learn to look for meaning in print (Lynch, 1986). Big books also help to develop an interest in reading and writing (Holdaway, 1979; Watson & Lusthaus, 1985). The print is easy to see and follow, which makes reading more enjoyable than attempting to see regular size print and illustrations in a large group setting. The illustrations then provide clues for anticipating endings of sentences and stories. With the aid of pointing, this method helps to develop an understanding of directional flow, the top and bottom of the page, front and back of a book as well as blocks of letters and words.

The story knowledge and awareness of reading that young children acquire while having stories read aloud to them are far more significant in developing

The story knowledge and awareness of reading that young children acquire while having stories read aloud to them are far more significant in developing emerging literacy in pre-schoolers than many other typical activities that occur (Jensen, 1985). Retelling stories gives pre-schoolers practice in sequencing story events and in learning to use conventional story language (Morrow, 1985). Having young children retell stories after hearing them read improves their level of comprehension.

A fourth characteristic of the whole language approach is that it emphasizes writing. A whole language classroom for pre-schoolers should be one that has considerable opportunity for writing. (Bissex, 1985; Clay, 1975, 1980, 1986; Dyson, 1983; List, 1984; Milz, 1982; Newman, 1984; Vukelich & Golden, 1984; Wiseman & Watson, 1980). Wiseman and Watson studied four and five year old children to observe their written language competency. The seventeen children in the study were asked to complete three writing tasks at three different sessions. The tasks included asking children to write: (a) everything they could write; (b) a written conversation between a child and an adult; and (c) a story of their families accompanied by a picture. Some children produced scribbles and occasional letters when asked to write, therefore demonstrating that they understood that writing involves letter production. Other children produced letter-like elements to represent writing showing that writing takes a certain form. Fourteen children arranged letters in a sequence to look like a word. Another response was to represent an entire word like "dolphin" with one letter such as "D". Some children combined drawing with scribbles and letters when unable to attempt a word. These results indicated that these children were already aware of print production and understood the function of print.

Somewhere between the ages of three and five children become aware that written symbols convey meaning and that people make marks on paper purposefully (Clay, 1986). Young children imitate adult behaviors by scribbling, linear mock writing, and writing mock letters. Many children are also able to see the difference between writing and drawing and may seek the help of an adult when developing captions for their drawings. Others take the initiative and create their own sentences to support the drawing. Since a goal of the whole language approach to learning is to expand on the knowledge that children already have about reading and writing, it is appropriate to provide pre-schoolers with print in their environment and opportunities to observe adults using print to read and write.

A pre-school environment that is rich with writing is one in which the children are active participants as a result of appropriate tools, plenty of time and ample opportunity to write (Atkins, 1984). Availability and accessibility to items such as pens, pencils, felt tip markers, lined and unlined paper, magnetic and wooden letters, cardboard, typewriters, chalk and chalkboard contribute to children's early attempts at writing. Additional tools that may entice a young child to write are sand, flannelboard, letter cookies, shaving cream, body letters or marshmallows. Imaginations are activated when it is suggested to children to use their bodies to create a letter of the alphabet or to create their very own art activity with materials such as marshmallows and shaving cream. The sandbox becomes a more interesting place to write one's name than using paper and pencil and helping make cookies for snack by designing one in the shape of a letter representing one's name creates a link between reading and writing. The whole language educator also encourages opportunities to write as they happen in everyday life. Writing cheques, making lists, writing to family and friends, writing

names on clothing, writing recipes, writing experience charts, writing up library cards, writing post cards, writing letters to Santa and making get-well cards should all be part of a writing-oriented classroom. These opportunities enable children to develop writing naturally and to extend their writing knowledge.

Accepting the final product and understanding the errors without emphasis on the mechanics of writing fosters the enjoyment and development of a child's early attempts at inventing spelling (Tway, 1983). Children go through developmental stages when acquiring a written vocabulary. A pre-schooler may intersperse letters among the scribbling of wavy lines and circles. Eventually the writing will have less scribbles and more letters. These early attempts are often experiments with the alphabetic system combined with a knowledge of speech sounds such as Kt for Kate and should never be discouraged, but cherished instead. When early attempts to make writing functional are accepted, children are eager to continue inventing spelling independently. Writing will be seen as an important part of life when it is positively reinforced.

The whole language environment should be one that encourages exploration and experimentation with written language (Newman, 1984). One way to encourage experimentation and exploration is to develop activity centres in the classroom. An activity centre is an area of the classroom that is designated for a specific activity such as art. These centres can be organized by incorporating a theme approach into the pre-school program. The thematic approach relates activities and teaching materials to a particular story or topic, such as space (Holdaway, 1979). Centres that have been developed around this theme would provide creative and stimulating activities that encourage problem solving and learning by doing. The idea of offering children a variety of activities is utilized in a pre-school classroom because, "Young children learn best through active

manipulation and exploration of materials with opportunities to initiate their own learning projects" (Elkind, 1987, p. 14). As children select activities, they are assuming responsibility for their own learning. Children should be able to work at the centres for as long as they need without the pressure of competing with other children for style, speed or quantity. Centres allow pre-schoolers the opportunity to play with toys, with language and with each other at their own pace. An activity centre is a place in the classroom where every child is actively involved in his learning in a natural and enjoyable way (Stone, 1987).

When structuring activity centres in the whole language classroom, it is important to incorporate the language processes of speaking, listening, writing and reading (Hopkins, 1977; Early Childhood and Literacy Development Committee of the International Reading Association, 1986; Rich, 1985). Activity centres might include: (a) a writing centre; (b) a nature centre; (c) a book corner; (d) an arts and crafts centre; (e) a dress-up corner; (f) a music centre and listening station; (g) a computer centre; (h) a block corner; (i) a sand table; (j) a water table; (k) a woodworking centre; and (l) a manipulative centre. An example of one of these centres at work may be the development of the mathematics concept, one-to-one correspondence, while utilizing the materials that have been made available at the writing centre. The centre may consist of an assortment of cards and envelopes and the children, through exploration, match the cards to appropriate sized envelopes. All the while there is considerable verbal interaction and, if the children wish, writing on the envelopes.

A fifth characteristic of the whole language approach to learning is the encouragement of parental involvement. Through informative newsletters the link can be secured between home and pre-school. When parents are aware of what is happening at pre-school, they can foster the enjoyment and development of

reading and writing to enable literacy to emerge naturally. Parents can provide valuable assistance in helping children begin to read and write by becoming good role models through writing and exchanging notes with their children. Parents can also be very useful resource people for the program. For example, a father who is a fireman may like to bring in props such as his hat, coat and fire extinguisher, and talk to the children about his job which is part of the theme community helpers. Another way of getting parents involved in their children's literacy is by having children take books home to share with them (Holdaway, 1979).

The whole language approach to learning with its emphasis on helping young children make better sense of their own experiences and environment is one way of developing emerging literacy. This approach, which attempts to duplicate the positive home learning environment, encourages the liberal use of children's books, exposes children to writing through the use of invented spellings and enhances vocabulary development by focusing on verbal interaction in all activities. Whole language teachers allow children to control their own learning by accepting suitable suggestions for program planning and providing choices in activity centres.

CHAPTER III

Methodology

The purpose of this chapter is to provide a description of the procedures used to obtain the information needed to support or reject the investigated hypotheses. Included are the hypotheses and descriptions of the sample, the experimental design, the testing instruments and the data analysis procedures.

Hypotheses

The experimental design was set up to specifically test the following hypotheses.

Hypothesis 1: Children who are participating in a whole language, child-centered pre-school program will acquire a greater degree of vocabulary knowledge than children who are participating in a traditional, teacher-centered approach when controlling for prior knowledge.

Hypothesis 2: Children who are participating in a whole language, child-centered pre-school program will acquire a greater degree of early reading ability than children who are participating in a traditional, teacher-centered approach when controlling for prior knowledge.

Hypothesis 3: Children who are participating in a whole language, child-centered pre-school program will acquire a greater degree of writing knowledge than children who are participating in a traditional, teacher-centered approach when controlling for prior knowledge.

The Sample

The population for the experiment consisted of all students enrolled in a St. John's pre-school program for four year olds in the Fall semester of 1988. The sample ($n=40$) consisted of those students who reached the age of four years by December 31, 1988. This cut-off date was selected to ensure comparability of ages. Each subject was assigned a number representing the order in which he/she registered for the program and, using a table of random numbers, was assigned to either the experimental or control group.

There were 20 children in the experimental group, nine of whom were female and 11 were male. The control group consisted of 13 females and seven males for a total of 20. The mean age of the experimental group was 52.65 months and 52.70 months for the control group.

The Experimental Design

The study used a pretest-posttest control group design (Campbell & Stanley, 1966). The experimental group ($n=20$) was given a pretest battery, a 12 week whole language program, and then a posttest using the same test battery. The control group ($n=20$) was given the same pretest, a 12 week traditional skills program, followed by the posttest. This design was used in an attempt to compare the effects of the two program approaches in the development of emerging literacy in pre-school children.

Pretest

The pretest battery consisted of the Peabody Picture Vocabulary Test - Revised, Form L (Dunn & Dunn, 1981), the Test of Early Reading Ability (Reid,

three writing tasks were similar to those used by Wiseman and Watson (1980) and consisted of: (a) the response to the instruction "write anything you can write"; (b) a written conversation; and (c) the caption accompanying a drawing of the subject's family.

The testing took place in a quiet room within the pre-school centre, and was conducted by the author with whom the children were familiar through her role as pre-school director. The children were tested individually over a ten day period in early September. The testing sessions usually took between 15 and 25 minutes and children were removed from their regular activities to complete the testing. One child refused to be tested on initial request but was persuaded to return for testing on a different occasion. A second child refused to be tested and was removed from the study which reduced the size of the group from 21 to 20 since there were 21 subjects in this group initially.

Posttest

The posttesting was conducted in the same manner as the pretest, but with the following modifications. Instead of Form L of the Peabody Picture Vocabulary Test-Revised, the alternate Form M of the test was used to eliminate problems associated with possible learning effects from having taken the test previously. No alternate form of the Test of Early Reading Ability was available. One child was absent due to illness during the administration of the posttest and was unable to complete the test.

Treatment

The subjects in the study attended the pre-school program three times a week for three hours each session over a period of twelve weeks. Two different approaches to developing literacy were used. The children in the control group

were exposed to a traditional method using a variety of commercial materials while the children in the experimental group were exposed to a language centered method using trade books and teacher-made materials.

Each group was led by three pre-school teachers who were randomly assigned. Teachers A, B and C led the control group. Teacher A was in her mid-forties, had two years training in primary education at the university level and ten years teaching experience. Teacher B was in her late thirties, had three years university training in primary education and two years teaching experience. Teacher C was in her mid-twenties, had received a BA(Ed) degree, and had three years teaching experience. Teachers D, E, and F led the experimental group. Teacher D was in her mid-forties, had two years university training in primary education and nine years teaching experience. Teacher E was in her early thirties, with two years university training in primary education and had completed five courses in early childhood education. In addition she had ten years teaching experience. Teacher F was in her late twenties, held a diploma in Early Childhood Education and had two years teaching experience. Both groups had equal access to the two program rooms and the gymnasium. Each group spent two and a half hours in the program rooms and half an hour in the gymnasium per daily session. A training session to inform all teachers of the program philosophies, objectives and room organization was held prior to the study. The investigator spent equal time with each group giving guidance and direction as required. In addition, the investigator led the weekly planning meetings to ensure that the activities for both groups were planned according to the guidelines developed during the planning session.

The basic material used with the control group consisted of commercial reading readiness work books which included ABC, 1-2-3 (Goldsmith, 1984), All

Aboard for Readiness Skills, (Carson & Dellosa, 1982) and The Curriculum From A to Z, (Good, 1984). Teacher-made games such as a colour match-up were developed and the children were frequently required to follow specific instructions while completing worksheets in order to develop skills. The control program focused on classification, colour recognition, visual and auditory discrimination, rhyming words and recognition of the letters of the alphabet. Activity centres consisting of arts and crafts, science, library, dramatic play, music, small group activity, and large muscle play were developed. Writing for the control group consisted of worksheet activities and drawings. When language experience was used, the teacher chose the topic, the method to be used and guided the language to ensure that it was grammatically correct. A description of the activity centres is given in Appendix A.

