THE WRITTEN PRODUCTION OF FOUR KINDERGARTEN CHILDREN IN A WHOLE LANGUAGE CLASSROOM: FREQUENCY, FUNCTION, AND FORM

DISSERTATION

Presented to the Graduate Council of the North Texas State University in Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

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The problem of this study was to describe, analyze, and compare the effects of learning centers and curricular themes upon the writing production of four children within a kindergarten classroom which followed the whole language approach. This study was conducted in a public school.

Four subjects were identified from the administration of the Book Handling Knowledge Task. Using the qualitative research method of case studies, the teacher-researcher kept observational notes concerning the writing behavior of the subjects. The written compositions of the subjects were collected daily throughout the school year and were assigned a context, learning center and curricular theme. The compositions were then coded as to writing frequency, function, and form.

The following findings resulted from the study: writing occurred most frequently in the art center followed by dramatic play, language, sand, science, social studies, "other," eyes and hands, mathematics, and library-listening; writing occurred most frequently during the curricular theme
of Christmas followed by self-concept, shapes and colors, farm animals, Thanksgiving, Winter, transportation, nursery rhymes, patriotic, Valentine, food and nutrition, Halloween, Spring, wild animals, community helpers, gingerbread man, Summer, Easter, and pets; all five functions of language were used in the art center, four in the language, dramatic play, social studies, and "other" centers, and three in all other centers; all five functions were used during the Valentine curricular theme, four during self-concept, transportation, Spring, and farm animals, three during food and nutrition, and nursery rhymes, two during eleven other curricular themes, and only one during Easter and pets; and gains were made in form by the end of the study. Writing was often in the last stage of spelling development and more print concepts were in evidence.

The conclusions made were that some learning centers and curricular themes prompt more frequent writing and the use of more language functions.
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CHAPTER I
INTRODUCTION

Background of the Problem

Within the past few years, parents and educators have expressed concern about the need for improved writing instruction within the public schools (8, 11, 16). This concern arises from the inability of many students nationally and within the State of Texas to convey written thought in a cogent and conventional manner. As a result, the assessment of minimum competency of students in writing has become standard procedure in forty states, including Texas (26). In addition, the College Board now considers writing skill as a basic competency (1).

Within Texas, recent legislation has emphasized the need for increased proficiency in writing instruction. House Bill 246 and Chapter 75 specify that language arts instruction must comprise 40 percent of the instructional time within kindergarten classes. Writing along with reading, speaking and listening are the four areas of the language arts. The Texas Education Agency is mandated by the legislature to monitor the independent school districts within the State of Texas to ensure that the "essential elements" are indeed being taught.
In addition, the Texas Assessment of Basic Skills (TABS) test, which is given to the third, fifth, and ninth grades, evaluates students' writing ability. As a result of the recent legislation, students will also be assessed at the first and twelfth grade levels. This concern about the writing competency of students and resulting assessment and curricular requirements has directed attention to the nature of classroom instruction of written discourse. However, many teachers have little, if any experience or expertise in the teaching of writing (15, 24).

The need for preservice training in the teaching of writing is indicated by Walmsley (33). He notes that there are few writing theory courses in teacher education programs. As a result, many teachers continue to concentrate on the mechanical language skills of handwriting, punctuation, and spelling in writing instruction. Little attention is given to the communicative or functional aspects of writing. Black and Martin (4), Dillon (11), and Moss and Stansell (27) found that children do not have many opportunities to write in the classroom. If and when they do, there seems to be more emphasis on form, or mechanical skill, than function, or meaning of writing. Thus, it appears that there is a need for inservice training emphasizing the functional aspects of composition.

Furthermore, preservice and inservice early childhood professionals, as well as curriculum consultants and
administrators, need to become knowledgeable about recent child development research in writing. Durkin (13) reports that, historically, the usual sequence in the order of development of the language arts has been listening, speaking, reading, and then writing. Temple, Nathan, and Burris (31) say that the lack of handwriting skills, short attention span, and self-centeredness limit young children's ability to write. Deford also notes how difficult it is for the young writer to "negotiate all the variables as the learner becomes aware of them" (10, p. 160).

However, new research information suggests that young children do express an interest in writing and are capable of written expression (3, 20, 23, 29, 32). Smith (30) states that beginners have a need to write frequently. Goodman and Goodman (18) have indicated that this writing should be built on a full range of personal uses within a natural and functional setting. Much of the recent research on young children's writing has been done within the context of the home, a natural and functional setting. Homes that provide environments conducive to writing have the following features: a responsible adult model, useful reasons for writing, easily accessible print and writing tools, and the time to explore writing (3, 12, 20, 24). If the features of these homes can be incorporated in early childhood classrooms, it would seem that very young children would have a better opportunity to appropriately develop writing competencies. Clay (7)
recommends sensitive classroom observation by the teacher to implement this kind of literacy instruction. This nurturing of writing production during the early years within classroom settings could possibly facilitate performance in written discourse later in life.

An in-depth analysis of young children's writing behavior in various kindergarten classroom contexts could provide information regarding children's written production and strategies for teaching writing within the early childhood classroom. Moreover, these results could provide much needed direction to early childhood professionals.

Statement of the Problem

The problem of this descriptive study was to describe, analyze, and compare the effects of learning centers and curricular themes upon the writing production of four kindergarten children. A whole language environment was provided in the public school class that the subjects attended. A whole language classroom environment includes an inviting social climate where children use language for a variety of purposes as they interact with peers and skillful teachers (28). These teachers introduce a great deal of print into the classroom setting and allow children to make learning choices while offering invitations to do so. Language is used meaningfully throughout the school day (6) while children "establish connections between reading,
writing, and language" (14, p. 838). In contrast, other classrooms offer oral and printed language activities separately rather than from a holistic approach. Oral activities in these classrooms might include songs, finger-plays, and many oral directions. Activities with print include reading which is done by the teacher. Other print activities might have children practicing the correct way to form letters. No connection is made between these language activities. But in a whole language classroom, these activities are combined so that children may benefit from the interaction between the oral and written language areas.

An example of this combination of language areas might occur after the young child has listened to the story of the gingerbread man. He is then familiar with the chant, "Run, run as fast as you can, you can't catch me, I'm the Gingerbread Man." When this book is presented to that child, he more readily responds to the print of the text because of this familiarity. An adult reading the book to the child could discover the child reading the chant aloud with him. If that child also writes about the gingerbread man, he might also re-enact the story by looking for the run-away gingerbread man. The adult could provide written clues by the make-believe gingerbread man which end with the familiar phrase. The child might choose to "read" these notes or copy them, again making use of his knowledge
of the words. The adult, or teacher, in a whole language classroom would encourage such carry-over or whole language learning.

Purpose of the Study

The purpose of this study was to determine the effect of a whole language environment by (1) calculating and comparing the frequency of the writing by the four children in learning centers; (2) calculating and comparing the frequency of writing by the four children during curricular themes; (3) identifying and comparing the functions of written language of the four children in learning centers; (4) identifying and comparing the functions of written language of the four children during curricular themes; and (5) describing the development of the four children toward the conventions of form in their written productions.

Research Questions

These research questions apply to this study which was conducted in a whole language environment.

1. How frequently do individual kindergarten children choose to write in learning centers?

2. How frequently do individual kindergarten children choose to write during twenty curricular themes?

3. What functions of language are evident in the written products of individual kindergarten children in learning centers?
4. What functions of language are evident in the written products of individual kindergarten children during twenty curricular themes?

5. Can changes in the conventions of form be described in each kindergarten child's writing?

**Significance of the Study**

If kindergarten children produce a variety of meaningful compositions within the confines of a whole language environment, then early childhood educators might be influenced in future curricular decisions to provide appropriate writing opportunities at the kindergarten level.

**Limitations**

The subjects of this study were limited to children from one particular kindergarten class in a suburban school district in North Central Texas. Thus the generalizability of the research was affected. However, qualitative research is based on grounded theory. This theoretical approach suggests that the questions of the generalizability of research findings can only be determined by examining many pieces of collected evidence that are interconnected. More research seems to be needed to establish the generalizability of the findings of this study (5).

This study involved case studies of four kindergarten children. In general, the abundance of data gleaned from
case study methodology necessitates the use of a small population (3, 17, 19, 21, 23, 24).

The teacher was also the researcher for this study. The use of the children's written compositions and subsequent coding may reflect subjectivity to a certain extent, but the daily presence of the teacher-researcher in the classroom context provides a unique understanding and continuity to the analysis of the data.

External variables such as the influence of parents, television, and other factors were not analyzed in this study.

Basic Assumptions

The following basic assumptions apply: (1) young children have the capability to produce meaningful writing, (2) oral and written language competencies do not develop separately, but interdependently, (3) young children will voluntarily participate in writing activities if they have an appropriate environment which encourages them to share experiences and thoughts which are important and meaningful to them, and (4) practice in written composition increases writing competency.

Definition of Terms

For the purpose of this study, the following terms and definitions were identified.
Written production is the writing, on paper, which kindergarten children produce in a whole language environment.

A whole language classroom has an inviting social climate. According to Auten, these classrooms should "stimulate language allowing for interchange and interaction" (2, p. 98). Pinnell (28) suggests that children use language for a variety of purposes as they interact with peers and teachers who are both informed and skillful.

These teachers arrange classrooms that "promote experimentation, growth, and search among their students," according to Deford and Harste (10, p. 598). They do so by littering the environment with print and including choice and invitation as parts of the learning setting, for it is the children who are in command of the learning as they "establish connections between reading, writing, and language" (14, p. 838). For a whole language environment, Cazden recommends that language arts be "integrated into all curricular areas and language must be meaningfully used throughout the school day," (6, p. 122).