Language experience activities were also used in the experimental group. Children contributed to the activity while in small groups of eight by deciding on the topic to be written as well as the format, that is, a letter or a chart. Children's language was used in the exercise and incorrect grammar was accepted. Repetitive poetry rhymes and predictable trade books were also used. The basic principle in such predictable books is that the children are able to anticipate words and phrases. The children were first encouraged to sign themselves in at the beginning of each session. The sign-in register was a teacher-made book consisting of unlined pages with the date handwritten on the top of each page. The sign-in table was placed near the entrance of the room to encourage children to sign their names when they arrived. Samples of the sign-in register can be found in Appendix B. This method of having the children sign in as they arrived was quite different from the roll calling method used in the control group. There, the children sat in a circle while the teacher called their names and they responded

"here" when they heard their own names. Since the children in the experimental group enjoyed the sign-in register, it was decided to place personal journals at the writing centre for them to use whenever they wanted. These journals were also teacher-made consisting of unlined pages. Once the child indicated an interest in writing in the journal, usually there was a discussion between the child and the teacher about the topic. When the subject was decided, the teacher wrote an appropriate question while verbalizing it. The child responded, usually modelling the teacher; that is, by answering the question verbally and in a written format at the same time. This method was used as a starter until they were comfortable working on their own. There was also ample opportunity for children to write in their journals without any involvement from the teacher.

The subjects in the experimental group used the same program rooms and gymnasium as those in the control group, but at different times. For both groups, materials for the activity centres were stored on shelves and the centres were partially separated from each other by storage units. The painting and craft centres were located near bulletin boards to encourage a display of children's art. All the areas were accessible with each piece of furniture in a designated area labelled. In addition, the two program rooms were filled with functional print for both groups. Examples of functional print included labels on classroom items and signs such as an "on" and "off" near the light switch, "up" and "down" on the climbing frame and a Sobey's sign on the door of the play supermarket. Labels, signs, experience charts and lists of turn-takers were visible throughout the two rooms at all times, since it was impractical to remove them every time the control group entered the room.

The print filled rooms, however, were utilized differently by the two groups. Whenever there was an opportunity for discussion about the labels or signs, the

teachers in the experimental group took advantage of it by encouraging further conversation; whereas in the control group, discussion around the print in the room was not encouraged and only the questions asked were answered. A similar situation occurred in the gymnasium where different types of apparatus were set up to encourage large motor play. The teachers in the experimental group organized games to encourage children to read the labels and instructions on the climbing apparatus, while the teachers in the control group set up the equipment indiscriminately throughout the gymnasium. The children in the experimental group only participated in the organized activity when they were interested, while the control group required such participation every session.

Although the activity centres were set up in a similar manner for the experimental and control groups, again the children utilized the centres differently in both groups. For example, the craft centre in the traditional group consisted of paper plates, buttons and sticky paper shapes to be used in constructing a teacher directed jack-o-lantern. The craft centre in the experimental group, on the other hand, consisted of extra items such as construction paper, crayons, markers, and coloured pasta. In addition, the children in this group were encouraged to take extra materials from the storage unit as they created their jack-o-lanterns unaided by the teacher. The children in the control group were not permitted to help themselves. There is a further description of the experimental group activities in Appendix C.

Another activity that was treated differently in the two groups was story book reading. In the control group, the teacher read the book to the entire class while in the experimental group the class was divided into three groups and the reading was done three times by the same teacher. The other two groups were engaged in another activity with two other teachers at this time. The same story

book was used for three consecutive sessions with the experimental group, while three different books were read in the same period of time in the control group. During the first session in the experimental group, the teacher introduced the book by encouraging a discussion about the illustration and print on the cover as well as the author, illustrator, publisher and dedication inside the book. This was followed by a discussion around a possible plot. The book was then read aloud with enthusiasm. Pausing for questions or comments was discouraged, as the focus was on getting meaning from the whole story. However, children were given opportunities to express their reactions to the book following the reading. During the second session, the book was read again to each group, but this time comments and questions were encouraged on every page while the story was being read. Time was also given to examine and talk about the pictures with the teacher. On the third day, the children were informed that the same story book was going to be read, but this time they were invited to join in whenever they could remember a part of the story. Upon completion, the group was asked if anyone would like to retell the story. The book was then left on the shelf in the book corner for them to practise reading whenever they wanted. When the teacher in the control group read the story book, there was considerable pause for questions and comments and when the story was finished it was placed in the office with the other teaching aids. If the same book was being used by the experimental group, it would also be placed on the shelf in the book corner. A list of children's literature used in the study can be found in Appendix D.

Testing Instruments

Peabody Picture Vocabulary Test - Revised

This test was selected to measure children's vocabulary knowledge as a means of determining whether to accept or reject hypothesis number 1. It can be used for subjects with a range of two and a half through 40 years and there is no requirement that the subject be able to read. The original PPVT was constructed by Dunn and published in 1959. The PPVT-R, the revised edition, was published by Dunn & Dunn in 1981. It was designed to measure a subject's receptive vocabulary for Standard English. The authors suggest that the PPVT-R is a useful tool for research since it has two forms, L and M, which makes pretesting and posttesting possible. They caution, however, not to interpret the results as a comprehensive test of general intelligence.

The PPVT-R has two sets of instructions, one for subjects under eight years of age and one for subjects eight years and over. Because the test has a wide age range, instructions are given for establishing basal and ceiling points. Administering extremely difficult or extremely easy items to subjects would serve no purpose since easy questions could prove to be boring and unchallenging for bright children (Dunn and Dunn, 1981). Similarly, difficult items may be frustrating for slow learners. Starting points have been recommended for each age level with flexibility for starting below or above chronological level when subjects are suspected of functioning linguistically at that level. For example, a 14 year old developmentally delayed child who is thought to function linguistically at a six year old level may begin the test at the same point as a capable four year who is also functioning at a six year old level.

The test consists of a series of plates. Each form has 175 test item plates and five training plates. A plate is made up of four drawings which are roughly equal in size. When shown a plate, the child is asked to point to the correct answer to the question asked. The authors have made an effort to keep the plates appropriate and appealing for the successive age levels.

The PPVT-R was standardized on two separate national samples from the United States, ages two-and-a-half through 40 years and ages 19 through 40 years. The standardization samples consisted of 4200 children and youth and 828 adults. Means and standard deviations were calculated for each age level for Form A of the PPVT and Form L of the PPVT-R. It was decided to administer one form of each test to twice as many subjects rather than to give both forms to 2500 subjects since this was thought to produce more stable norms.

Evidence of the PPVT-R's validity was provided through content validity, construct validity and criterion-related validity. Nineteen content categories were used to represent receptive vocabulary with the restriction that words which could not be represented graphically were not included. The items on the test did sample the subject matter intended to be measured and met adequate standards for a picture vocabulary test (Dunn and Dunn, 1981).

The raw scores can be translated into percentiles, stanines, age and grade equivalents. Two types of reliability coefficients, split-half and alternate form, were calculated for each age level. The authors reported a split-half reliability coefficient range for two-and-a-half to 18 year olds from .67 to .88 on Form L and from .61 to .86 on Form M. The alternate forms reliability coefficient for the same age levels ranged from .71 to .89 on the immediate retest and from .54 to .90 on the delayed retest. Forms L and M were administered in a counterbalanced order to determine alternate forms reliability coefficients.

The authors acknowledged that the PPVT-R measures receptive language while other tools such as the Stanford-Binet and Wechsler scales measure expressive language as well. This was not considered a limitation of the PPVT-R since it still measures the subject's comprehension of the spoken word.

There is no data available for criterion-related validity for the PPVT-R. However, there is data for the PPVT and Dunn and Dunn (1981) indicated a .53 to .87 range of correlation between the PPVT and PPVT-R. This allows the research findings of PPVT to be applied to PPVT-R in the area of criterion-related validity. The scores of PPVT were correlated with those of the reading subtest from the Metropolitan Achievement Tests to determine the extent to which its test performance is related to another valued measure of performance. The median validity coefficient was .69. The PPVT was also correlated with the Peabody Individual Achievement Test General Information and Total Test. The resulting median validity coefficient was .68.

Test of Early Reading Ability

This test was selected to measure children's early reading ability as a means of determining whether to accept or reject hypothesis number 2. Designed for 3-7 year olds, it is administered individually. Because there are no time limits imposed on the subjects, the test can be administered in a non-threatening atmosphere.

Designed to fill the gap in the domain of reading assessment in young children, the Test of Early Reading Ability (Reid, Hresko & Hammill, 1981) measures both skills and emergent reading behaviour by gaining information about the child's awareness of meaning, alphabet recognition and reading conventions. Composed of three sub-scales, the TERA measures the child's ability to construct meaning from print, learn the alphabet and its functions, and discover the arbitrary conventions employed in reading written English. The first component

measures the child's ability to construct meaning from print and consists of signs, logos and words frequently seen in situational context, a series of vocabulary items from which the children must select two words that "go with" a stimulus word, and questions to assess comprehension. For example, to measure the child's ability to construct meaning from print a child may be shown a picture of a supermarket and asked to tell everything about the picture. Another example may be a picture of a traffic sign with three words under it. The child is then asked to point to the word that goes with the picture. Comprehension is assessed by having the child retell a well-formed story that has been read aloud to him/her. A point is scored if one of the several given ideas is expressed.

The second component of the TERA measures the child's knowledge of the alphabet and its functions. This is achieved through letter and numeral naming, alphabet recitation, oral reading and proofreading. One way used to test this ability is to show the child a card containing three letters of the alphabet. The examiner points to one letter at a time and asks the child to say its name. Oral reading is assessed by presenting the child with a card containing a sentence such as "The cat is tan". The entire sentence must be read accurately. To assess proofreading the child is shown a card containing five sentences, two of which contain errors. The child has to be able to read the sentence using context cues in order to show the investigator which two sentences are incorrect. Both of the sentences must be identified.

The third component of the test measures the child's ability to respond to the conventions of written language. This is measured by instructing the child to indicate, by pointing, an awareness of the top of the book, the bottom of the book, or where the story begins. The items are designed to assess the child's book handling ability and other conventions of print such as punctuation, left-right

orientation and the spatial presentation of the story on the page. To assess punctuation, the child is asked to indicate on a card containing two columns of a story, where the sentence that has been read ends and the next one begins. A child can score a point for left-right orientation by indicating on a card where the story begins and ends. Spatial presentation is assessed by showing a card containing a picture such as a book and asking the child to locate the top and bottom of the book. There are three sub-scales to the TERA, and the TERA generates both a total TERA score and the three indicated sub-scores which are reading meaning, alphabet recognition and reading conventions.

The instrument was standardized based on scores from 1184 children from three to seven years inclusive (Reid, Hresko & Hammill, 1981). Mean and standard deviations of scores were calculated for each age level. The raw scores can be translated into quotients, percentiles, and, when appropriate, reading age equivalents. Reliability coefficients were calculated for each age level using Cronbach's alpha and the associated standard levels of measurement. The reliability coefficients for the ages of children in this study ranged between .90 and .97.

Evidence of the test's validity was provided through content validity, criterion-related validity and construct validity. The items on the test did sample the subject matter intended to measure (Reid, Hresko & Hammill, 1981). The format and item selection was demonstrated to be appropriate for the three to seven age level.

The scores of TERA were correlated with those of the reading subtest from the Metropolitan Achievement Tests to determine the extent to which its test performance was related to another valued measure of performance. The resulting coefficient for criterion-related validity was .66. The TERA was also

correlated with the composite score from the Test of Reading Comprehension with a coefficient of .52.

The construct validity of a test refers to "the extent to which test performance can be interpreted in terms of certain psychological constructs" (Gronland cited in Reid, Hresko & Hammill, 1981, p. 14). The Pearson-product moment correlational procedure was applied to the data to show the relationship between the TERA scores and chronological age and resulted in a coefficient of .85. The relationship of the TERA to tests of intelligence, language and school readiness was also determined. The scores were all statistically significant at the p.05 level and the coefficients ranged from .37 to .82. The TERA was also shown to differentiate between groups known to differ in reading ability.

Writing Samples

Since literacy involves writing as well as reading, it was necessary to compare the development of children's writing in the whole language group with that of children in the traditional group. Neither the TERA nor the PPVT-R tests children's early writing abilities. Therefore, it was decided to collect samples of children's writing similar to those used by Wiseman and Watson (1980) in their study.

The children in each group were asked to complete three separate writing tasks at different times. The first sample resulted from asking the children to write anything they could write. If the children replied that they were unable to write, they were encouraged to imitate writing as they had seen their mother, teacher or older person write at some time. An example is shown in Figure 7.



Figure 7. Example of a response to the instruction, "Write anything you can write"

The second sample was a written conversation in which the investigator and child conduct a conversation in oral and written form. The investigator asked questions such as "What is your name?" or "What colour is your house?" while writing the questions on paper. Following some discussion the children recorded their responses and were encouraged to read them back to the investigator. If they felt uncomfortable doing this, the investigator read with them. Figure 8 is an example of the second type of writing sample collected. The third sample consisted of a drawing of the subjects' families accompanied by a caption or story describing the drawing. An example is shown in Figure 9.

what
Stefadis your name?

What colour are your eyes?

BAROWN.

Figure 8. Example of a written conversation



Figure 9. Example of an annotated illustration of the subject's family

With the assistance of a qualified primary school teacher, experienced in analyzing children's writing, the researcher modified the criteria for rating writing samples developed by Clay (1975). Each sample was rated on three separate dimensions which were labeled language level, message quality, and directional principles. These dimensions were chosen to measure the children's early writing ability as a means of determining whether to accept or reject hypothesis number 3. For each dimension the writing sample was assigned a score between 1 and 5 depending upon the quality of the response. The following scales were used as guidelines.

Language Level

Score

- 1 Scribble writing, linear mock writing or mock letters Scribble writing may be represented by indiscriminate marks on the paper. Linear mock writing is scribbles in a line, and mock letters are variations of letter forms
- 2 Alphabetic representations. These are letters only.
- 3 Any recognizable word
- 4 Word group or two word phrase
- 5 Any simple sentence

Message Quality

- 1 Concept of signs exhibited Signs in the context refer to letters, punctuations or drawings but not to traffic signs or environmental signs containing logos.
- 2 Repetitive independent use of a pattern of scribbles or letters

3 Subject demonstrates concept that writing conveys a message This is evident when the subject can demonstrate an awareness that a message has been written, but is uncertain if it is the message that was intended. If asked to read it a second time the subject may read the message differently.

4 Subject demonstrates the concept that a message has been written and that the subject knows what that message is This is evident when the subject confidently reads the message to the investigator and the written message closely resembles what has been read.

5 Repetitive independent use of sentence patterns Sentence patterns such as "I love you", "I love Mommy" are evident.

Directional Principle

- 1 No evidence of directional knowledge
- 2 One of three directional principles used (a) start at top left of page, (b) move left to right, and (c) returns to start of next line
- 3 Reversal of directional pattern
- 4 Correct directional pattern
- 5 Correct directional pattern plus spaces between words

There were three separate writing tasks rated on the three writing dimensions. With a possible score of 5 points per dimension per task, the highest possible score for a writing sample (WRTG) was 45.

The researcher and her assistant, who is an experienced pre-school supervisor and a former pre-school director, worked with an experienced primary teacher to assess writing samples and to clarify areas of disagreement in ratings.

Following this training period the researcher and her assistant each assessed all 120 writing samples. In the event of an initial disagreement in assigning a rating to a given sample, discussions concerning the reasons for disagreement were undertaken and continued until agreement was reached.

Data Analysis

An analysis of the data was conducted for each test in the test battery. First, simple descriptive statistics were generated to produce means and standard deviations for each variable. Because the posttest scores for the writing sample showed substantial variation between the experimental and control groups, it was decided that a more accurate analysis might be obtained if the writing sample scores were broken down into three subscales. Secondly, correlations between the variables were calculated, with significance fixed at the .05 level. The third phase of the analysis consisted of analysis of variance which assessed the difference between the experimental and control groups on the dependent variables, early reading ability (TERA), receptive vocabulary (PPVT-R) and writing ability (WRTG). Finally a regression analysis was computed to verify the findings from the other statistical procedures.

CHAPTER IV

Findings and Interpretation

The purpose of this chapter is to present the findings of the statistical analysis of the data collected during the study and to interpret these findings. The investigator used a number of statistical procedures to determine whether the three hypotheses should be accepted or rejected.

Descriptive Statistics

Pretest Profile

Table 1 shows the mean and standard deviation scores for the experimental and control groups on the pretest items. The experimental and control groups did not differ significantly on any pretest item. The mean scores for the experimental group on the PPVT-R, the TERA and the writing samples were 5.06, 4.04 and 15.00 respectively. This compared with scores of 5.12, 3.85, and 13.90 on these tests for the control group. PPVT-R scores are recorded as age equivalents and TERA scores are represented by the reading age. The highest possible score for writing samples is 45.

Table 1

Mean and Standard Deviations: Pretest Scores

	Experimental		Control	
	Mean	S.D.	Mean	S.D.
PPVT-R	5.06	1.22	5.12	0.88
TERA	4.04	0.67	3.85	0.68
Reading Meaning	5.05	1.50	4.15	1.53
Alphabet Recognition	2.35	1.69	2.15	1.69
Reading Conventions	1.05	0.76	0.95	0.51
Writing Sample	15.00	6.60	13.90	5.17
Language Level	5.35	1.98	4.95	1.54
Message Quality	5.55	3.17	5.05	2.33
Directional Principle	4.10	1.89	3.90	1.77

Posttest Profile

Table 2 shows the mean and standard deviation scores for the test items on the posttest. For the PPVT-R the mean scores for the experimental and control groups were 5.75 and 5.73, with standard deviations of 1.42 and 1.11 respectively. For the TERA the means scores and standard deviations were 4.43 and 0.89 for the experimental group and 4.09 and 0.73 for the control group. The writing samples showed greater variation between the experimental and control groups with mean scores of 22.45 for the experimental group and 15.90 for the control group. Standard deviations were comparable at 6.24 for the experimental group and 5.52 for the controls. Since there was considerable variation in the writing scores, it was decided to examine the writing abilities of the sample in more detail.

Table 2
Mean and Standard Deviations: Posttest Scores

	Experimental		Control	
	Mean	S.D.	Mean	S.D.
PPVT-R	5.75	1.42	5.73	1.11
TERA	4.43	0.89	4.09	0.73
Reading Meaning	6.15	2.94	4.95	2.09
Alphabet Recognition	3.05	2.55	3.00	1.97
Reading Conventions	1.63	0.90	1.25	0.44
Writing Sample	22.45	6.24	15.90	5.52
Language Level	7.32	1.77	4.30	1.84
Message Quality	8.53	2.48	6.30	2.13
Directional Principle	6.63	1.50	5.30	2.56

Writing Sample Analysis - Pretest

Tables 3 and 4 show the distribution of writing sample scores for the experimental and control groups on the pretest. The scores recorded for each subject reflect the number of times the specific writing behaviour was observed in the three pretest writing samples. Results of the pretest writing sample analysis are presented broken down by specific writing behaviours.

Language Level.

Scribble writing Most of the children used scribble writing in their writing samples. Some samples demonstrated a vertical and horizontal movement, while others included either linear mock writing or mock letters. A typical sample covered the entire page. Nearly half (55 of 120 samples) were scribble writing, which indicated that these children did not attempt to read their message.

Alphabetic Alphabetic representations were evident in 45 of the writing samples. The letters were not necessarily correctly formed since many of them were reversals, however, a letter formation could be recognized. Letters used were often familiar letters such as those in the child's name.

Recognizable word Very few children used a recognizable word in the pretest writing samples. Those who were successful used words that were familiar to them such as "love", "Mom" or their own names. There was no attempt made to copy a word from the environment such as the word "EXIT" on the exit sign.

Word group None of the writing samples contained a word group or any two word phrase.

Table 3
Analysis of Writing Samples (Pretest)
Experimental Group

	Subject Number																				
Language Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total
Scribble Writing	1	2	3	1	0	0	1	0	1	2	3	0	1	2	3	3	2	1	0	0	26
Alphabetic	0	1	0	2	1	2	2	1	2	1	0	1	2	1	0	0	1	2	3	0	22
Recognizable Word	2	0	0	0	2	1	0	2	0	0	2	0	0	0	0	0	0	0	0	3	12
Word Group	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sentence	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Message Quality																					
Concept of Signs	0	3	3	1	1	0	1	1	3	2	1	3	1	2	2	3	3	3	1	0	34
Repetitiveness	0	0	0	2	0	1	2	0	0	1	2	0	2	1	1	0	0	0	2	0	14
Aware of message	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Attempts message	2	0	0	0	1	3	0	2	0	0	0	0	0	0	0	0	0	0	0	3	11
Sentence Patterns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Direction Principle																					
No evidence	2	3	3	2	1	1	3	1	3	3	3	3	3	3	3	3	3	3	3	1	50
One evident	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reversal principle	1	0	0	1	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	10
Correct principle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Correct + Space	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: The score recorded for each subject reflects the number of times the specified writing behaviour was observed in the three samples of writing analyzed

Table 4
Analysis of Writing Samples (Pretest)
Control Group

Language Level	Subject Number																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total
Scribble Writing	1	3	2	2	0	2	0	0	2	0	3	1	1	3	2	2	0	2	2	1	29
Alphabetic	0	0	1	1	1	1	3	1	3	0	1	2	0	1	1	3	1	0	2	23	
Recognizable Word	2	0	0	2	0	0	2	0	0	0	1	0	0	0	0	0	0	1	0	8	
Word Group	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sentence	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Message Quality																					
Concept of Signs	1	3	3	2	1	0	2	0	2	1	3	1	3	3	2	3	3	1	0	1	35
Repetitiveness	0	0	0	1	0	3	1	1	2	0	1	0	0	1	0	0	2	2	2	17	
Aware of message	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Attempts message	2	0	0	0	2	0	0	2	0	0	1	0	0	0	0	0	0	1	0	8	
Sentence Patterns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Direction Principle																					
No evidence	0	3	3	3	1	3	3	1	3	3	3	2	3	3	2	3	3	3	3	51	
One evident	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Reversal principle	3	0	0	0	2	0	0	2	0	0	1	0	0	1	0	0	0	0	0	9	
Correct principle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Correct + Space	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Note: The score recorded for each subject reflects the number of times the specified writing behaviour was observed in the three samples of writing analyzed

Sentence Given that there was no instance of a two word phrase being used by the subjects on the pretest, no sentence structure was observed.

Message Quality.

Concept of signs More than half of the children in the study demonstrated an awareness of signs in their pretest writing samples. Signs such as letters, invented letters, punctuations or drawings were frequently incorporated. When asked to write everything they could, many children responded by drawing, which indicated their awareness that drawing is a form of print.

Repetitiveness In the pretest there was very little evidence of repetitiveness in either group. Some children had a tendency though to repeat scribbles or letters to make a pattern. For example, one child made a page of circles.

Awareness of a message being conveyed Only one child on the pretest indicated an intention to convey a message, although the message conveyed was not the message that the child attempted to send. For example, instead of writing, "this is mommy" the child wrote "mommy" but read it back to the examiner as "this is mommy".

Attempts to convey a message On the pretest, 19 of the children were successful in attempting to convey a message and in getting that message across.

Sentence patterns In the absence of sentences there were clearly no visible sentence patterns.

Directional Principles.

No-evidence of directional principles Only 20 of the 120 writing samples showed evidence of an awareness on the part of the children for directional principles. Twenty of the samples in which directional principles were used demonstrated one of the following: starting at the top left of the page; moving left to right across the word or line; or, returning down-left to locate the next starting point.

One of three principles evident While 20 of the subjects used a combination of two or more of the above principles of directionality, no child used a single principle in isolation.

Reversal principle In the pretest, 19 of 120 writing samples showed a reversal of the established direction of writing; that is, the writing or scribbling in these samples showed movements going from right to left across the page or from bottom to top of the page.

Correct directional principles None of the analyzed samples showed all three directional principles being used. Thus there were also no samples showing the correct use of spaces between words and lines, in addition to the use of all three directional principles.

Writing Sample Analysis - Posttest

Tables 5 and 6 show the distribution of writing sample scores for the experimental and control group subjects on the posttest. The scores recorded for each subject reflect the number of times the specific writing behaviour was observed. Results of the posttest writing sample analysis are presented broken down by specific writing behaviours.