Function is the use made of meaning to produce language (22). The five functions of language are asserting and maintaining social needs, controlling, informing, forecasting and reasoning, and projecting (30).

Form is the mechanics of written language. It applies to spelling, directionality, distinguishing between drawing
and print, and the correct placement of letters, or print orientation.

**Frequency** is the number of written products and units of thought made by individual kindergarten children in their compositions.

**Learning centers** are interest areas in a classroom where children can explore various levels and facets of knowledge pertinent to a certain content area. The learning centers in this study are art, language, math, science, social studies, dramatic play, eyes and hands, sand, library-listening, and "other."

**Curricular themes** are the prevailing kindergarten units of study which change about every two weeks. These themes permeate the entire classroom environment. The themes in this study are gingerbread man, self-concept, nursery rhymes, Fall, Halloween, shapes and colors, food and nutrition, Thanksgiving, Christmas, Winter, transportation, Valentine, patriotism, community helpers, farm animals, Spring, Easter, pets, wild animals, and Summer.

**Qualitative research** is a methodology in which the researcher observes naturally occurring phenomena. The researcher does not attempt to control variables, but rather describes what naturally occurs. Data are analyzed with words and pictures, descriptively. In education, this methodology can be used by professionals to become more effective (5).
**Quantitative research** is a methodology in which the researcher controls variables and analyzes data numerically.

**Case study** refers to a methodological approach of qualitative research. A case study focuses on gathering observational data over a period of time on individual subjects (17).

**Approximation** is a term which refers to young children's attempts to provide answers to learning situations or problems. Holdaway (25) regards these "mistakes" as growth toward skill.

**Procedures of the Study**

**Sample**

Four students were selected by stratified random sampling from a pool of twenty-three kindergarten students. The Book Handling Knowledge Task was administered to all kindergarteners attending the public school where the research was conducted. A boy moved away during the study and was replaced with another boy also chosen by stratified random sampling from the pool.

**Treatment**

A whole language environment was provided in the classroom where writing tools and materials were made available for the children. The duration of the study was from September to May, or the entire school year.
Collection of the Data

Each child in the classroom was given the Book Handling Knowledge Task (BHKT) at the beginning and end of the study. Baseline data were collected from every child in the classroom in August. These data consisted of the products the children made when asked to write everything they could.

The written compositions of the four subjects were collected daily. These compositions were assigned a context and coded as to frequency, function, and form. In addition to the BHKT and the written composition of the subjects, observational notes concerning the writing behavior of the subjects were kept by the researcher.

Analysis of the Data

The written compositions of the four subjects were assigned a two-part context: (1) learning center and (2) curricular theme. These compositions were coded into two frequency factors: (1) number of products and (2) number of statements. The compositions were next coded into one of five functions: (1) asserting and maintaining social needs, (2) controlling, (3) informing, (4) forecasting and reasoning, and (5) projecting. Finally, the compositions were coded into two factors of form: (1) spelling development and (2) print concepts.

The BHKT administered at the beginning and at the end of the study was analyzed. The coded written compositions
of the students were examined and the case studies were written.

Summary

This study was designed to provide a detailed description of the writing behavior of kindergarten children in a whole language environment. Of special interest were, how often the children wrote and the length of their written compositions; the reasons or language functions for which they wrote; and any growth toward standard form observable in their writing.

A review of the literature pertinent to these topics is found in Chapter II. The methodology and procedures of the study are described in Chapter III. A detailed analysis both individually and collectively is located in Chapter IV. Chapter V provides a summary of the findings, implications, and recommendations for further research.
CHAPTER BIBLIOGRAPHY

1. Academic Preparation for College: What Students Need to Know and Be Able to Do, College Board Booklet, New York, 1983.


CHAPTER II

REVIEW OF RELATED LITERATURE

This study was designed to determine the effect of a whole language approach on the written language development of four kindergarten students in a public school classroom. Studies on the historical influences on today's kindergarten classroom, the whole language approach, classroom investigations of oral and written language, and the whole language classroom were reviewed.

A study of the historical influences on today's kindergarten classroom explains how instruction and curriculum within that classroom have developed and changed. This research reveals how changing theory and practice have influenced what is currently being taught.

Classroom investigations of oral and written language were reviewed to provide insight into the manner in which such research has been previously conducted. This body of research clarified the methodology and procedures appropriate to a study of the writing of kindergarten children. This investigation further revealed that some researchers have studied written language in much the same way as oral language has been studied.
Historical Influences upon Today's Kindergarten Classroom

The kindergarten, in its earliest form in the United States, was modeled after the European Froebelian kindergarten (85). These classes were considered as gardens of children where young minds were nourished as they grew. Froebel used the familiar songs, rhymes, games, and chants of the neighborhood with his young students. He also developed a set of materials for the young children appropriate to the German culture of his time (33).

Another form of early childhood education in the United States began as a philanthropic effort (85). Some of the wealthier portion of American society recognized the need for child care among the newly arrived immigrants. This need resulted from the employment of all able members of poor immigrant families. No one was left to care for the younger children because fathers, mothers, and older brothers and sisters had jobs. Recognizing the need, the socially concerned attempted to provide child care (80). These efforts were restrictive and limited mainly to custodial care. Emphasis in these programs was placed on health and hygiene with little or no language instruction offered.

The Froebelian kindergarten flourished in America. But the continuing growth of the population and the emergence of a unique national spirit within the country
seemed to demand an education suited to the special needs of American youngsters (85).

The American kindergarten began to change with the appearance of a radical new educational philosopher, John Dewey. He was an advocate of children's learning by doing and curriculum self-selection by students (21). His ideas made an impression on Patty Smith Hill (56) and Alice Temple (78). These kindergarteners, as the teachers were named, influenced others to follow Dewey's ideas. Thus the progressive movement in early childhood education had its beginnings in the ideas and philosophy of John Dewey. Language instruction is presented, in schools of this persuasion, as "an aspect of functional purpose" (11, p. 43). Young children must read their own names to find needed materials and printed signs give directions. Children are encouraged to verbalize in response to story reading. Open-ended materials are provided. Young children combine play, imagination, and social interaction. This language instruction reflects Dewey's findings that the deeper the students' interest in learning activities the greater the learning effort would be (21).

A rift developed between the ranks of kindergarten educators with Froebelian teachers on one side and the followers of Dewey on the other. The evidence of this rift can still be observed in kindergartens today. Many kindergarten teachers fear the implementation of new ideas into their programs arguing that kindergarten has not traditionally
been concerned with cognitive development. Others adhere to
Dewey's thinking by following the lead of the child and
serving as a facilitator of learning (85).

In 1907, Montessori founded the Italian Casa Del
Bambini (11). Montessori schools have reading instruction
begin with the exploration by young children of sandpaper
letters (67). Next, small words of cardboard letters are
introduced to the young children. In these small words, red
letters are vowels and blue ones are consonants. Language
instruction proceeds from the small parts of words to the
actual words in sequential steps. Reading is presented
before writing and separately. Young Montessori children
learn to write through the development of sensory motor
skills by using special boards, colored pencils and small
paper. Some adaptations of Montessori materials and various
ideas, such as the sandpaper letters, are evidenced in United
States kindergartens. During the period that Montessori
influenced the education of kindergarten children in Europe,
American kindergarten classrooms were being changed by a
new theory of learning. This emerging theory was behaviorism.

Behaviorism, in the United States, began with the
studies of Watson. This psychologist was influenced by the
findings of the Russian, Pavlov. Pavlov experimented with
shaping animal behavior through stimulus. Watson developed
his views while studying infants (83). His further
experiment with an eleven-month-old boy, Albert, and a white rat convinced Watson that parents could use conditioned response to shape behavior. Watson considered this an appropriate child rearing technique (84). This behavior shaping technique was also accepted and implemented in kindergarten classrooms.

Skinner drew upon the work of Pavlov and Watson to develop his theory of operant conditioning. By 1953 Skinner was urging the application of this technique to the perfecting of human behavior. The method became known as behavior modification (73). Behavior modification involves the reinforcement of desirable behavior and the ignoring of undesirable behavior (6). Noted behaviorists in the early childhood field are Bushell, Bereiter, Englemann, and Gray. These behaviorists developed programs for preschoolers as a part of some curriculums within project Head Start. Language instruction is stressed in these programs. Programmed materials are used. These materials are suited to behavioral objectives, are very structured, and are strictly sequential. The teacher is at the head of the class and the center of attention. The children are passive, responding on cues from the teacher (5). Behaviorism had its beginning with scientific laboratory experiments with animals. The importance of science was further recognized in this country because of a great Russian scientific achievement--Sputnik.
The launch of the Russian Sputnik, in 1957, created a renewed interest in education in the United States in order to compete with Russian technology (58). This interest began to focus on early childhood education with research revelations that the early years affect later intellectual abilities (10, 59).

Studies of cognitive development by Piaget (68) offer the basis for some early childhood programs. Piaget pointed out the need for young children to have concrete experiences for cognitive development to occur. The use of manipulative materials by young children is supported by Piagetian theory. Pupil interaction and teacher interaction allowing for children to talk about their activity is a component of this theory. The use of learning centers where young children have concrete experiences while talking with peers and teachers about these experiences is a pedagogical technique based on Piagetian principles (60). These educational techniques were particularly popular in the 1960s in many of the British infant and primary schools (44).

The early sixties marked the beginning of President Lyndon Johnson's War on Poverty which led to the establishment of Project Head Start and Follow Through. They were attempts by the federal government to provide compensatory education for the underprivileged. This attempt generated interest in early learning and caused a mild revival of Montessori techniques for stimulating and teaching young
children (65, 88). New programs were also established in response to the renewed interest in early education. Some prominent ones are the Tucson Early Education Model, the Behavior Analysis Model, the Responsive Model, the Englemann-Becker Model, the Primary Education Project, the Open Education Model, and the Bank Street Model (53).