Table 5
Analysis of Writing Samples (Posttest)
Experimental Group

Language Level	Subject Number																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16*	17	18	19	20 Total
Scribble Writing	0	1	3	1	0	0	1	0	0	1	1	1	0	1	0	-	0	0	0	0
Alphabetic	1	1	0	0	1	1	1	1	1	0	0	1	1	0	3	-	2	0	3	0
Recognizable Word	1	1	0	1	1	1	0	1	1	2	2	1	1	2	0	-	1	3	0	2
Word Group	1	0	0	1	1	1	1	1	0	0	0	0	1	0	0	-	0	0	0	1
Sentence	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0
Message Quality	0	1	1	1	0	0	1	0	0	1	1	1	1	1	2	-	0	0	2	0
Concept of Signs	0	0	2	0	0	1	1	1	1	0	0	0	0	0	1	-	2	0	1	0
Repetitiveness	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	-	0	0	0	0
Aware of message	3	1	0	2	2	2	1	2	1	2	2	1	2	2	0	-	1	3	0	3
Attempts message	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0
Sentence Patterns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0
Direction Principle	0	1	3	1	0	0	2	1	1	1	1	1	1	1	3	-	2	0	3	0
No evidence	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0
One evident	2	2	0	2	3	1	2	1	2	2	2	2	2	2	0	-	1	3	0	3
Reversal principle	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0
Correct principle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0
Correct + Space	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0

Note 1: The score recorded for each subject reflects the number of times the specified writing behaviour was observed in the three samples of writing analyzed.

* This subject did not complete the posttest.

Table 6
Analysis of Writing Samples (Posttest)
Control Group

Language Level	Subject Number																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 Total
Scribble Writing	1	3	3	1	0	1	1	0	2	1	0	0	0	0	0	1	0	1	0	0
Alphabetic	0	0	0	1	0	2	1	0	1	1	2	1	0	2	2	1	2	1	1	1
Recognizable Word	2	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	0	0	1	0
Word Group	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	7
Sentence	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Message Quality																				0
Concept of Signs	0	3	3	2	2	0	1	1	1	1	1	0	2	1	1	2	1	2	1	2
Repetitiveness	1	0	0	1	0	3	2	0	2	2	1	0	0	2	1	0	1	0	0	0
Aware of message	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	16
Attempts message	2	0	0	0	1	0	0	2	0	0	1	2	1	0	1	1	1	1	2	1
Sentence Patterns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Direction Principle																				
No evidence	3	3	3	3	3	1	3	1	1	3	0	1	3	3	1	2	2	2	1	2
One evident	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	41
Reversal principle	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	1	1	1
Correct principle	0	0	0	0	0	1	0	2	0	0	1	2	0	0	2	0	0	0	1	9
Correct + Space	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: The score recorded for each subject reflects the number of times the specified writing behaviour was observed in the three samples of writing analyzed.

Language Level.

Scribble writing Most of the children used scribble writing in their writing samples. A larger number (15) of subjects in the control group continued to demonstrate scribble writing, while in the experimental group the number of scribble writing samples fell from 26 in the pretest to 10 on the posttest.

Alphabetic Alphabetic representations were evident in 36 of the posttest writing samples. The distribution of scores was 19 in the control group and 17 in the experimental group.

Recognizable word Recognizable words were more prevalent in the experimental group, which recorded 21 examples, than in the control group in which only seven were found.

Word group While in the pretest, no examples of word groups were recorded, a total of 11 examples were found in the posttest. The distribution of examples was not even between the experimental and control groups, with 8 examples in the experimental group and 3 in the control group.

Sentence No sentences were observed in either the experimental or control groups on the posttest.

Message Quality.

Concept of signs On the pretest, the concept of signs was approximately equally distributed between the experimental and control groups. However, by the posttest, the control group demonstrated a higher incidence of this writing behaviour, with 27 examples as compared with the 13 examples recorded for the experimental group.

Repetitiveness The control group remained relatively constant in the incidence of repetitiveness, with 17 examples in the pretest and 16 in the posttest. On the other hand, the experimental group's total declined from 14 on the pretest to 10 on the posttest.

Awareness of a message being conveyed There was no substantive change in the frequency or distribution of this behavior between the pretest and posttest. Scores for the control group were 0 and 1, while for the experimental group the incidence increased from 1 on the pretest to 3 on the posttest.

Attempts to convey a message On the pretest, 19 of the children were successful in both attempting to convey a message and in getting that message across. Of these, eight were in the control group and 11 were in the experimental group. By the time of the posttest, the control group had increased its score to 16, while the experimental group's total had almost tripled to 30.

Sentence patterns In the absence of sentences there were clearly no visible sentence patterns.

Directional Principles.

No-evidence of directional principles The number of samples showing no evidence of directional principles was lower in the posttest for both the experimental and control groups. In the control group 41 samples showed a lack of directionality, while in the experimental group the number had fallen to 22.

One of three principles evident The use of only one of the directional principles was observed once in the posttest, and this was by a child in the control group.

Reversal principle In the pretest, 19 of 120 writing samples showed a reversal of the established direction of writing. By the time of the posttest,

however, this number had increased to 41, with all of the increase occurring in writing samples from the experimental group.

Correct directional principles In the use of correct directional principles, the control group showed a greater gain (from 0 to 9 samples) than the experimental group (0 to 2 samples). Once again, there was no single example of the use of correct directional principles plus the use of correct spacing.

Inter Item Correlations

The three hypotheses of this study were first tested using inter item correlations. The hypotheses were as follows.

Hypothesis 1: Children who are participating in a whole language, child centred pre-school program will acquire greater vocabulary knowledge than children who are participating in a traditional, teacher centred approach when controlling for prior background knowledge.

Hypothesis 2: Children who are participating in a whole language, child centred pre-school program will acquire greater early reading ability than children who are participating in a traditional, teacher centred approach when controlling for prior background knowledge.

Hypothesis 3: Children who are participating in a whole language, child centred pre-school program will acquire greater writing knowledge than children who are participating in a traditional, teacher centred approach when controlling for prior background knowledge.

Table 7 shows the relationship between the treatment (TREAT) and the various experimental variables. These statistics include both correlations and significance levels. The correlation between TREAT and the outcome variable of PPVT-R2 (vocabulary at posttest time) was -.065 which was not significant. This result indicates that there was virtually no relationship between treatment and vocabulary knowledge. Hypothesis one was rejected on the basis of the correlations.

When TREAT and TERA2 (reading acquisition at posttest time) were considered, the correlation was .220, which again was not significant. This means that there was no significant relationship between treatment and reading. Therefore, hypothesis two was also rejected.

There was a correlation of .440, significant at the .001 level, between TREAT and WRTG2 (writing ability at posttest time). A significance level of .001 means that the probability was only one in one thousand that this was an accidental finding. Hypothesis three was therefore accepted.

Given these findings it was decided to investigate the relationship of the subskills of TERA and WRTG with TREAT. Table 8 shows the posttest correlations between the various experimental variables and the prior knowledge (XSKILL) variable which is a weighted additive composite with three indicators, namely PPVT1, TERA1 and WRTG1. Prior skills were collapsed into one variable, XSKILL to keep the number of independent variables to a minimum and to ensure stable results. The correlations ranged from .121 to .833 with the low value of .121 between the XSKILL variable and TREAT. This indicates that there was very little relationship between the subjects' prior knowledge and the effects of the treatment. The high correlation of .833 was between WLAN2 (language level at posttest time) and WMESS2 (message quality at posttest time)

Table 7

Correlation Matrix: Pretest and Posttest Items^a

	PPVT1	TERA1	WRTG1	PPVT2	TERA2	WRTG2	TREAT	\bar{X}	SD
PPVT1	1.000	**	**	**	**	**	-	46.279	10.082
TERA1	.456	1.000	*	-	**	-	-	34.825	6.686
WRTG1	.564	.363	1.000	**	**	**	-	13.950	5.053
PPVT2	.749	.236	.465	1.000	**	-	-	53.085	15.240
TERA2	.611	.694	.493	.408	1.000	**	-	38.731	7.792
WRTG2	.415	.161	.621	.252	.406	1.000	**	18.077	5.933
TREAT	.020	.183	.100	-.065	.220	.440	1.000	1.500	.506

^aKey: PPVT = Peabody Picture Vocabulary Test, TERA = Test of Earlt Reading Ability, WRTG = Writing Sample Analysis. Suffix 1 indicates a pre-test, suffix 2 indicates a posttest.

Note: Correlation values in lower diagonal of matrix, significance levels in upper diagonal. $p > .05 = *$ $p > .001 = **$

Table 8

Correlation Matrix: Posttest Items^a (N = 39)

	XSKILL	TREAT	WLAN2	WMESS2	WDIR2	RMEAN2	RALPH2	RCONV2	\bar{X}	SD
XSKILL	1.000	-	**	**	-	**	**	**	.000	1.000
TREAT	.121	1.000	**	**	-	-	-	*	1.500	.506
WLAN2	.476	.643	1.000	**	**	**	-	**	5.769	2.315
WMESS2	.497	.436	.883	1.000	**	**	*	**	7.385	2.508
WDIR2	.369	.268	.600	.776	1.000	*	*	*	5.949	2.449
RMEAN2	.668	.292	.419	.370	.318	1.000	**	**	5.667	2.484
RALPH2	.685	.012	.256	.289	.336	.739	1.000	**	3.026	2.213
RCONV2	.415	.266	.499	.439	.338	.519	.385	1.000	1.436	.709

^aKey: XSKILL = Prior experience, TREAT = Treatment effect, WLAN = Language level, WMESS = Message quality, WDIR = Writing Direction, RMEAN = Reading Meaning Subscale of TERA, RALPH = Alphabet Recognition subscale of TERA, RCONV = Reading Convention Subscale of TERA. Suffix 2 indicates a posttest.

Note: Correlation values in lower diagonal of matrix, significance levels in upper diagonal. $p > .05 = *$ $p > .01 = **$

subscale of the writing sample analysis. While WLAN2 refers to the units of written language used in the writing samples, that is, letters, words or sentence types, WMESS2 takes into account the child's ability to apply these units in conveying a message. Therefore, an increase in the level of performance in these two areas of writing at posttest time indicates an awareness of how language is used to communicate a message that can be identified by the reader.

The treatment correlated significantly at the .05 level with RCONV2, the reading convention subscale of TERA at posttest time. This result reflects the total group of 39 subjects and indicates that the treatment did have an effect on the RCONV2 subscale of TERA, but not on the subscales of RMEAN2 (reading meaning at posttest time) and RALPH (alphabet recognition at posttest time). This meant that the children in this study did improve in their ability to handle a book and read in a left to right progression. The treatment did not, however, aid them in their ability to read for meaning or to recognise additional letters of the alphabet.

When TREAT and WLAN2 (language level subscale at posttest time) were considered, the correlation was .643, which was significant at the .001 level. At first glance, it would appear from this correlation that the language level of the writing samples was significantly better at posttest time for all the children in the study. The quality of the messages had also improved since the relationship between the treatment and the message quality was statistically significant (.436) at the .001 level. The analysis of variance in the next section investigates these results to determine whether the experimental or the control group was influencing the correlation in these two subscales of the writing sample. The relationship between TREAT and WDIR2 (the writing direction subscale at posttest time) was not statistically significant at the .001 level. It would appear that the children's

performance in writing at the top left side of the paper and moving from left to right had not improved significantly by the end of the study.

Analysis of Variance

One way analysis of variance was carried out to determine if the treatment was significant. The results can be used to confirm the inter item correlations.

Results

The analysis of variance for vocabulary knowledge (Table 9) showed a 13.64% gain in the experimental group and an 11.91% gain in the control group. From Table 10 it can be seen that the difference in performance between the groups was not significant. The rejection of hypothesis one was confirmed.

There was a 7.18% gain in early reading ability for the experimental group and a 6.23% gain for the control group (Table 9). From Table 10 it can be seen that the difference in performance between the groups on this test item was not significant. Hypothesis number two was therefore rejected. The investigator would like to stress, however, that the relationship was in the hypothesized direction and, had the study continued longer than 12 weeks, the coefficients would probably have been significant.

The greatest percentage gain was found in the writing samples where the experimental group improved 49.67% while the control group gained 14.39%. From Table 10 it can be seen that the between group difference on this test measure was significant at or beyond the .01 level. The writing sample score consisted of three sub-scales, and these too were analyzed. The language level sub-scale indicated significantly higher, $F(1,37) = 24.05$ $p > .001$, scores for the

Table 9

Absolute and Percentage Gains in Scores between the Pretest and Posttest

	Mean Gain	Experimental S.D.	Percent Gain	Mean Gain	Control S.D.	Percent Gain
PPVT-R	0.441	0.718	13.64%	0.362	0.696	11.91%
TERA	0.126	0.508	7.18%	0.067	0.622	6.23%
Read Mean	1.10	2.29	21.78%	0.800	1.735	19.28%
Alph. Recog	0.684	1.635	29.79%	0.850	1.309	39.53%
Read. Conv.	0.526	0.964	55.24%	0.300	0.571	31.58%
Writing Sample	7.42	5.242	49.67%	2.00	4.974	14.39%
Lang. Level	1.842	1.642	36.82%	-0.650	1.531	-13.13%
Mess. Qual	2.842	2.672	53.69%	1.250	1.832	24.75%
Direc. Prin	2.474	1.926	61.71%	1.40	2.998	35.90%

Table 10

Analysis of Variance: Posttest Scores

Variable	Source	df	SS	MS	F	Sig
TERA	Between	1	1.118	1.118	1.695	-
	Within	37	24.41	.659		
	Total	38	25.53			
PPVT-R	Between	1	.0036	.0036	.002	-
	Within	38	61.731	1.625		
	Total	39	61.74			
WRTG	Between	1	421.05	421.05	12.16	**
	Within	37	1280.54	34.61		
	Total	38	1701.59			

** $p > .01$

experimental group, as did the message quality sub-scale in which $F(1,37)=4.75$ $p > .05$. There was no significant difference, $F(1,37)=1.74$ $p < .05$, between the two groups on the direction principles of the writing sample sub-scale. This confirmed the acceptance of hypothesis number three. Additional evidence of support for the acceptance of this hypothesis can be found in the detailed breakdown of the learning gains presented earlier.

Interpretation

The analysis of variance (Table 10) shows that the treatment had no effect on vocabulary knowledge since the variance was not significant at the .01 level. In addition, Table 9 indicates that the percentage gain was slightly greater for the experimental group than the control group in this area. The experimental group was more directly involved than the control group in using language. Children in the experimental group continually constructed language since they were involved in learning through everyday experiences, whereas children in the control group learned language passively through methods such as worksheets. Verbal interaction between adult and child or between children was encouraged more in the experimental group (due to the activities in which they were engaged) than in the control group. This socially interactive setting provided for modelling and focused on the emulation of real life experiences which offered an excellent opportunity for language development. The vocabulary level for both groups at pretest time was approximately six months above what would be expected (Table 1). Had the study continued for a whole year the treatment may have had a significant effect on vocabulary knowledge.

Treatment had little effect on children's early reading ability (Table 10) since there was only a slightly higher percentage gain (less than 1%) for the experimental group than for the control group (Table 9). The similarities in the

two programs probably go some way in accounting for comparable scores. Both the experimental group and the control group had stories read to them, but not in the same way. Since both groups used the same program rooms, all children in the study were exposed to environmental print. In addition, language experience was used in both groups but not in the same way. Since these traits were already part of the pre-school program it was not feasible to eliminate them during the study.

The greatest percentage gain (55.24%) was recorded by the experimental group on the reading conventions subscale (Table 9). This may be due to the fact that the children in the experimental group were given additional opportunities to work with books. For example, the dramatic play area provided opportunities for reading to occur in the experimental group as library materials were made available for pretend mothers and fathers to read to their pretend babies. However, library books were not made available to the children in the control group in this context. The children in the experimental group were encouraged to use the story books in the loft and many of them were observed engaged in peer reading. Reading conventions include knowing where to begin reading, the difference between pictures and print, the front and back of the book, the left to right progression of print and how one page follows the other in a sequence of a story. The traditional program focused on the mastery of individual skills through a drill and practise method. While this did not enhance reading convention knowledge it may have contributed to the greater gain for the control group (39.53%) in the alphabet recognition subscale of TERA (Table 9). Alphabet recognition was frequently emphasized through flashcards and worksheets. However, the print materials that experimental children typically used to read and write did enable this group to make substantial gains (29.79%) in developing alphabet recognition. It appears that during the 12 weeks of this study the

repetitious teaching method of the control group was more effective in children's recognition of the alphabet than the child-centred approach of the experimental group.

Table 10 indicates that the reading for meaning scores were almost the same for both groups (a 2.5% difference in percentage gains). In addition, the higher gains for the experimental group in reading conventions (55.24%) was balanced out by higher gains for the control group in alphabet recognition (39.53%). Therefore, there was no significant difference overall in reading ability, but clearly one method was better for one thing and the other method for another.

The analysis (Table 10) also shows that the treatment was highly significant at the .01 level with respect to writing. Both groups made substantial gains overall in the writing sample with the experimental group well ahead of the control group (49.67% as compared to 14.39%). A further breakdown indicates that the greater gains were made by the experimental group in the language level and message quality subscales. The difference in percentage gain between the two groups on the language level subscale is 49.95%. Gains made by the experimental group in the message quality subscale are represented by a difference by 28.94%. Although the greatest percentage gain was recorded by the experimental group on the direction principle subscale, the difference in percentage gain between the two groups is only 25.81% which is lower than the other two subscales. It is clear that language level had the biggest difference in percentage gains, while message quality was next and directional principles had the least difference. These differences may be attributed to the fact that both groups used books, but the experimental group had more opportunities. During story time children in the experimental group were introduced to various book features such as the title page and where the story begins and ends. Some children were observed using these

book handling skills while reading in the loft. In addition, the type of book reading (shared reading) used with the experimental group may have enhanced their language level and message quality since they were not only exposed to good children's literature, but were given opportunities to interpret the story in their own words. These retellings helped to reinforce the concept that units of language are used to convey a message. Directional principles improved as the children in the experimental group explored with writing in many ways by eventually starting the pencil at the top left, moving it left to right, returning it down to the left and locating the next starting point. The children in the control group, however, were not given many opportunities to write. Writing consisted mainly of copying a name on an art creation or completing a worksheet.

In addition to the opportunities for practise previously mentioned, children's writing performance was also enhanced through journal writing in the whole language group. Although the journals were easily accessible they required teacher interaction and this no doubt aided in the improvement of the quality of the message over the 12 week period. The control group did not have journals at all. However, they did participate in experience chart writing but the ideas were those of the teacher.

Regression Analysis

In order to test the three hypotheses in this study more stringently, the investigator used regression techniques to examine the relationship between the treatment and the outcome in vocabulary, reading and writing when taking into account the other independent variables. From Tables 11 to 13, it can be seen that only the PPVT-R pretest was a significant predictor of PPVT-R posttest scores,

and that the same pattern was evident in the analysis of writing samples, where again, the writing sample pretest was the only significant predictor of posttest writing performance. For the TERA posttest, both TERA and PPVT-R pretests were significant predictors of performance. With R-Square values of .579 for the regression of PPVT-R2 on PPVT-R1, TERA1 and WRTG1, and values of .603 and .402 for the regressions of TERA2 and WRTG2 on these same three variables it can be seen that pretest scores explain approximately 40 to 60 percent of the variance in posttest scores.

Table 11

Regression of PPVT-R2 on PPVT-R1, TERA1 and WRTG1

Independent Variables	PPVT-R2				
	B	SEB	Beta	T	Sig T
PPVT-R1	1.160	.209	.767	5.539	.000
TERA1	-.330	.280	-.145	-1.181	.255
WRTG1	.254	.399	.084	.638	.528
Mult. R	.761				
R-Square	.579				

Table 12

Regression of TERA2 on PPVT-R1, TERA1 and WRTG1

Independent Variables	TERA2				
	B	SEB	Beta	T	Sig T
PPVT-R1	.233	.104	.301	2.241	.031
TERA1	.589	.139	.505	4.240	.000
WRTG1	.215	.198	.139	1.085	.285
Mult. R	.777				
R-Square	.603				

Table 13
Regression of WRTG2 on PPVT-R1, TERA1 and WRTG1

Independent Variables	β	SEB	WRTG2		
			Beta	T	Sig T
PPVT-R1	.081	.097	.138	-.833	.410
TERA1	-.101	.130	-.114	-.779	.441
WRTG1	.686	.185	.584	3.703	.001
Mult. R	.634				
R-Square	.402				

Path diagrams summarize the regression analysis indicating which paths are more powerful. Figure 10, shows that posttest scores were significantly predicted by the pretest scores. This indicates that those who were more advanced in their literacy skills at the start of the program were also more advanced at its completion.

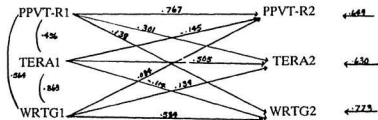


Figure 10. Relationship between Pretest and Posttest Scores for PPVT-R, TERA and WRTG

Additional regression analysis was undertaken adding treatment effects to the model. This was necessary to test the effect of the experimental treatment. The test was particularly rigorous due to the statistical controls placed on all prior achievement variables and, thus, the treatment effect reported was that achieved after the effects of PPVT-R1, TERA1 and WRTG1 had been taken into account. From Table 14 it can be seen that the addition of the treatment as an independent variable had no effect on the PPVT-R posttest scores. The treatment effect on the PPVT-R2 variable was not significant, therefore, the earlier rejection of hypothesis number one concerning the relationship between treatment and vocabulary was supported. The results of Table 15 indicate that PPVT-R1 and TERA1 are important when taking TERA2 into account, but WRTG1 is not important in this regression. The treatment did not have any significant effect on TERA2 but the effect was in the direction hypothesized. This reconfirms the earlier rejection of hypothesis two concerning the relationship between treatment and reading.

Table 16 indicates that the children in the experimental group were better writers than those in the control group as a result of the treatment, even when taking into account how well they were writing at the beginning of the program. WRTG1 and TREAT have a significant effect on WRTG2 and the treatment effects account for the variance in writing over and above WRTG1. This reconfirms hypothesis three which stated a positive and significant relationship between treatment and writing. In the case of the PPVT-R and TERA posttests, the increase in the R-Square as a result of the inclusion of the treatment was minimal. For the PPVT-R the R-Square value increased from .579 to .584, while for the TERA the respective values changed from .603 to .615. In the case of the writing sample analysis, however, the inclusion of the treatment in the regression analysis indicated that the treatment had a significant effect on the posttest scores.

The treatment effect was seen to be significant at the .001 level, and resulted in an increase in the R-square from a value of .402 when the treatment was not included to a value of .569 when the treatment was considered. The inclusion of the treatment effect increased the percentage of explained variance on this variable by 16.7 percent. The relationships of the pretests and the treatment to the posttest are shown diagrammatically in Figure 11.

Table 14
Regression of PPVT-R2 on PPVT-R1, TERA1, WRTG1 and TREAT

Independent Variables	β	SEB	PPVT-R2		
			Beta	T	Sig T
PPVT-R1	1.147	.212	.759	5.398	.000
TERA1	-.299	.287	-.131	-1.042	.304
WRTG1	.274	.404	.090	.678	.502
TREAT	-1.972	3.360	-.066	-.578	.5610
Mult. R	.764				
R-Square	.584				

Table 15

Regression of TERA2 on PPVT-R1, TERA1, WRTG1 and TREAT

Independent Variables	TERA2				
	B	SEB	Beta	T	Sig T
PPVT-R1	.244	.104	.316	2.340	.025
TERA1	.562	.141	.482	-3.982	.000
WRTG1	.198	.199	.128	.996	.326
TREAT	1.727	1.650	.112	1.046	.303
Mult. R	.785				
R-Square	.615				

Table 16

Regression of WRTG2 on PPVT-R1, TERA1, WRTG1 and TREAT

Independent Variables	WRTG2				
	B	SEB	Beta	T	Sig T
PPVT-R1	.113	.084	.192	-1.343	.188
TERA1	-.178	.114	-.201	-1.564	.127
WRTG1	.638	.160	.543	3.985	.000
TREAT	4.902	1.331	.418	3.683	.001
Mult. R	.754				
R-Square	.569				

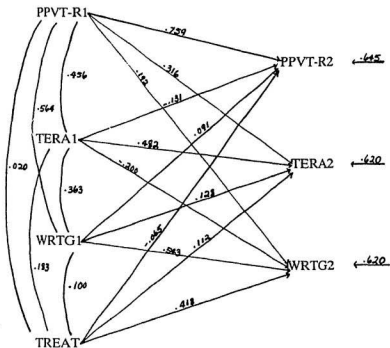


Figure 11. Path Diagram for Relationship Between Treatment and Pretest and Posttest PPVT-R, TERA and WRTG Scores

Having demonstrated the significant effect of the treatment (that is the whole language approach) on the scores achieved by the subjects on the writing samples, additional regression analysis was undertaken to investigate the effect of

both prior knowledge, and the treatment on the sub-scale components of the writing sample analysis. To minimize the risk of sampling fluctuations due to the number of independent variables in relation to the case base, the three pretest variables were combined to form a single construct called XSKILL. This analysis permitted more detailed examination of the treatment effect on the three subscales of the writing sample analysis as shown in Table 17.