As an outgrowth of the national interest in compensatory education for young children, the Ford Foundation attempted to transplant features of British primary schools to American inner-city schools. The children in the British Infant schools began to explore learning "with simple experiences that involve the senses" (44, p. 131). Integrated learning is the basis of the schools' philosophy. This integration of learning promotes the children's interest in language learning for communicative purposes. Hale describes what happens as these children begin to use language patterns and vocabulary which have been accumulating in their store of knowledge throughout their lives. He compares the writing produced by these children from their sensory experiences to a key which provides access to the store of language knowledge the children already have. Hale portrays the teachers in these infant schools as sensitive and responsive to the experiences and needs of individual children. The preparation children receive in these schools is part of the life process rather than for social conformity or status.
Whole language learning in the English Infant schools is described by Weber. She reports that, "writing went on all the time parallel with reading" (85, p. 128). She says that experiences at school seemed to create the child's need to read and write. The learning of discrete skills, such as phonics, are not taught outside the child's interest but occur incidentally as they are needed. In these open schools children select their own learning activities and learning is considered to be self-directed (76).

In a description of the early childhood program published by the Texas Education Agency (79), the following learning centers were suggested: art, woodworking, block area, music, housekeeping, library, and science. In 1972, the San Antonio Association for the Education of Young Children exhibited a model room display which added language and manipulative toy centers, but omitted woodworking and library centers. Many teachers may add or omit certain learning centers during the course of the school year.

Some kindergartens use learning centers and provide opportunities for whole language instruction. Other kindergartens have borrowed from first-grade curriculum or more formal models of early childhood education. In these classrooms, the time students spend in class is divided between direct instruction from the teacher and required workbook or dittoed assignment sheets given as follow-up to the
direct instruction. There is little or no child-initiated language either oral or written.

Froebel, Dewey, Montessori, Watson, Skinner, Piaget, and the British Infant School have influenced today's kindergarten programs. Many of today's kindergarten instructional techniques can be traced to their ideas. Oral language instruction in kindergarten which relies on circles, games, songs, and fingerplays reflect Froebelian influence. Self-selection of learning activities by kindergarten children; the encouragement of their social interaction, both verbal and non-verbal; and kindergarten learning centers are rooted in the philosophies of Dewey, Montessori, Piaget, and the British Infant School. The highly teacher-directed kindergarten classroom with behavioral objectives has evolved from Watson, Skinner, Bereiter, and Englemann. Structured and sequential instruction and materials in the kindergarten are patterned on the theories of Montessori, Watson, Bereiter, and Englemann.

Whole Language Research

Oral and written language development has been analyzed in separate segments for many years. It has been studied in the areas of speaking (64), attending (4), reading (15, 22), and writing (55). In this age of specialization, researchers have separated and studied the behaviors of children as though each aspect of their language developed independently.
Most recent attention has been given to language as a holistic competence. The trend now is to recognize each area of language as dependent and relevant to others. Many researchers now believe this view. A leading psychological theorist in this movement is Vygotsky. Although this Russian psychologist lived and wrote approximately fifty years ago, translation and recognition of his work have only recently been available in the English-speaking world. In *Mind and Society* (82), Vygotsky chided educators for the manner in which language instruction was practiced. Vygotsky urged schools to consider young children's language development from a functional point of view. From this vantage all aspects of language overlap. Vygotsky urged that the treatment of instruction be modified so that young learners might have many opportunities and encouragement to experience a variety of language encounters.

Britton (12) also studied the development of language functions in Great Britain. He established the connections between the uses of expressive language and the development of beginning writing. Another English researcher, Clark (15) found that emphasis on the communicative approach made young readers more capable users of language.

The aspect of language development was further explained by a case study conducted in England by Michael Halliday (48). Halliday and his wife, Hasan, observed and recorded the language development of their young son, Nigel. The
purposeful and social aspects of his language development were clearly documented and explored by Hailiday.

Another researcher, Harste, has since supported the holistic and functional view of language development. Studies begun with his own daughter, Alison, have been broadened to include many other young children (49). Harste, Burke, and Woodward (51, 52) conclude that children are exposed to a great deal of print before attending school. These experiences involve functional and social uses of print in many settings which facilitate children's oral and written language development. Harste and Carey (50) suggest that schools often ignore the competencies young children already possess when entering school. They urge that schools continue the holistic, functional learning that children receive in the home.

However, it seems that many teachers of young children need help in recognizing the appropriateness of reading and writing experiences within the classroom. Harste, Woodward, and Burke (52) found that little reading and writing instruction was being offered in the preschool and kindergarten settings they studied. Teachers interviewed by these researchers expressed the belief that reading and writing are inappropriate activities for preschool children.

Instead of a lack of reading and writing instruction, Graves (42) suggests a holistic approach to language
instruction. He further states that, in the past, texts have been in error concerning this issue. The extensive research of Graves and Hansen (43) provides documentation that young children can be authors. The work of Graves seems to provide proof that children can and do write when appropriately encouraged to do so.

Other whole language researchers, King and Rentel (61), have examined seven-year-old public school children's story telling and story writing as a key to understanding their linguistic competence. In a longitudinal study, these researchers examined young children's story retelling abilities. Early story retellings were dictated to adults by the children. Later, these children wrote their own versions of the stories. King and Rentel found growth toward form in handwriting, spelling, and punctuation in the story retelling efforts of their young subjects. Current research suggests that reading and writing development begin much earlier than had been thought (13, 30, 49, 57). This research also shows a difference in the way very young children learn reading and writing when compared to the learning of adults and even older children (14, 24).

Recent whole language research has not often addressed the writing efforts of children of kindergarten age in the public school classroom. However, several researchers have studied young children's oral language in this setting (9, 18, 25, 35, 69). They found that form follows function in
oral language development. Their research can provide a resource for methodology and probable outcomes for research concerned with other areas of language, such as writing with young children.

The writing aspect of whole language instruction with young children has been primarily researched in the home environment (8, 23, 47). In the home the young child often receives immediate and positive reinforcement for his writing efforts from a concerned adult. Young children whose parents respond to their natural interests in writing in developmentally appropriate ways seem to have a higher level of language development (71). Young children are not often provided with peer interaction at home. The school setting could provide the basis for greater social interaction. This kind of interaction has been found to be conducive to language competency development. A literate environment in schools is described by Atwell as a setting where "written language is the natural domain of the children and adults who work and play there" (3, p. 251). Research is beginning to focus upon very young children in a school setting (27, 63). We are in need of more extensive research information. Recent research has not addressed the writing efforts of very young children in a public school classroom, specifically in the kindergarten. This research could provide a developmentally appropriate model for writing instruction for kindergarten children.
Acceptance of the holistic view of language as advanced by Halliday (48), Harste, Burke and Woodward (51), and Vygotsky (82) implies that the settings and methods used by oral language researchers should also be applicable to the exploration of young children's written language in group settings. These investigations about the functions of oral language could provide a mode for research about the functions of written language.

Pinnell (69) used the theoretical framework of Halliday's functions of language to explore the variety of oral language used in primary classrooms. Tape recorders were concealed by the use of denim aprons on two young subjects for thirty-six thirty-minute recording sessions. These tapes were then transcribed and analyzed by function and context. Two interview guides were developed and used with teachers and children. These interviews provided contextual information for interpretation of the results. A simple note-taking instrument was devised and used by the researcher to observe in the classroom during the tapings. Results revealed a potential for the development of seven functions of language (48). These seven functions are (1) regulatory, (2) informative, (3) personal, (4) interactional, (5) heuristic, (6) imaginative, and (7) instrumental. Pinnell found that if
the learning centers were carefully structured and the teacher was sensitive to her students, this potential could be realized.

Children's speech was studied in the traditional kindergarten learning centers by Cowe (18). This researcher was interested in the differences in the amount and maturity of language used in the various learning centers. Cowe used observational recordings and informal conversations with teachers to gather data. Her findings show that the following factors have an influence on length and maturity of speech: adult participation as a stimulant, opportunity to speak, something concrete to talk about, common experience, theme, position and spacing of centers, models of speech, furnishings of the learning centers and their arrangements, and noise levels.

Black (9) investigated kindergarten children's communicative competence through the use of video tapes and field notes. She found that observation of young children in an informal setting in the sociodramatic area, provided more evidence of language competence than formal testing.

Genishi (35) explored the use of oral language by bilingual children. She observed, taped, and recorded in field notes the use of negotiability by kindergarten children using two languages in the classroom. Her findings demonstrate language competencies of young bilingual
children. These children could manipulate two languages for communicative purposes.

Recently, several researchers incorporated oral language methods to examine the writing of young children. Dyson (26) used a writing center in the classroom to observe the writing competence of young children. She gathered samples of the writing of young children and compared them to teacher instructional objectives, particularly in reading. Parent interviews were conducted for background information on the language development of the subjects. Dyson found an insensitivity in the teacher's instruction to the mastery and the needs of the language development of the subjects.

Young children composing written language in a group setting provided the basis of a study by Lamme and Childers (63). A laboratory setting with one adult and three young children was used to gather data. Analysis of the interactions of the children while writing revealed that children give more attention to print when writing for an immediate audience as when writing personal letters. They give less attention to print when writing for an abstract audience as when they write books.

Black (9), Cowe (18), Dyson (26), Genishi (35), Lamme and Childers (63), and Pinnell (69) found the group setting appropriate for exploring the language development of young children. In addition, their data indicate that form follows function. As children practice and use language in
meaningful activities, their command of grammatical conventions and the mechanics of form increase. Frequent opportunities to use language seem to facilitate language development.

The Whole Language Classroom

The atmosphere of a whole language classroom is the result of various factors. A whole language classroom emerges when the influencing factors have been tailored to produce language interplay (37).

Teacher

A facilitating teacher who allows children to initiate their own learning is needed to foster literacy development (7, 19, 36, 46). Goodman (38) states that the teacher needs to respond to the writing efforts of students positively and to encourage their efforts. She refers to this type of teacher as a "kid watcher," one who makes sensitive observations concerning the development of literacy by the learner. Dyson (26) argues for the need for observation of young children by their teachers. Teacher observers are able to adapt a general class goal into plans for individuals. These plans are based upon what individual young children know about print.

The teacher in a whole language classroom encourages the learner's use of play in writing (31). This language
play reveals the child's interests and seems to affect the desirable intellectual functions of divergent thinking and problem solving. Therefore, Short (72) argues that play has a more basic function in education than many educators believe. He states his belief that, particularly in the language arts, play may produce more creative understanding of content.

Thus the whole language teacher will encourage children's play and use it to expand their language learning. Goodman and Goodman (37) have aptly described a teacher who stimulates the language development of young children as observer, arranger, interactor, motivator, stimulator, and encourager. Hickman (54) says that this teacher serves as a model, controls the physical setting, and presents expectations about what is to happen.

Smith (75) lists the following important functions of the teacher's role in writing instruction: to support and encourage, to provide knowledge of technicalities, and to add the emotional accompaniment needed for writing and its blocks. He states that teachers must collaborate, offer choices, and allow children to make decisions concerning composition.

**Availability of Print and Materials**

The whole language teacher encourages children to respond to print and emphasizes its importance (57, 70).
Smith states, "you learn to write by writing" (74, p. 190). Therefore, learners are offered a rich variety of experiences with print coupled with opportunities to respond to it in familiar and enjoyable ways (57, 70). For example, children could predict what would happen next in a story, they could use catalogues to order their own shopping lists, and they could take orders on real order forms for restaurant meals using real menus. Children might have charts of songs to read as they sing. Fingerplays could be written out and made available for learner use. Geller (34) describes the abundance of opportunities which should be available in kindergarten classrooms for the use of open-ended materials. She states that these materials are important for growth in function and form in the literacy learning of kindergarten children.

Writing is presented to learners as a functional aspect of their environment. Suggestions for using Halliday's functions of language for this purpose have been offered by Goodman and Goodman (37). Children could sign up for activities or interest centers for the instrumental function. Class rules for care of pets, plants, and materials exemplify the regulatory function. A class post office provides for the interactional function. A book about self, written by children, serves the personal function. Cooking recipes satisfy the heuristic function. Storytelling is a product
of the imaginative function. Message boards or bulletin boards serve an informational function. Holdaway describes this environment as being "openly functional by nature." He further states that it "expands the range of meanings and purposes available to children in the pursuit of literacy" (57, p. 150).

The whole language classroom is a print-saturated environment (66). Milz suggests using a variety of print such as books, magazines, signs, charts, game directions, and household product labels. These materials evoke interaction and mutual support from the four forms of language; reading, speaking, listening, and writing.

Print is discussed by Goodman and Altwerger (39) as a vital part of the world of young children. Deford (19), Ferreiro (30), and Harste, Burke, and Woodward (51) also support this idea. These researchers suggest the importance of using environmental print, such as traffic signs, store signs, product labels, billboards, newspapers, magazines, books, and Sesame Street items. In addition to the print in the environment, children need access to connected print. Goodman and Goodman (37) suggest combining reading and writing through the extension of stories and books. Holdaway (57) and Rhodes (70) recommend the use of predictable books. Predictable books are books which follow a prescribed format, such as the ABC's, patterns of rhyme, and repetitions. These
books can present children with the patterns, rhymes, and rhythms of language to emulate in their own writing. Predictable books also enhance the child's sense of story structure by illustrating concepts of sequence. Children can become sensitive to the conventions of form as they listen to, read, and write these books. Rhodes reports an outcome of success and growth in written language for children using this resource. She says that the use of predictable books is "creating an environment in which the children can use successfully what they know about language as they encounter and deal with unfamiliar aspects of language" (70, p. 513).

Holdaway (57) recommends the idea of sharing books in a communal setting. In order to ensure what he calls "safety netting," books can be enlarged and then used by the class in unison reading. He also suggests having available regular-size copies of the books for individual use. When reading, the teacher focuses upon the enlarged print by using a pointer to indicate what is being read. This modeling helps children understand that the print carries the message. Print can be used in imaginative and inventive ways to enhance its appeal to children. Print should permeate the environment and it should be available in all learning centers. Different colors can be used for certain words. The size of the print might be changed with smaller
print for words such as little, tiny, and wee. Print can be made to follow the action of the word as in

\[ \text{turn} \quad \text{or} \quad \text{rocking}. \]

Coles and Goodman (16) criticize the traditional use of large pencil and paper for early writing. They question the appropriateness of larger materials for the small hands of young children. Instead they suggest a variety of writing tools and paper. Writing tools might include regular sized pencils, pens, crayons, and markers. Paper could be lined, unlined, computer size, and note card size. Vukelich and Golden (81) recommend pencils that are both regular and primary sizes, pens, wide-tip water-color markers and paper with and without lines.

**Experiences**

Whole language teachers capitalize on the experiences children talk about. These language experiences can be written down by the teacher either with the whole class or individually. These writings can be compiled into a class book. Allen (l, p. 172) summarizes the language experience approach in this manner:

What I can think about, I can talk about.
What I can say, I can write.
What I can write, I can read.
I can read what I write and what other people can write for me to read.
The use of language experiences is also suggested by Hall (46). Young children may prefer to dictate their compositions in the early stages of writing development. Hall recommends the use of word banks, an adaptation of the language experience approach. Another variation of the language experience approach is the key vocabulary (2). Key vocabulary is an approach which uses those words which have powerful meanings for young children as a basis of language instruction.

Goodman and Goodman (37) offer other ideas for children's writing experiences. They suggest that children label objects in the classroom. Other experiences include note and letter writing to authors, friends, and classmates. Young children can write get-well notes for sick classmates, thank-you notes after field trips, or list items needed for an activity (81). These are meaningful writing experiences for young children.

An example of functional language experiences is described by Florio (31). Letters written at the Betterburg Post Office were used by second graders to communicate with the wider world. Betterburg was a community created within the classroom for a year for a study of the teaching and learning of writing.

Hall, Aston-Warner, Goodman and Goodman, Vukelich and Golden, and Florio have described classrooms where children are actively involved in functional writing experiences.
Their evidence suggests that writing development cannot occur unless children are active participants. McCarthy states that "children profit intellectually, physically, socially, and emotionally from a curriculum that is based on a wide range of experiences" (65, p. 278). Writing experiences need to have personal meaning and significance for young children.

**Room Arrangement**

Careful attention must be given to the importance of room arrangement in facilitating effective early childhood learning environments (62). The use of learning centers is commonly recommended by Goetz (36), the Texas Association for the Education of Young Children, and the Texas Education Agency (79). Correct placement of quiet centers and noisy centers has proven to be essential. Milz (66) relates the importance of room arrangement to facilitate writing competence. Children must be able to work with quiet independence in some learning centers. Other learning centers need noisy interaction. Social interaction seems to be a necessary prerequisite to young children's oral and written communication. Learning centers need to be interesting and inviting.

Traffic flow is an important consideration in room arrangement. Young writers need the opportunity to explore writing materials (36, 45). They also need to be able to write alone or join in a group writing activity such as
scorekeeping for a game (63). Therefore, physical constraints are removed so that learners can move about the classroom as needed. Weber (87) suggests that movement is necessary when a learner is involved as the physical "stretching" may bring the learner to a higher level upon return to the work.

Photographs of print-saturated classrooms are presented in Holdaway's *Foundations of Literacy* (57). Materials are placed where they are accessible to young children. Displays of children's work seem to be motivating and reinforcing factors in encouraging children to write (46, 57). The consideration of the development of literacy can be overlaid on existing classroom arrangement, and accommodated without complications (31, 66).

**Scheduling**

Whole language classroom schedules are flexible. If possible, children should be able to leave a project and return to finish it at a later time (17, 57). "Time on task" is thus encouraged by allowing young children to pursue the learning in which they are actively engaged. The more time on task, the higher the levels of achievement are found to be (28). Milz (66) describes a workable schedule. Children "flow," working independently and in groups, while moving from one project to another. This independence can be fostered in young children with the implementation of a
flexible schedule. Vukelich and Golden urge that the teachers of young children provide "opportunities and time for writing" (81, p. 7).

Summary

Thoughtful revisions, additions, and omissions can transform the kindergarten classroom into an environment which encourages the development of literacy. Attention to teacher behavior, print and material availability, experiences, room arrangement, and scheduling can provide a whole language environment. Teale (77) reviewed research in reading and concludes that environment is an important aspect in reading achievement. From a whole language approach, this implies that an appropriate classroom environment should facilitate written competence. Writing is considered a facet of creative expression (41). Weber states that "Creative expression, so important in the growth of the person, must be nourished by an evocative environment" (85, p. 24). Vukelich and Golden relate that "the early writing program is dependent upon a conducive writing environment" (81, p. 8). The literature suggests that the development of young children's written competence is best encouraged in a whole language environment.

Chapter Summary

The preceding discussion of historical influences on the kindergarten classroom, the whole language approach,
classroom investigation of oral and written language, and the whole language classroom provides for understanding of the need for, and the methodology to implement, this study. Historical influences reveal their impact upon today's classroom practices. The theoretical underpinnings of the whole language approach explain the basis for using it. Classroom investigations of oral and written language development offer insights into methodology used by previous researchers, the areas already explored in the field, and omissions of the same. The whole language classroom literature provides a wealth of practical implementation suggestions.
CHAPTER BIBLIOGRAPHY


23. ________, Getting Reading Started, Boston, Allyn and Bacon, 1982.