From Table 17 it can be seen that the XSKILL variable and the treatment, with an r of .121, did not correlate significantly. Prior learning, as represented by the XSKILL variable correlated significantly with the posttest language level, message quality and language direction sub-scales of the writing sample analysis. The correlations were significant at the .01 level for language level and message quality, and at the .05 level for writing direction. It appears that the children in the study had some writing awareness. This supports the theory that children acquire some knowledge about language, reading and writing early in life.

The regression analysis findings in Table 18 demonstrate that the treatment effects and prior knowledge are extremely powerful predictors of WLAN2. There is no doubt that the result of the treatment was positive when promoting the language level subscale of writing. Similarly, Table 19 results indicate that the quality of the message was influenced by prior skills and treatment. Table 20, however, demonstrates that treatment was not quite as successful in the case of writing direction. The only factor that seems to account for the children's performance in terms of writing direction was their prior knowledge. This analysis is summarized by the path diagram in Figure 12.

Table 17
Correlation Matrix, Means and Standard Deviation of Variables in the Disaggregated Writing Model^a

	XSKILL	TREAT	WLAN2	WMES2	WDIR2	X	SD
XSKILL	1.000						
TREAT	.121	1.000	**	**	-	0.000	1.000
WLAN2	.476	.643	1.000	**	*	1.506	0.506
WMES2	.497	.438	.833	1.000	**	5.769	2.315
WDIR2	.369	.368	.600	.776	1.000	7.385	2.508
						5.949	2.449

^aKey: XSKILL = composite construct of prior achievement, TREAT = treatment effect, WLAN2 = Language level posttest, WMES2 = Message quality posttest, and WDIR2 = Writing direction posttest.

Note: Correlation values in lower diagonal of matrix. Significance levels in upper diagonal. * $p < .05$; ** $p < .01$.

Table 18

Regression of WLAN2 on XSKILL and TREAT

Independent Variables	WLAN2				
	B	SEB	Beta	T	Sig T
XSKILL	.937	.250	.405	3.746	.001
TREAT	2.715	.494	.594	5.499	.000
Mult. R	.758				
R-Square	.575				

Table 19

Regression of WMESS2 on XSKILL and TREAT

Independent Variables	WMESS2				
	B	SEB	Beta	T	Sig T
XSKILL	1.130	.324	.450	3.488	.001
TREAT	1.899	6.396	.384	2.970	.005
Mult. R	.626				
R-Square	.392				

Table 20

Regression of WDIR2 on XSKILL and TREAT

Independent Variables	WDIR2				
	B	SEB	Beta	T	Sig T
XSKILL	.837	.366	.342	2.288	.028
TREAT	1.098	.722	.227	1.520	.137
Mult. R	.432				
R-Square	.187				

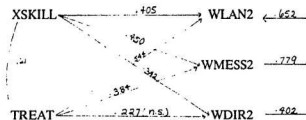


Figure 12. Path Diagram for Relationship Between TREAT and XSKILL, and Posttest WLAN, WMESS and WDIR Scores

In the regression analysis, several instances can be noted where relationships which were positive in the correlation tables have become negative in the regression tables. This sign reversal is attributable to a phenomenon called "multicollinearity". It will occur when the number of independent variables is low in relation to the number of cases (experimental subjects). In general, there should be more than 20 cases per independent variable, but in this study this desired state could not be obtained. The sign reversal was primarily associated with the TERA1 variable and the Beta coefficients when this occurred were usually less than 0.2. In every case, the T values were less than 1 and therefore insignificant. The negative parameters should therefore be treated as having negligible effects. This phenomenon is common in research where the sample is less than 50.

In summary, the whole language approach seems to have the most pronounced effect on writing. Although this method does not have strong effects on reading, the results are in the right direction, and this indicates that the whole language approach is as good as the traditional approach.

CHAPTER FIVE

Summary, Implications and Recommendations

This study compared the whole language approach and a traditional skills based approach to determine which method best contributed to the development of children's vocabulary development and their reading and writing ability during the pre-school years. Since these are the two dominant approaches to learning currently being used in the early childhood field, it was decided to attempt to shed some light on which method may be more effective.

The sample in the study consisted of 40 children attending a pre-school in St. John's during the academic year 1988-1989. Twenty of the children were randomly assigned to the experimental group and twenty to the control group. All children in the sample had reached their fourth birthday by December 31, 1988.

An experimental and control group pretest/posttest experimental design was used, with a 12 week experimental treatment occurring between the pre and posttests. The testing instruments used were: (i) the Peabody Picture Vocabulary Test-Revised (PPVT-R); (ii) the Test of Early Reading Ability (TERA), which included three sub-scales, (a) reading meaning, (b) alphabet recognition, and (c) reading conventions; and (iii) samples of the students' writing. Both the PPVT-R and the TERA were scored according to standardized instructions and generated scores which were the vocabulary and reading ages of the subjects. The writing samples were scored using a researcher refined scale based on the work of Clay (1975). The writing sample analysis generated three sub-scales: (a) language level; (b) message quality; and (c) directional principles. All three tests were administered at the beginning and end of the 12 week treatment period.

The experimental group was exposed to the whole language approach to emerging literacy, while the control group were instructed using a more traditional

approach. The groups met three times per week for 12 weeks, with each session lasting three hours.

During each session the experimental (whole language) group was exposed to print in meaningful ways through "predictable" books, repetitive poetry, a sign-in register, personal journal writing, and simulation of everyday experiences through dramatic play. The use of themes, activity centres and teacher-made materials encouraged reading and writing in a child-centred environment.

The control group was exposed to a more traditional method of teacher-directed learning. Children received specific instructions at the activity centres and were taught isolated reading readiness skills such as, letter recognition and visual discrimination. Although the children were exposed to print materials in the classroom, there was no discussion around its significance and children were not encouraged to write. Commercially-made materials were used and children completed teacher directed tasks together in large groups.

From the results it was clear that there were no significant differences in any of the test scores between the two groups at the start of the experiment but that by the time of the posttest, the experimental group scored significantly higher on the overall scores assigned to their writing samples as well as to the scores assigned for the writing sample sub-scales of language level and message quality. There were no significant differences on the posttest PPVT-R and TERA scores between the experimental and control groups.

Based on these results it was possible to accept hypothesis three which was that the whole language approach would produce significantly higher scores on tests of writing ability. Hypotheses one and two, which suggested that this method would produce improved vocabulary and reading scores respectively, were rejected.

Implications

From the data it can be seen that both the whole language and traditional approaches to emerging literacy created gains in performance over and above those which would have been expected due to normal maturation during the treatment period. However, the scores for the experimental group on their posttest writing samples (WRTG2) were significantly higher than those for the traditional group indicating that it was this area of literacy which was predominantly developed by the whole language approach. Closer inspection of the writing sample sub-scales indicated that it was in the conceptually-advanced areas of language level and message quality, that the biggest gains had been made. In the relatively rote memory dominated area of directional principles, there was no significant difference between the two groups, thus suggesting that either approach was satisfactory in this area.

The data suggest that it is in the area of language level and message quality of writing that the whole language approach has its strongest influence. The increased performance in these writing sub-scales is a result of the greater opportunity to both write and to use writing as a medium of communication with the teacher and significant others in the pre-school environment. This helps to demonstrate to teachers the importance of incorporating writing in pre-school programs.

Although there was no significant difference between the two groups on the TERA and PPVT-R scores, it should be noted that the whole language group's mean scores on both tests were higher (although not statistically significantly) than that recorded by the group instructed using the traditional approach. It is

interesting to speculate on the likelihood of this improvement reaching statistically significant levels in a replication of this experiment using a considerably longer period of instruction. This has implications for pre-school programs as it is evident that the whole language approach is as effective as the traditional approach. Similar results were found by Stahl & Miller (1989) when they compared basal reading approaches to the whole language and language experience approaches using the results of 46 relevant studies and the United States Office of Education first grade studies. Vote counting and meta analysis aided the researchers in concluding that whole language and language experience approaches may be more effective in kindergarten than in first grade. These results might be applied to pre-school education and suggest that whole language and language experience approaches play an important role in emergent reading.

The study clearly indicated that the implementation of a whole language approach to literacy in the pre-school was feasible. In addition it should be noted that the teachers involved in the study were sufficiently enthusiastic about the positive learning environment that the method generated, that they were prepared in future to implement the method with all groups in the pre-school centre, even before the positive results of the posttesting were known. As well, there was considerable positive feedback from the parents of the pre-school students in the experimental group who had observed their children exhibiting reading-like and writing-like behaviours at home.

These gains were, however, not made without some adjustments being made on the part of the pre-school teachers. The experimental teachers spent considerable planning time ensuring that the activities were child centred and that the activities were able to proceed in a positive atmosphere conducive to quality learning. It was their observation that it took much more time to prepare the

learning environment than it had previously taken to plan teacher directed learning activities.

Recommendations for Further Research

Based on the results of this study and on the results of Smitu (1989), who demonstrated the superiority of the whole language approach in teaching writing in grades 4 and 5, it is recommended that further study in the whole language approach be undertaken for grades kindergarten to grade 3. Further research is also required to determine if the beneficial effects of the experimental treatment at age 4 is sustained during the primary school years. Thus, this same sample could be re-tested, using the same tests, at 24 month intervals until the children in the study have completed the primary school grades.

Lastly it is recommended that investigation of the affective domain be undertaken. This would determine the effect of the whole language approach on the attitudes of students towards both reading and writing.

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Appendix A

Sample Theme: Traditional Approach

Theme: Hallowe'en

Objectives:

1. When given an activity requiring small and large muscle coordination, the child should be able to complete the activity independantly.
2. The child should be able to follow the directions given during an activity.
3. The child should be able to complete a given task.
4. The child should be able to use good listening skills during a given activity by recalling the major points.
5. When given other possible choices, the child should choose literature in the library corner.

Organization:

The activities in the traditional group were developed over a two week period in the three hour daily program. The program day was organized in the following manner.

9:00 a.m. - 9:30 a.m.	Free Play: As children entered the classroom, they played with the toys.	Room 2
9:30 a.m. - 10:00 a.m.	Circle Time: The teacher talked about the weather, calendar and theme. The register was called and science activities were carried out.	Room 2
10:00 a.m. - 11:00 a.m.	Activity Centres: The children were encouraged to participate in all the activity centres.	Room 1
11:00 a.m. - 11:30 a.m.	Group Activities: Story time and music were conducted in a large group setting and learning games were played in small groups.	Room 1
11:30 a.m. - 12: noon	Physical Activity: Running, climbing and other large muscle play took place.	Gym

The following description and three planning sheets outline the activities that were included in a typical day in the traditional group.

Introduction:

The children in this group used the room filled with Hallowe'en displays and appropriate books in the book loft. The theme was introduced at circle time and children were informed of the activity centres. The teacher did not make any reference to the environmental print in the room.

Arts and Crafts:

The teacher selected the materials for arts and crafts and demonstrated how to complete the product. When the activity was too difficult the teacher pre-cut the shapes or drew the shapes for the children to cut on the lines.

Dramatic Play:

The dramatic play area encouraged children to reenact real-life situations since the area was changed every other week to either a playhouse, restaurant, supermarket, hospital, beauty parlor or a post office. The materials used to encourage reading-like and writing-like behaviours were removed before the traditional group entered the playroom.