35. Genishi, C., "Young Children Communicating in the Classroom: Selected Research," Theory Into Practice, 18 (October, 1979), 244-250.


46. ________, Teaching Reading as a Language Experience, Columbus, Charles E. Merrill, 1981.


61. King, M. L. and V. Rentel, How Do Children Learn to Write?, The Early Writing Project funded by the National Institute of Education, Columbus, Ohio State University, 1981.


87. __________, Speaking to North Texas Area Federation of Universities Early Childhood Education Symposium, Dallas, Texas, June 16, 1983.

CHAPTER III

METHODOLOGY

The purpose of this study was to describe the effects of a whole language environment upon the writing production of four kindergarten children within learning centers and during curricular themes.

Basic Design of the Study

Because of the descriptive nature of this study, a qualitative research design was used. Qualitative research is used in an attempt to reflect real-life situations. The case study method was selected for this research. Selected case studies were observed during the 1983-1984 school year. Data were recorded by the classroom teacher who was also the investigator.

The case studies which comprise this study were undertaken to provide information which might benefit the class as a whole. Case study data were examined for interpretation of what happened in the classroom rather than to predict what might happen in other classrooms. The data thus compiled and presented from these four case studies might provide insights for educators into the writing behaviors of kindergarten children. A teacher draws upon her own
recollections of the behaviors of children she has formerly taught to shape the instruction she provides to her present students. In like manner, case study data might be used by educators who have not had the needed experiences, as has often been the case in writing instruction, and make it appropriate to the behaviors of young children. Graves (17) has successfully used the case study methodology in just this way.

Marks, Stoops, and Kind-Stoops have identified two types of case studies. One approach is "not the study of one particular student for individual benefit as much as it is for the benefit of the class as a whole" (21, p. 439). It is this type of case study which was employed in this investigation. These authors suggest that the study be followed for a year or two. This study encompassed the length of one school year.

Eisner (9) criticizes the quantitative research efforts of recent years. He declares that the artificiality of such controlled experimentation for brief spans seems to provide limited information. In Cognition and Curriculum (10), he deplores attempts to isolate and identify learning. Eisner suggests focusing upon inquiry rather than achievement. Dewey (5) states that it is the greatest of educational fallacies to believe that children learn only one thing at a time. No educational research can remain uncontaminated. All variables simply cannot be controlled.
Campbell and Stanley (2) concede that much research in education conforms to the case study design. Huck, Cormier, and Bounds (19) state that such studies should properly be called descriptive rather than experimental. They present an example complete with both descriptive and inferential statistics within the context of the case study. Data from observations, video and audio tapes, and field notes can be categorized and quantified. This illustrates how data gathered by a case study method can be subjected to quantitative analysis.

There has been little "well-directed, carefully sponsored research involving classroom teachers," according to Doll (7, p. 423). In defense of this type of research, Doll declares that it gives the classroom teacher some evidence upon which to base decisions. Eisner also supports the teacher as researcher when he says, "those engaged in educational research should have an intimate acquaintance with life in the classroom" (11, p. 450).

Anthropology, too, has long relied on qualitative, or ethnographic, research methods (12). To gather the information necessary to write an account of a cultural group of people, anthropologists become participant observers. This group of scientists acknowledges the superiority of data gathered by a person totally immersed in the culture.

Although qualitative research is not new to education, it has not been used in the field to the extent quantitative
research has. Perhaps it is time, as Eisner (11) suggests, to employ this other type of educational research. The insights to be gained could well be of great importance in understanding what happens in the "real world" of the classroom. Waller, as long ago as 1932, stated, "Possibly the understanding of human life will be as much advanced by the direct study of social phenomena as by the study of numerical symbols abstracted from this phenomena" (28, p. 1). One group of educational researchers, the sociolinguists, have begun to implement qualitative methodology.

In recent years sociolinguistic research has become widely accepted. Sociolinguistic research looks upon language in a social context. This research is characterized by in-depth analysis of small numbers of children (13, 18, 20).

For the purpose of this study, documenting the writing development of four kindergarten children, the case study method seems most appropriate. The case study method is a type of qualitative research.

The Pilot Study

A pilot study was undertaken during the course of two curricular themes in a predominantly white, middle-class suburban public school district in North Central Texas. The format of this study was adapted from that used by Graves (16) and Bussis, Chittendon and Amarel (1). They
used the case study method to research young children's literacy. The pilot study was used as a means of settling questions concerning the form of data to result from the study and how to report the data.

Two classes, morning and afternoon, of kindergarten children in a middle-class suburban public school in North Central Texas were selected. The majority of the children were Anglo, but children were also of Black, Mexican-American, and Asian-American ethnic origins.

The teacher of the two classes selected two children who, in her opinion, had the highest degree of literacy development. These two children were Vicki and David. The teacher also selected two children who, in her opinion, had the lowest degree of literacy development. These two children were Christina and Richard.

The researcher gave the teacher materials and suggestions for providing a whole language environment for the classroom based upon the learning centers being used and the curricular themes studied. Trays containing pencils and paper were made available in each center. Children were allowed to choose to write at any time they were in the learning centers. The teacher collected all written products from the children. All children in the classroom participated in writing, which was surprising as the teacher had not expected the quantity of writing produced by the two classes.
Discussion

Case study 1, Vicki.—The number of written products Vicki produced decreased, but the number of statements per product remained about the same. The informing function of writing was used by Vicki consistently through both curricular themes and in each learning center where writing occurred. Vicki's form of written composition showed a slight improvement. Vicki's spelling throughout the study was in the final developmental stage. However, her concepts of print improved somewhat.

Case study 2, David.—The number of compositions David wrote decreased, but his number of statements per written product increased slightly. The informing function of writing was used by David consistently through both curricular themes and all learning centers where composition was produced. David's form of written composition showed a slight improvement in both spelling and concepts of print.

Case study 3, Christina.—The number of written products Christina made decreased, but the number of statements per composition remained the same. Christina used two functions of writing, one in each of the two curricular themes. Christina's form of written composition decreased over the time of the study.
Case study 4, Richard.—The number of written products and statements increased for Richard. The function of writing used by Richard was informing. Richard's form of written composition improved as he had no written production during the first curricular theme.

Summary of the Pilot Study

The study was useful as it raised questions concerning the changes in numbers of written products and statements, and the influence of curricular themes and learning centers. These questions could be better answered during a longer time period. This justifies having the research encompass the entire school year. The pilot study also enabled the researcher to construct tables that more clearly showed the results of frequency, function, and form in the writing of the four kindergarten children.

The Major Study

Sample and Setting

The population included in this study was selected from the kindergarten children enrolled in one public school classroom in a suburban area in North Central Texas. The school included kindergarten through grade four, with kindergarten classes conducted for a full-day session. The total time spent in kindergarten by students each day was six hours and fifteen minutes. The kindergarten class had an
enrollment that fluctuated between twenty-two and twenty-five students. Permission for the study was granted by the district superintendent for curriculum and by the school principal (Appendix A).

The population of the study was selected by administration of the Book Handling Knowledge Task (BHKT) to all the kindergarten children in the classroom. Scores obtained from the BHKT were used to identify the four subjects through stratified random sampling. Two of the kindergarten children selected scored more than one standard deviation above the mean. The other two children scored more than one standard deviation below the mean. Stratified random sampling was used to produce two pairs of subjects who were at least two standard deviations apart in scores. This gave two distinctively different pairs of subjects for the study. These pairs differed in knowledge of print concepts. Verbal and written permission (see Appendix B) were obtained from the parents of the subjects.

One subject moved prior to the completion of the study and was replaced with committee approval (see Appendix C). The new subject was also selected by stratified random sampling from the group scoring more than one standard deviation below the mean on the BHKT. At the beginning of the study the subjects were three Whites and one Black. The replacement subject was Black. Three boys and one girl
comprised the subjects. Of the original sample, two of the children were receiving free lunches and the other two paid a reduced rate for lunches. The replacement subject received free lunches while the subject who moved had paid the reduced lunch rate.

**Instrumentation**

The Book Handling Knowledge Task (BHKT) provides insights into learners' concepts about print within book contexts. The BHKT is based on the research of Clay (4) and Doake (6) and was developed by Goodman and Altwerger (14). Forms for categorizing and scoring the children's responses were reported by Goodman and Cox (15) and adapted for use in studies by Dykes (8) and Shotts (25). A picture book is presented to the child and he is asked to read it. If he appears to be unable to read it, the investigator reads it to him. The examiner administers the BHKT as the book is read. For this study, twelve items were scored and recorded (see Appendix D). The items focus on knowledge of directionality of print; terminology of words, letters, and page; and of authorship.

Base line data for this study were obtained by giving children a pencil and a piece of paper and requesting that they write as much as they could. This technique was used by Clay (4) as a means to begin a developmental record of a child's progress.
Writing samples composed in various learning centers by the four subjects were divided into statements for analysis. Categories used by Shafer, Staab, and Smith (24) were used to divide children's language output into units of thought, or ideas.

The children's writing was collected from various centers and further divided into the five functions of language (24). This instrument was developed and tested in the classroom setting and collected over a three-year period by these authors as a modification of Tough's category system (26). (See Appendix E.)

An adaptation of Clay's rating technique for observing early progress (3) was used to assess the development of form in the subjects' written products. This technique was used successfully by Clay with thirty-four children aged 5:6. When subjected to a Spearman rank correlation of test-retest scores for two administrations of not less than a week and not more than two weeks apart, the correlation was 0.97 (3). Further form analysis was made using Paul's modification (22) of Read's rules for spelling development (23). Paul modified these rules by using them in a kindergarten classroom where a high correlation to Read's rules for spelling development was found in children's writing (23).
Collection of the Data

Base line data were collected from every child enrolled in the investigator's classroom during the month of August, 1984. The class was given paper and pencils and asked to write everything they knew how to write. Children were told to ask for more paper if they needed it. None asked for extra paper.

The BHKT was given to all the kindergarten children in the class in September, 1984. The results were tabulated and a mean class score established. Then four children were randomly selected. One pair was chosen from scores more than one standard deviation below the mean. The other pair was selected from scores more than one standard deviation above the mean. The BHKT was given again in May to all the kindergarten children within the researcher's classroom as a measure of any change which occurred in the learners' print concepts. A check sheet was used to record individual children's responses on the BHKT (see Appendix F). The context of each written product of the four subjects was labeled by the learning center and curricular theme by the teacher.

Teaching Procedures

A review of the literature on whole language classrooms revealed the presence of the following factors to be critical: (1) a knowledgeable and skillful teacher who is well-versed
in whole language theory, (2) availability of print and materials, (3) experiences, (4) room arrangement, and (5) scheduling. The next section of this study describes the way these factors were implemented.

Teacher.—The teacher allowed the children to initiate their own learning by responding to their ideas about the usage of language at the beginning of each curricular theme. An audio tape of a sample introductory session was made at the beginning of the pets curricular theme. This tape was transcribed into written form (see Appendix G).

Further facilitation by the classroom teacher occurred during the center time as the teacher circulated about the classroom. An audio tape of a sample center time was made during the pets curricular theme in each of the learning centers. This tape was transcribed into written form (see Appendix H).

The teacher also kept anecdotal notes of children's writing behavior and a folder of each child's writing for evaluative purposes. Individual conferences with children were often held by the teacher to discuss these collected written productions.

Availability of print and materials.—The children were encouraged to respond to print through the use of large books, catalogues, menus, order forms, and charts of songs and fingerplays. A variety of writing materials and tools were
always available for children to use. The materials included both large and small paper, rolls of paper, lined and unlined paper, and construction paper. Writing tools offered for children to use were large and small pencils, pens, crayons, paints, chalk, and markers.

Print was present on the walls of the classroom with lists, calendars, signs, and rules posted at all times. Each learning center had some form of print available such as game directions, books, magazines, and labels. Predictable books were always located in the library-listening center. A pointer was left in that center for children to use as they read. The teacher used a like pointer when she read from a large book or fingerplay to the class to call attention to the print. Children could use the print together, as in the case of the big books, or separately, as the smaller books were often used. Reading cues were often given in the print by color, size, and structure of the words.

Experiences.—The children often compiled classroom charts of what they had learned during a particular curricular theme. Children usually dictated these charts and the teacher wrote them and hung them on the wall. Key words were elicited from the children and kept in word banks. Children were encouraged to read and add to the word banks often. They were given free access to the word banks for copying or manipulation of the word cards. Paper and pencils were
always available for children's free use in all learning centers of the classroom.

On several occasions the class would write thank-you notes for field trips. Sometimes these were dictated to the teacher, and sometimes the children wrote their own. Similar experiences included the writing of get-well cards to sick classmates, and cards for Christmas, Hannukah, Valentine, and Mother's Day.

After listening to a story or record, children were frequently given the opportunity to respond on paper to what they had heard. Children were often observed copying writing from the chalkboard which the teacher had written during instructional activities.

Room arrangement.—The classroom was large and equipped with a sink, cabinets, a storage and coat closet, and built-in wooden and metal shelves. A carpet was placed in the middle of the room. Learning centers were arranged on the vinyl around the carpet to allow the use of the carpet during center time for expansion of the centers and during group time as a comfortable place for the children to sit. Some rearrangement of the classroom learning centers was made during the school year to achieve the proper location for quiet and noisy centers, for easy traffic flow, and to make use of the cabinets, sink, and shelves for the learning
centers they supported. A drawing of the final room arrange-
ment was made (see Appendix I).

Tools and materials were placed on low shelves for
children to use them easily. Higher shelves were used for
storage and professional books belonging to the teacher.
Displays of children's work were usually on the walls,
particularly in the art, social studies, and math centers.
These centers were located where wall space could be thus
utilized. The learning centers were language, mathematics,
dramatic play, eyes and hands, art, science, social studies,
sand, library-listening, and other.

Scheduling.—A class schedule was posted in the class-
room. This schedule was revised at mid-term. Flexibility
was observed by allowing children to put unfinished work in
a specified tray to be resumed after routine interruptions.
This encouraged the children to resume a writing project in
which they continued to maintain an interest after a break.
Children were given the opportunity to choose their own
learning centers and to participate as they desired in those
centers. The first classroom rule established was to stay
busy; but children could do so independently or in small
group situations within the learning centers. Center time
comprised the bulk of the time the children spent at school
(see Appendix J).
Curricular themes were scheduled at approximate two-week intervals throughout the school year. The curricular themes were gingerbread man, self-concept, nursery rhymes, Fall, Halloween, food and nutrition, Thanksgiving, shapes and colors, Christmas and Hannukah, Winter, transportation, Valentine, patriotism, community helpers, Spring, farm animals, Easter, pets, zoo animals, and Summer safety and fun.

Summary.—To provide a whole language classroom environment, five factors were carefully considered. These five factors are (1) the teacher, (2) availability of print and materials, (3) experiences, (4) room arrangement, and (5) scheduling. The influence of these factors causes the production of language interplay. The result of this interplay is a whole language classroom. Verification of this occurred when a professor from a local university visited and observed in the classroom throughout the school year. This professor was performing research through a faculty grant. She found that this classroom offered the whole language environment needed for her research.
CHAPTER BIBLIOGRAPHY


20. King, M. L. and V. Rentel, How Do Children Learn to Write?, The Early Writing Project Funded by the National Institute of Education, Columbus, Ohio State University, 1981.


CHAPTER IV

ANALYSIS OF DATA AND FINDINGS

The purpose of this study was to describe and document the writing development of four kindergarten children in a whole language classroom environment. Data collection procedures included (a) administration of the Book Handling Knowledge Task (BHKT) to the entire kindergarten class for purposes of selecting the four subjects, (b) encoding and recording of the writing produced by the four subjects in each of the ten learning centers, (c) encoding and recording of the writing produced by the four subjects during each of twenty curricular themes, and (d) note-taking in the form of anecdotal records and observations made by the classroom teacher concerning the writing behaviors of the subjects. Also, the BHKT was administered at the end of the study to determine changes in the book handling knowledge of the entire class.

The first part of this chapter presents an analysis of the BHKT data collected from all the children in the classroom. The second part of the chapter is organized in four sections. Each section presents an analysis of the data concerning the frequency, function, and form of writing collected from one of the four subjects of the case studies.
The third part of the chapter contains a summary, with pictorial representations, of the analysis of the data from the four case studies and is presented collectively.

**BHKT Data**

Each child in the classroom was given the BHKT at the beginning and at the conclusion of the study. The books were *Harold and the Purple Crayon* (9) in September, and *The Little Fish That Got Away* (2) in May. These books were chosen by the classroom teacher as they had been well-received by former students.

Data from the BHKT I given at the beginning of the study are presented in Table I (see Appendix K). The range of score totals from the BHKT I was from fifty-six to eighty-eight. The mean score for the class from BHKT I was seventy-six. The standard deviation of the scores was calculated to be nine. Those students scoring more than nine points above the mean were Nicholas, Kenny, Jennifer, and Heather. Two names, Kenny and Jennifer, were randomly drawn to be subjects of the case studies. Those students scoring more than nine points below the mean were Jeff, Tommy, J. W., and Des. Two names were also randomly drawn from this group to be subjects of the case studies. They were J. W. and Des. In November, J. W. moved out of the school district. All members of the committee were contacted by letter (see Appendix C) and agreed to replace J. W. with another member of the
low-scoring group whose name was randomly selected from the group scoring below the mean. The replacement subject was Tommy.

Of the twenty-three children who took BHKT I, only seventeen also took BHKT II because six members of the class had moved by May. Data from BHKT II are presented in Table II (see Appendix K). The range of score totals from the BHKT II was from sixty-nine to ninety-one. The mean score for the class from BHKT II was eighty-one. An average gain of six points in scores on the BHKT II over the BHKT I is indicated. A comparison of the item-by-item scores for the seventeen children who took both BHKT I and BHKT II is presented in Table III (see Appendix K).

On Category 1 of the BHKT, 35 percent of the children scored higher on BHKT II than BHKT I. Category 1 gives an indication whether or not the child knows what a book is called. Only 6 percent of the children had a higher score on Category 2. For Category 2, the child is asked what to do with a book. Twenty-three percent of the children scored higher on Category 3 when asked what is inside the book. Twenty-three percent of the scores were also higher on Category 4. Children are asked to identify the front of the book for Category 4. There was no change in the scores of the children for Category 5. For this category, the child must show a page of the book. On Category 5, all the
children had a perfect score both in September and again in May. Thirty-five percent of the scores were higher for Category 6 on the second examination. Children are asked to read to the examiner for Category 6.

For Category 7, the researcher asks the child to indicate the place in a book to begin reading. Thirty-five percent of the children scored higher on BHKT II than BHKT I in this category. In Category 8, a 53 percent increase in scores is indicated. The child is asked by the examiner to point to where to begin for Category 8. For Category 9, the child then indicates which way the examiner should move his eyes to read the print in the book. Children's scores were 41 percent higher on Category 9. For Category 10, after completion of a page, the child is asked, "Where now?" Fifty-three percent of the children scored higher on the second examination for this category.