Music Time:

In a large group setting children were taught finger plays and songs and were exposed to rhythm band instruments. They were also encouraged to sing along with records and tapes. The emphasis was on teaching new songs and finger plays every day.

Science:

Children were instructed in class size groups. The teacher usually demonstrated the science activity so the children could try it at home later. Activities were not displayed for fear of being broken.

Small Group Time:

Although learning games such as alphabet recognition were taught in small groups of eight, all the children played the same game at the same time. The activities usually consisted of workbooks, worksheets, colouring books or some flash card activity.

Story Time:

Stories were read in the large group. Discussion was occasionally encouraged depending on the familiarity of the topic. The emphasis was on selecting a book which fell within the theme.

Planning Sheet 1

Group: Traditional

Date: Monday, October 17, 1988

Theme: Hallowe'en

Print in Room: Furniture, doors and windows in the room were labelled and Hallowe'en words were posted. Kentucky Fried Chicken menu and paper products were incorporated in the restaurant in the dramatic play area.

Register: Children's names were called at circle time in a large group.

Writing Table: This was not available.

Craft Table: Children were instructed to construct a jack-o-lantern like the teacher's model. Paper plates, buttons and lick-and-sticks were available.

Painting Table: Children were instructed to make moon prints using black construction paper, toilet paper rolls and yellow paint.

Science Corner: Science was a large group activity about the brain. Children were shown how the eye sends different messages to the brain. The teacher covered her eye to demonstrate how the brain is fooled.

Book Corner: The Happy Egg, Henny Penny, Wynkin, Blynkin and Nod, It's Hallowe'en, The Spooky Hallowe'en Party, The Witch Who was Afraid of Witches, Rabbit and Skunk and the Scary Rock, Three Ducks Went Wandering, The Three Bears, Bunches and Bunches of Bunnies, Seven Little Rabbits, Just Grandpa and Me, I Was Walking Down the Road and Humbug Witch were the books in the book corner.

Dramatic Play: The dramatic play area was transformed into a Kentucky Fried Chicken store with menu, posters, signs and paper products.

Listening Station: This was not available.

Story time: The book Humbug Witch by Lorna Balian was read to the large group.

Music: Children sang Hallowe'en songs along with recordings by Raffi, Fred Penner and Sharon, Lois and Bram. A variety of Hallowe'en songs and finger plays were introduced.

Small Group Time: Children completed a worksheet on the concepts of same and different. All children completed the worksheet together.

Planning Sheet 2

Group: Traditional

Date: Wednesday, October 19, 1988

Theme: Hallowe'en

Print in Room: Furniture, doors and windows in the room were labelled and Hallowe'en words were posted. Kentucky Fried Chicken menu and paper products were incorporated in the restaurant in the dramatic play area.

Register: Children's names were called at circle time in a large group.

Writing Table: This was not available.

Craft Table: Children were instructed on how to make a paper bag puppet using a paper bag, wiggly eyes, pompons and wool.

Painting Table: Paint brushes and paper of the same size, and two colours of paint were provided.

Science Corner: The teacher demonstrated to the class how a plastic waffle block can represent the human frame or skeleton, and a scarf can represent the skin. The skin was pulled over the skeleton for the children.

Book Corner: The Happy Egg, Henny Penny, Wynkin, Blynkin and Nod, It's Hallowe'en, The Spooky Hallowe'en Party, The Witch Who was Afraid of Witches, Rabbit and Skunk and the Scary Rock, Three Ducks Went Wandering, The Three Bears, Bunches and Bunches of Bunnies, Seven Little Rabbits, Just Grandpa and Me, I Was Walking Down the Road and Humbug Witch were the books in the book corner.

Dramatic Play: The dramatic play area was transformed into a Kentucky Fried Chicken store with menu, posters, signs and paper products.

Listening Station: This was not available.

Story time: Hallowe'en with Morris and Boris was read to the large group.

Music: New Hallowe'en songs and finger plays were introduced. Children sang along with recordings by Raffi, Fred Penner and Sharon, Lois and Bram

Small Group Time: Children completed a worksheet on the concepts of same and different by colouring only the pictures that were the same. They were encouraged to colour within the lines.

Planning Sheet 3

Group: Traditional

Date: Friday, October 21, 1988

Theme: Hallowe'en

Print in Room: Furniture, doors and windows in the room were labelled and Hallowe'en words were posted. Kentucky Fried Chicken menu and paper products were incorporated in the restaurant in the dramatic play area.

Register: Children's names were called at circle time in a large group.

Writing Table: This was not available.

Craft Table: Children were instructed on how to make haunted houses using cereal boxes, toilet tissue rolls and markers.

Painting Table: Popsicle sticks, mural paper and three colours of paint were provided.

Science Corner: The teacher brought a skeleton into the room and named the bones for the children.

Book Corner: The Happy Egg, Henny Penny, Wynkin, Blynkin and Nod, It's Hallowe'en, The Spooky Hallowe'en Party, The Witch Who was Afraid of Witches, Rabbit and Skunk and the Scary Rock, Three Ducks Went Wandering, The Three Bears, Bunches and Bunches of Bunnies, Seven Little Rabbits, Just Grandpa and Me, I Was Walking Down the Road and Humbug Witch were the books in the book corner.

Dramatic Play: The dramatic play area was transformed into a Kentucky Fried Chicken store with menu, posters, signs and paper products.

Listening Station: This was not available.

Story time: Clifford's Hallowe'en was read to the large group.

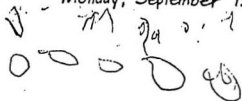
Music: New Hallowe'en songs and finger plays were introduced. Children marched around the room while listening to the record.

Small Group Time: Children were shown two flashcards simultaneously. The flash cards contained pictures and when the two cards were the same, the group responded "same" and "different" when the pictures were different.

Appendix B

Samples from the Sign-in Register

Monday, September 12, 1988.



HILARY
Mathreen

Monday Oct. 17
Kathleen
McCluskey

Handwritten letters and symbols: a wavy line, 'Q', 'A', 'M', 'Q', 'A', 'Z', 'O', 'C', 'H'.

Friday, Dec. 16^M

SUSAN

micHAEL

MYRON

MYRON

micHAEL

MYRON

zachary

Appendix C

Sample Theme: Whole Language Approach

Theme: Hallowe'en

Objectives:

1. When exhibiting reading-like behavior, the child should be able to use the language of literature.
2. When given other possible choices, the child should be able to select good literature.
3. When provided with a print-filled environment, the child should be able to read and write naturally.
4. The child should be able to demonstrate left to right progression when engaged in a reading or writing activity.
5. The child should be able to predict what is going to happen next while listening to stories being read.
6. When given appropriate tools, the child should be able to communicate through writing.
7. The child should be able to recognise words in environmental print when asked.

Organization:

The activities in this theme were developed over a two week period. The whole language approach was implemented in the entire three hour daily program. The program day was organized in the following manner.

9:00 a.m. - 10:00 a.m.	Following circle time and introduction of the theme, children chose activity centres. Free play was encouraged.	Room 1
10:00 a.m. - 11:00 a.m.	Small group activities consisting of science, learning games, and story time took place. The activities were rotated.	Room 2
11:00 a.m. - 11:30 a.m.	Physical activity utilized equipment that had been labelled to give children instructions such as "up" and "down".	Gym
11:30 a.m. - 12 noon	Music activities consisting of familiar finger plays, songs and chants were utilized to encourage participation.	Room 1

The following description and three planning sheets outline the activities that were included in a typical day in the whole language approach.

Introduction:

A picture display of Hallowe'en was arranged around the room and suitable books were collected from the children's public library in addition to those books already available in the pre-school room. The theme was introduced at circle time and the teacher informed the children of the activity centres from which they could choose. The teacher also indicated the environmental print that had been incorporated in the classroom.

Poetry:

Time was allocated weekly for the reading of poetry to the children. Poetry and chants were written on charts and displayed so they could read in unison as well as on their own.

Big Books:

Big Books are either commercially made or reproduced. Procedures for using big books were found in Using Big Books and Predictable Books (Lynch, 1986). On the first day the big book was introduced in a small group of eight. The cover, the author and illustrator, the publisher, the copyright and the dedication were discussed. Based on the visual information, the children were asked if they knew what the story was about. The book was then read to the group with enthusiasm and without interruption. On the second day the book was read again, but this time the children were encouraged to comment and question throughout the reading allowing ample opportunity to examine the pictures. On the third day, children were invited to join in the reading whenever a part of the story was familiar to them. The big book was placed in the book corner so the children could practise reading on their own as well as request to have the teacher reread it in a one on one situation.

Writing:

A writing centre was established in the classroom where children were encouraged to experiment and explore with print. An assortment of writing materials and tools was made available. Some of the materials included paper of various shapes, sizes and textures, envelopes and writing pads. Writing tools such as markers, pencils, pens, crayons, coloured leads and pastels were at the centre. Journals were also placed at the writing centre and each child was given the opportunity to write in his/her own journal. Writing in journals usually took the format of a written conversation where the teacher verbalized while writing a message to the child who was asked to read it back. This reinforced the concept that print is talk written down and that print has meaning.

Arts and Crafts:

Materials were provided at the arts and craft centre to enable the children to create their own products. A variety of materials such as paper, crayons, paints and sand paper encouraged children to explore with colour and texture, design and construction.

Dramatic Play:

The dramatic play area enabled the children to pretend and role play real-life situations while exhibiting reading-like and writing-like behaviours. The dramatic

play area was changed every other week to either a play-house, restaurant, supermarket, hospital, beauty parlor or a post office. Appropriate posters and signs to encourage reading and appointment books, message pads, prescription pads and receipt books to encourage writing were incorporated in each real-life play situation.

Listening Station:

A listening station was set up to allow children to practise language by tape recording and listening to their own voices. There was also an opportunity to listen to favourite stories, records and tapes.

Music Time:

During music time children were exposed to finger plays, rhythm band instruments, favourite songs, rhymes and chants. Rhymes and chants were frequently written on chart paper so they could read them during the group session as they were singing or chanting them. The teacher pointed to the words as they sang or chanted. This also encouraged the children to read the rhymes and chants at their own leisure.

Science and Small Group Activities:

Following the small group discussion where children were encouraged to participate in science experiments, a science corner was developed. This gave children the opportunity to observe, discuss and label a variety of items. The activities were designed for experimentation in a small group setting as they attempted to solve problems.

Planning Sheet 1

Group: Whole Language

Date: Monday October 17, 1988

Theme: Hallowe'en

Print in Room: Furniture, doors and windows in the room were labelled. Hallowe'en words were posted. Kentucky Fried Chicken menu and paper products were incorporated into the restaurant in the dramatic play area.

Register: Children sign-in at the sign-in register.

Writing Table: Kentucky Fried Chicken letterhead; computer paper, pencils, fine markers, crayons, and journals were available.

Craft Table: The children constructed jack-o-lanterns using paper plates, construction paper, crayons, red lentils, buttons, and sticky paper shapes.

Painting Table: Moon prints were made using black construction paper, toilet paper rolls, sponges, paper cups, yellow, orange and white paint.

Science Corner: Science was a small group activity about the brain. How the eye sends different messages to the brain was discussed. Children covered one eye to see the difference between them and then uncovered the eye to see the whole picture. Children were then given paper towel rolls to hold up to one eye. Through discussion the children decided that when both eyes are kept open the message to the brain is fooled and the hand appears to have a hole in it.

Book Corner: The Happy Egg, Henny Penny, Wynkin, Blynkin, and Nod, It's Hallowe'en, The Spooky Hallowe'en Party, The Witch Who was Afraid of Witches, Rabbit and Skunk and the Scary Rock, Three Ducks Went Wandering, The Three Bears, Bunches and Bunches of Bunnies, Seven Little Rabbits, Just Grandpa and Me, I Was Walking Down the Road and Humbug Witch were the books in the book corner.

Dramatic Play: The dramatic play area was transformed into a Kentucky Fried Chicken Store with menu, posters, signs and paper products.

Listening Station: Children listened to "spooky" music recorded by Raffi and Sharon, Lois and Bram.

Story Time: At story time the Big Book version of Humbug Witch by Lorna Balian, was introduced. The title, author, illustrator, cover, title page and dedication were discussed. The book was read without interruptions.

Music: Children performed Hallowe'en finger plays and played the rhythm band to favourite songs including Have You Seen the Pumpkin Man?

Small Group Time: The topic during small group time was same and different. There was discussion of what makes people the same and what makes them different. A chart was developed with key words written under the headings same and different.

Planning Sheet 2

Group: Whole Language

Date: Wednesday, October 19, 1988

Theme: Hallowe'en

Print in Room: Furniture, doors and windows in the room were labelled. Hallowe'en words were posted. Kentucky Fried Chicken menu and paper products were incorporated into the restaurant in the dramatic play area.

Register: Children sign-in at the sign-in register.

Writing Table: Large sheets of orange paper, small posters for marking on the back, white paper, pens, pencils and markers were available

Craft Table: Children created their own versions of spooky characters using paper bags, pompoms, ricrac lace, styrofoam, wiggly eyes, sticky paper, construction paper, markers, crayons, aluminum foil, crepe paper and tissue paper.

Painting Table: Three different sizes of brushes and three colours of paint were available. Children were encouraged to write about their Hallowe'en painting.

Science Corner: The children took turns experimenting with an open block that represented the human frame and a scarf to represent the skin. Each child had an opportunity to pull the skin over the frame.

Book Corner: The Happy Egg, Henny Penny, Wynkin, Blynkin, and Nod, It's Hallowe'en, The Spooky Hallowe'en Party, The Witch Who was Afraid of Witches, Rabbit and Skunk and the Scary Rock, Three Ducks went Wandering, The Three Bears, Bunches and Bunches of Bunnies, Seven Little Rabbits, Just Grandpa and Me, I Was Walling Down the Road and Humbug Witch were the books in the book corner.

Dramatic Play: The dramatic play area was transformed into a Kentucky Fried Chicken Store with menu, posters, signs, paper products and an employee uniform.

Listening Station: Hallowe'en tapes were made available. The story book and tape of The Little Red Hen were also available.

Story Time: The big book version of Humbug Witch was read again, but this time the children were encouraged to comment and question throughout the reading allowing ample time to examine the pictures. There was ample opportunity to request favourite songs and finger plays.

Small Group Time: The group looked at the chart of same and different that was developed the last day. Children then decided to make individual charts by copying the big chart as well as creating their own with the rest of the small group when they were completed.

Planning Sheet 3

Group: Whole Language

Date: Friday, October 21, 1988

Theme: Hallowe'en

Print in Room: Furniture, doors and windows in the room were labelled. Hallowe'en words were posted. Kentucky Fried Chicken menu and paper products were incorporated into the restaurant in the dramatic play area.

Register: Children sign-in at the sign-in register.

Writing Table: Message pads, newsprint, journals, orange leads, pens, and pencils were provided.

Craft Table: Children created their own versions of haunted houses out of cereal boxes, toilet tissue rolls, styrofoam trays, construction paper, cotton balls, Cherios, sunflower seeds, coloured macaroni, pasta shells, markers and crayons.

Painting Table: Paint brushes and popsicle sticks were provided. Three sizes of paper and three colours of paint were also available.

Science Corner: A skeleton was brought into the room for the children to examine the bones. This led into a discussion around their own bones.

Book Corner: The Happy Egg, Henny Penny, Wynkin, Blynkin, and Nod, It's Hallowe'en, The Spooky Hallowe'en Party, The Witch Who Was Afraid of Witches, Rabbit and Skunk and the Scary Rock, Three Ducks Went Wandering, The Three Bears, Bunches and Bunches of Bunnies, Seven Little Rabbits, Just Grandpa and Me, I Was Walking Down the Road and Humbug Witch were the books in the book corner.

Dramatic Play: The dramatic play area was transformed into a Kentucky Fried Chicken Store with menu, posters, signs, paper products and an employee uniform.

Listening Station: Hallowe'en tapes were made available. The story book and tape of The Little Red Hen and The Little House were also available.

Story Time: Children were invited to join in the reading of Humbug Witch whenever part of the story was familiar to them. The big book was then placed in the book corner.

Music: The children were asked to select their own finger plays and songs.

Small Group Time: Children were given loctagon blocks and encouraged to make designs. A discussion around designs that were the same and different followed.

Appendix D
Children's Literature

Children's Literature

- Adams, P. (1974). This old man. New York, NY: Grossett & Dunlap.
- Alain, J. (1964). One, two, three, going to sea. New York, NY: Scholastic.
- Aliki.(1968). Hush little baby. Englewood Cliffs, NJ: Pentice-Hall.
- Aliki. (1974). Go tell Aunt Rhody. New York, NY: MacMillan.
- Asch, F. (1977). Monkey face. New York, NY: Parents' Magazine Press.
- Balian, L. (1972). Humbug witch. Nashville, TN: Abingdon Press.
- Barahas, S. (1975). I was walking down the road. New York, NY: Scholastic.
- Barchas, S. (1977). Janice and the giant. New York, NY: Scholastic
- Barton, B. (1973). Buzz, buzz, buzz. New York, NY: Scholastic.
- Barrett, J. (1962). Animals should definitely not wear clothing. New York, NY: Random House.
- Baum, A, and Baum, J. (1962). One bright monday morning. New York, NY: Random House.
- Becker, J. (1973). Seven little rabbits. New York, NY: Scholastic.
- Blair, S. (1967). The three billy goats gruff. New York, NY: Scholastic.
- Bonne, R, and Mills, A. (1961). I know an old lady. New York, NY: Rand McNally.
- Bornstein, R. (1976). Little gorilla. New York, NY: Scholastic.
- Bridwell, N. (1965). Clifford's family. New York, NY: Scholastic.
- Bridwell, N. (1967). Clifford's hallowe'en. New York, NY: Scholastic.
- Brown, A. (1979). Bear hunt. New York, NY: Atheneum.
- Brown, M. W. (1947). Goodnight moon. New York, NY: Harper & Row.
- Brown, M. W. (1952). Where have you been? New York, NY: Scholastic.
- Brown, M. W.(1956). Home for a bunny. Racine, WI: Golden Press.
- Brown, M. W. (1961). Four fur feet. New York, NY: William R. Scott.
- Brown, R. (1981). A dark, dark tale. New York, NY: Dial Press.

- Burmingham, J. (1970). Mrs. Grumpy's outing. New York, NY: Scholastic.
- Burmingham, J. (1976). The dog. New York, NY: T. Y. Crowell
- Carle, E. (1969). The very hungry caterpillar. Cleveland, OH: Collins World.
- Carle, E. (1975). The mixed up chameleon. New York, NY: T.Y. Crowell.
- Carle, E. (1977). The grouchy ladybug. New York, NY: T.Y. Crowell.
- Carney, E. (1984). The lilly pillly tree. Auckland, NZ: Ashton Scholastic.
- Chance, E.B. (1981). Just in time for the king's birthday. New York, NY: Scholastic.
- Charles, N. (1974). See you later, alligator. New York, NY: Scholastic.
- Charlip, R. (1964). Fortunately. New York, NY: Parents' Magazine Press.
- Charlip, R. (1966). Mother, mother I feel sick. New York, NY: Parents' Magazine Press.
- Charlip, R. (1969). What good luck! what bad luck!. New York, NY: Scholastic.
- Considine, K, and Schuler, R. (1965). One, two, three, four. New York, NY: Holt, Rinehart & Winston.
- Cook, B. (1976). The little fish that got away. Reading, MA: Addison-Wesley.
- de Fegniers, B. (1970). Catch a little fox. New York, NY: Seabury Press.
- de Vries, J. (1975). In my backyard. New York, NY: Scholastic.
- Drawson, B. (1977). I like hats. Richmond Hill, ON: Scholastic.
- Duff M. (1972). Johnny and his drum. New York, NY: Henry Z. Walck.
- Ets, M. H. (1972) . Elephant in a wall. New York, NY: The Viking Press.
- Field, E. (1985). Wynken, Blynken and Nod. New York, NY: Scholastic.
- Flack, M. (1932). Ask Mr. Bear. New York, NY: MacMillan.
- Galdone, P. (1968). Henny Penny. New York, NY: Scholastic
- Galdone, P. (1970). The three little pigs. New York, NY: Seabury Press.
- Galdone, P. (1972). The three bears. New York, NY: Scholastic.
- Galdone, P. (1973). The little red hen. New York, NY: Scholastic.
- Gelman, Rita. (1977). More, spaghetti, I say. New York, N.Y.: Scholastic.

- Ginsburg, M. (1980). Good morining chick. New York, NY: Greenwillow.
- Gross, R. (1974). The Breman-Town musicians. New York, NY: Scholastic.
- Hoberman, M. A. (1986). A house is a house for me. New York, NY: Scholastic.
- Hogrogran, N. (1971). One fine day. New York, NY: MacMillan.
- Hutchins, P. (1968). Rosie's walk. New York, NY: MacMillan.
- Hutchins, P. (1969). The surprise party. New York, NY: Collier.
- Keats, E. J. (1971). Over in the meadow. New York, NY: Scholastic.
- Kent, J.(1971). The fat cat. New York, NY: Scholastic.
- Kraus, R. (1948). Bears. New York, NY: Scholastic.
- Kraus, R. (1967). The happy egg. New York, NY: Scholastic.
- Langstaff, J. (1955). Frog went a courtin'. New York, NY: Harcourt, Brace, Jonanovich.
- Langstaff, J. (1974). Oh, a hunting we will go. New York, NY: Atheneum.
- Lexau, J. (1969). Crocodile and hen. New York, NY: Harper & Row.
- Littledale, F. (1975). The elves and the shoemaker. New York, NY: Scholastic.
- Lobel, A. (1979). A treeful of pigs. New York, NY: Greenwillow.
- Matthews, L. (1978). Bunches and bunches of bunnies. New York, NY: Scholastic.
- Martin, B. (1970). Brown bear, brown bear. New York, NY: Holt, Reinhart & Winston.
- Martin, B. (1970). Fire! fire! said Mrs. McGuire. New York, NY: Holt, Rinehart & Winston.
- Mayer, Mercer. (1975). Just for you. New York, NY: Golden Press.
- McGovern, A. (1967). Too much noise. New York, NY: Scholastic.
- Milts, A. (1967). Over the rolling sea. New York, NY: Scholastic.
- Moffett, M. (1972). A flower pot is not a hat. New York, NY: E.P. Dulton.
- Peppe, R. (1970). The house that Jack built. New York, NY: Dalacorte.
- Poluskin, M. (1978). Mother, mother, I want another. New York, NY: Four Winds Press.

- Quackenbush, R. (1973). She'll be comin round the mountain. Philadelphia, PA: J.B. Lippincott.
- Quackenbush, R. (1975). Skip to my Lou. Philadelphia, PA: J.B. Lippincott.
- Roy, R. (1979). Three ducks went wandering. New York, NY: Scholastic.
- Scheer, J. and Bileck, M. (1968). Upside down day. New York, NY: Holiday House.
- Sendak, M. (1962). Chicken soup with rice. New York, NY: Scholastic.
- Sendak, M. (1963). Where the wild things are. New York, NY: Scholastic.
- Shulevity, U. (1967). One Monday morning. New York, NY: Scribner's.
- Stevens, C. (1969). Rabbit and skunk and the scary rock. New York, NY: Scholastic.
- Tolstoy, A. (1968). The great big enormous turnip. New York, NY: Franklin Watts.
- Wells, R. (1973). Noisy Nora. New York, NY: The Dial Press.
- Wild, M. (1984). Something absolutely enormous. Sydney, Australia: Scholastic.
- Wildsmith, B. (1972). The twelve days of Christmas. New York, NY: Franklin Watter.
- Williams, G. (1967). The chicken book. New York, NY: Scholstic.
- Withers, C. (1967). A rocket in my pocket. New York, NY: Scholastic.
- Wonduska, W. (1970). All the animals were angry. New York, NY: Holt, Rinehart & Winston.
- Zaid, B. (no date). Chicken little. New York, NY: Random House.
- Zemach, M. (1965). The teeny tiny woman. New York, NY: Scholastic.
- Zemach, M. (1976). Hush little baby. New York, NY: E.P. Dutton.
- Zolotow, C. (1965). Do you know what I'll do?. New York, NY: Scholastic.
- Zolotow, C. (1976). It's not fair. New York, NY: Random House.