Categories 11 and 12 showed 12 percent and 16 percent increases, respectively, in scores for BHKT II over BHKT I. The child must show the end of the book for Category 11. The child is asked the meaning of the examiner's reading aloud the title and author of the book for Category 12. The average increase in scores for BHKT II over BHKT I was 28 percent.
Case Studies

The major portion of data collected during the study was comprised of the written products of the four subjects and the researcher's classroom observations. Every piece of writing produced by the subjects in the classroom was assigned a two-part context by the researcher. This context was (1) the learning center where the writing occurred, and (2) the curricular theme during which the writing was produced. Each piece of writing was counted as a product and then encoded into a number of statements as described in Shafer, Staab, and Smith (15). The researcher also encoded each of the subject's written products by assigning it one of five language functions, using the functions previously developed by Shafer, Staab, and Smith (see Appendix E).

Next the researcher determined which of five levels of spelling development were represented in each written product. Spelling development levels were determined by application of Paul's five spelling levels. Finally, the researcher assigned to each written product from one to five concepts of print which were evident in the product. Print concepts were identified using Clay's concepts of print.

The discussion of each of the four case studies begins with an examination of the data on each subject's written products gathered and encoded as previously described. The discussion of these data addresses the five research
questions in the study. The five research questions are, in a whole language environment (1) how frequently do individual kindergarten children choose to write in learning centers, (2) how frequently do individual kindergarten children choose to write in twenty curricular themes, (3) what functions of language are evident in the written products of individual kindergarten children in the learning centers, (4) what functions of language are evident in the written products of individual kindergarten children in twenty curricular themes, and (5) can changes in the conventions of form be described in each kindergarten child's writing?

Case Study One, J. W./Tommy

This subject represents two children. At the beginning of the study, J. W.'s writing was collected, coding, and analyzed. But when he moved, he was replaced by Tommy. From that point it is the writing of Tommy that was collected, coded and analyzed. Although two children were involved, the data are treated as that of only one subject.

Frequency, Centers

Table IV (see Appendix K) presents the data by centers which are representative of the frequency of writing by J. W./Tommy. The frequency, by center, with which J. W./Tommy produced writing is determined by combining the number of products and the number of statements in each of his writings by center. This procedure reveals that J. W./Tommy
wrote most frequently in the dramatic play center with a frequency of 117, 22 products and 95 statements. His second most frequent writing, 82, occurred in the "other" center with 17 products and 65 statements. His third most frequent center for writing was the language center with a total of 60, 17 products and 43 statements.

An example of one written product by this subject is presented in Figure 1. This sample was written in the dramatic play center. In it, J. W./Tommy has made six statements. This side of the sample in Figure 1 shows the train scene as one statement, and the three separate groups of letters he wrote for three more statements. Thus, there is a total of four statements on this side of the sample.

![Train scene drawing]

Fig. 1--Frequency, centers, J. W./Tommy

The reverse side of the sample in Figure 1 has another train scene and one more group of letters. This makes a...
total of six statements for which J. W./Tommy was credited for the sample.

**Frequency, Curricular Themes**

Table IV (see Appendix K) presents the data, by curricular theme which is representative of the frequency of writing by J. W./Tommy. The frequency, by curricular theme, with which J. W./Tommy produced writing is determined by combining the number of products and the number of statements in each of his writings by curricular theme. This procedure reveals that J. W./Tommy wrote most frequently during the nursery rhymes curricular theme with a frequency of sixty-six, eleven products and fifty-five statements. This is followed closely by a frequency of writing by this subject of sixty-one during the self-concept curricular theme. During this period, J. W./Tommy wrote thirteen products and forty-eight statements. His third most frequent writing was done during the Fall curricular theme with a total frequency of fifty-nine, thirteen products and forty-six statements.

A sample of writing by J. W./Tommy which was written in October during the Fall curricular theme is shown in Figure 2. This sample of writing is J. W.'s first and last name, J. W. Brown. It is written from right to left and some of the letters are reversed, also the vowel "o" has been omitted. This statement represents only one product and one statement.
Table V (see Appendix K) presents the data on functions in the writing of J. W./Tommy in the ten learning centers. The asserting and maintaining social needs function occurred in the writing this subject produced in the language, dramatic play, eyes and hands, science, social studies, and "other" centers. For example, each student in the class wrote a valentine to a classmate who had moved away to communicate with her. Tommy's card had a brown smiling heart, a purple heart with a flower on it, and a blue flower on the front. On the inside of the card, in the appropriate place, he wrote his name. This card satisfies the criteria for being classified as written for the asserting and maintaining of social needs, and was written in the language center.
J. W./Tommy used the controlling function in all centers except math, sand, and "other." An example of J. W./Tommy using this function is given in Figure 3.

Fig. 3--Controlling function, J. W./Tommy

This writing was done in the art center. J. W. used the pencil to make the marks on the paper and demanded immediate response from the teacher by waving it in front of her face rather than putting it in the tray for finished work. The informing function of writing was used by J. W./Tommy in every center where any writing was done. For an example of the use of the informing function, see Figure 4. This writing was done in the "other" center. In it, Tommy wrote his name, the alphabet, and the numerals one through nine.
The forecasting and reasoning function was not used by this subject in any learning center.

Fig. 4—Informing function, J. W./Tommy

The projecting function was used in the math, dramatic play, and social studies centers. In Figure 5, J. W. has written his name, a letter "Y," and the numeral "9," and a picture of what his house and yard will look like when the pecans fall from the tree. He dictated, "See all the pecans," for the teacher to write at the bottom of the page. He also informed the teacher that his Dad had told him about the tree making pecans. J. W. had not lived near a pecan tree before, he had to rely on his father's past experience
to make this prediction. This is a use of the projecting function as defined by Shafer, Staab, and Smith (15). This product was written in the dramatic play center.

This is where I live.

Fig. 5--Projecting function, J. W./Tommy
J. W./Tommy did not use all five functions of language in any learning center. He used four functions in the dramatic play center only. He used three language functions in the language, eyes and hands, and science centers. He used two language functions in the math, art, social studies, and "other" centers. He used only one function of language in the library-listening center. He did not do any writing in the sand center.

**Function, Curricular Themes**

Table V (see Appendix K) presents the data on functions in the writing of J. W./Tommy during the twenty curricular themes. J. W./Tommy used the asserting and maintaining social needs function in writing during the transportation, Valentine, and farm animals curricular themes. The example of the valentine card previously discussed shows the use of this function during the Valentine curricular theme.

J. W./Tommy used the controlling function of writing during the self-concept, Fall, Halloween, Thanksgiving, Christmas, patriotism, and community helpers curricular themes. A sample of this function of writing made during the Halloween curricular theme, was earlier discussed and displayed in Figure 3.

This subject used the informing function when writing during all the curricular themes except farm animals, Spring, and Easter. For an example and explanation, refer to Figure
4. The forecasting and reasoning function was not evident in the writing of this subject during any of the curricular themes throughout the year.

The projecting function of writing was used by J. W./Tommy only during the self-concept and nursery rhymes curricular themes. Figure 5 is indicative of the projecting function and was written during the self-concept curricular theme.

J. W./Tommy did not use all five, nor even four, functions of language during any curricular theme. He used three functions of language during the self-concept curricular theme only. He used two language functions during the following curricular themes: gingerbread man, Fall, Halloween, Thanksgiving, Christmas, nursery rhymes, transportation, Valentine, patriotism, and community helpers. He used only one function of language during the following curricular themes: shapes and colors, food and nutrition, Winter, farm animals, pets, wild animals, and Summer. J. W./Tommy did not produce any writing samples during the Spring curricular theme.

**Form, Spelling**

The data collected from J. W./Tommy on form in spelling are presented in Table VI (see Appendix K). In the first stage of spelling development, the child uses the first phoneme only to write a word or thought. This can be seen
in Figure 6 written during the nursery rhymes curricular theme. In this written product, only the initial phonemes, "J" and "W," appear for the subject's name.

Fig. 6—Form, spelling, J. W./Tommy

In stage two of spelling development, the child writes only the first and last phonemes. J. W. wrote \text{NBWJ} for his name during the gingerbread man curricular theme as an example of stage two of spelling development.

In stage three of spelling development, the child uses short vowels. Tommy's writing displayed this stage in Figure 7. The subject spelled the word "rabbit" with the initial and final phonemes, but added a short vowel "o." This product was written by Tommy during the Easter curricular theme.

The fourth stage of spelling development is evident in writing when the child uses the standard English form of spelling. By May, Tommy was writing and spelling his last
name using the standard English, or fourth stage of spelling development, see Figure 8. This product was made during the wild animals curricular theme.

Fig. 7—Form, spelling, J. W./Tommy

Fig. 8—Form, spelling, J. W./Tommy

**Form, Print Concepts**

The data collected from the writing of J. W./Tommy, which is representative of his form in print concepts, are presented in Table VI (see Appendix K). J. W./Tommy's writing for base line and gingerbread man curricular themes
indicates only two of the concepts of print. He wrote from top to bottom of the paper and distinguished between print and drawing throughout the school year. These two print concepts are evident in Figure 9, written during the baseline data. In this product, the name JW is clearly intended to be separate from the drawing of the train, and the writing and drawing are from top to bottom of the paper.

Fig. 9—Form, print concept, J. W./Tommy

Later in the school year, during the wild animals curricular theme, J. W./Tommy's writing showed evidence not only of the two print concepts previously discussed, but the others as well. He also wrote from the left top, wrote from left to right, and used proper print orientation as shown in Figure 10. By the end of the study, during four of the last five curricular themes, all five print concepts appeared, and spelling development was frequently in the final stage.
This subject began the school year with a less mature form in his writing. At that time he was only in the first stage of spelling development and two of the concepts of print were evident in his writing. At the end of the school year his writing evidenced the fourth stage of spelling development and all five concepts of print. This study showed progress in the incorporating of the form aspects of writing by this subject throughout the course of the study.

Case Study Two, Des

**Frequency, Centers**

Table VII (see Appendix K) shows the frequency data by centers, which is representative of writing produced by Des. The center where Des wrote with the greatest frequency was the art center, with twenty-six products and seventy-one statements for a frequency of ninety-seven. Des' second greatest frequency of writing was accomplished in the science
center. Here he had a frequency of eighty-eight, twenty-seven products and sixty-one statements. The third most frequent writing was produced by this subject in the dramatic play center with a frequency of sixty-eight, seventeen products and fifty-one statements.

A sample of Des' writing from the science center is shown in Figure 11. In this sample, Des has given his name and written the word "happy."

Fig. 11--Frequency, centers, Des

Frequency, Curricular Themes

Table VII (see Appendix K) shows the frequency data, during curricular themes, which is representative of writing by Des. Des wrote most frequently during the Christmas curricular theme. He wrote with a frequency of 119, the total derived from 36 products and 83 statements. The second most frequent amount of writing occurred during the farm animals
name, but also that of the person in the center with him at the time, Heather.

Fig. 13--Asserting and maintaining social needs function, Des.

Des used the controlling and the informing functions of language in all learning centers. Figure 14 is an example of the use of the controlling function by Des.

Fig. 14--Controlling function, Des
He has taken a paper from the math center, and scribbled over it with his pencil. While doing this he was observed by the teacher telling the other three children in the center to "watch this." This subject's use of the informing function can be seen in Figure 15 where he is using his name to label the written product.

Fig. 15—Informing function, Des

The forecasting and reasoning function is present in writing produced in the math, eyes and hands, and social studies centers. Des drew upon many things he knows about Spring in a paper he made while in the social studies center. At the top of the page, he wrote his name and the letters "S O A S E" which he told the teacher meant Spring. The rest of the paper is drawn in soft pastel colors with a green tree, a rainbow, pink rain, a pale green sun, an orange house, some green grass, an orange flower with a purple center, and an orange cloud in the sky. Des was reasoning and forecasting when he portrayed the combination
of the sun, rain, and rainbow for a spring picture. The lovely colors give the entire picture an aesthetically appealing aura of the spring season.

The language function of projecting is indicated in writing from the dramatic play center for Des. In March, Des wrote several classmates' names on an envelope. The names he wrote were Josh, Ben, Heather, Jenn, Susan, and Tmmo D. Des told the teacher how happy these children would be to receive some mail from him. In this instance, he was using the projecting function of language to ascertain how the other children would react to getting mail from him.

Des did not use all five functions of language in his writing in any center. He used four of the functions in the dramatic play and "other" centers. He used three of the functions in the math and eyes and hands centers. Des wrote most frequently using two of the functions of language. Centers where his writing showed two of the functions of language were language, art, science, social studies, sand, and library-listening. He did not have writing in any center which reflected only one or no functions of language.

Functions, Curricular Themes

Table VIII (see Appendix K) presents the data on functions from Des during the twenty curricular themes. The asserting and maintaining social needs function of language
is evident in Des' written productions during the farm animals and Spring curricular themes only. In Figure 13, previously presented, Des included his center-mate's name in his writing. This was indicative of the asserting and maintaining social needs function of language.

All curricular themes except food and nutrition, Winter, patriotism, community helpers, farm animals, Easter, and pets prompted Des to use the controlling function of language. An example of his use of this function was given previously in Figure 14 when he scribbled and asked the other children to watch him. This was done during the Valentine curricular theme.

Des used the informing function of language during all the curricular themes except gingerbread man, self-concept, and Easter. The writing sample given previously with Figure 15 is a sample of his use of this language function and was written during the Thanksgiving curricular theme.

Des' use of the forecasting and reasoning function was discussed earlier in regard to its use in centers. His drawing of spring described in that section of this paper was made while he was in the dramatic play center and during the Spring curricular theme.

The envelope Des addressed in the dramatic play center, also described earlier, was written during the farm animals curricular theme. With his addressing of this envelope, Des was projecting into the feelings of his classmates.
Des did not use all five functions of language in his writing during any curricular theme. He used four of the functions of language during the farm animals curricular theme only. His use of three language functions is found in his writing during only the Spring curricular theme. Des most often used two functions of language. The curricular themes during which he employed two functions were nursery rhymes, Fall, Halloween, shapes and colors, Thanksgiving, Christmas, Winter, transportation, Valentine, wild animals, and Summer. Des used only one function of language in his writing during the following curricular themes: gingerbread man, self-concept, food and nutrition, patriotism, community helpers, and pets. Des had no writing during the Easter curricular theme.

Form, Spelling

The data collected from Des on spelling form are presented in Table IX (see Appendix K). Prior to the shapes and colors curricular theme, written production by Des was mostly in the first two stages of spelling development. In the heading from the paper Des wrote shown in Figure 15, he used the letters "D" and "s" for his name. This is an example of spelling stage two where the child uses only the first and last phonemes of a word.

From the time of the shapes and colors curricular theme through the patriotism curricular theme, spelling samples
from all four stages occur in Des' writing. Des wrote Figure 16 in the library-listening center during the Valentine curricular theme. He informed the teacher that this said, "Strawberry Shortcake." The third stage of spelling development is evident here as Des used mostly consonants, but added the vowel "e" as the seventh letter of the message.

Fig. 16—Form, spelling, Des

By May, during the pets curricular theme, Des sometimes used the fourth stage of spelling development. The tee-shirt he designed in the art center, as shown in Figure 17, clearly has the word "Izod" on it. Although the letters are not in correct order, Des is beginning to conquer standard English spelling. He has seen this word and retained a mental image of the necessary letters to spell it.

Form, Print Concepts

The data collected from the writings of Des on print concepts form are presented in Table IX (see Appendix K). All the concepts of print do not appear in the writing of Des until the last two curricular themes of the year, wild animals and Summer. The writing from the left top concept
occurs in only six of the curricular themes: gingerbread man, self-concept, Fall, shapes and colors, wild animals, and Summer. As shown in Figure 18, Des frequently began his writing in the middle of the paper. Here he wrote his name and copied the name of the center, social studies. This sample was written during the farm animals curricular theme. The print in this sample is disoriented as evidenced by the backward "s" and the upside down "c." Proper print
orientation is evident in writing produced by Des during only the wild animals and Summer curricular themes.

Des wrote from top to bottom in all but the Easter and Halloween curricular themes. His writing went from left to right on all but six of the curricular themes: gingerbread man, Fall, food and nutrition, Thanksgiving, transportation, and Easter. He distinguished between print and drawing in his writing in all but the following five curricular themes: gingerbread man, nursery rhymes, food and nutrition, patriotism, and Easter. Figure 18 is also an example of writing from top to bottom as Des began the paper by labeling it with his name at the top. The writing progresses from left to right whether he was writing on his own, as with his name, or copying, as with the name of the center. The rectangular drawing below the center title is a separate part of the written product.

Fig. 18—Form, print concepts, Des
Form in Des' writing at the beginning of the study was indicated at a low level with his spelling in the first stage of development and only one of the five print concepts evident. At the end of the study, Des' writing was often in the fourth stage of spelling development and evidenced all five concepts of print. The form of Des' writing showed progress in spelling and print concepts during the school year.

Case Study Three, Kenny

**Frequency, Centers**

Table X (see Appendix K) presents the data which are representative of the frequency of writing produced in the learning centers by Kenny. Kenny wrote most frequently in the art center with 33 products and 111 statements for a frequency of 144. His second most frequent writing was done in the science center with a frequency of 140, 30 products and 110 statements. Kenny wrote in the language center with a frequency of 130, 30 products and 100 statements.

A sample of writing produced by Kenny in the art center is presented in Figure 19. For this writing, he chose to use crayons. In this sample, Kenny has written his name, the letter "M," and the numeral "1" in orange. He chose a purple crayon to copy the name of the center, art, and to write the numeral "2" and two "0's." A brown crayon was used to write only the letter "W." "H," "B," and "N" are
black. A second "M" and "O" are pink. The numeral "3" is blue. Kenny thus combined his writing with color to create a lively and eye-pleasing work of art.

Fig. 19—Frequency, centers, Kenny

**Table X (see Appendix K)** presents the data which are representative of the frequency of writing introduced by Kenny during the curricular themes. Self-concept was the curricular theme prompting Kenny to write most frequently. During this curricular theme, Kenny wrote with a frequency of 132, 26 products and 106 statements. During the Christmas curricular theme, Kenny wrote with a frequency of 120, 31 products and 89 statements. The farm animals curricular
theme promoted a frequency of writing of 84 for this sub-
ject, 8 products and 76 statements.

An example of writing produced by Kenny during the
self-concept curricular theme is given in Figure 20.

Fig. 20—Frequency, curricular themes, Kenny
This product was written in the science center. Kenny made himself lines to write on as the paper was unlined. He used each line to practice writing the individual letters that comprise his name.

**Function, Centers**

Table XI (see Appendix K) presents the data on function from the writing of Kenny in the ten learning centers. Kenny used the asserting and maintaining social needs function in the art, social studies, sand, library-listening, and "other" centers. In the social studies center, Kenny wrote about his favorite television show. He put his name at the top and the bottom of the page, drew a picture on the screen provided on the paper, and dictated, "John Blackstar" for the teacher to write on the back of the paper. He thus asserted a positive expression which is defined by Shafer, Staab, and Smith (15) as a subfunction under the asserting and maintaining social needs function of language.

Both the controlling and informing functions of language were used by Kenny in every center. Kenny was occasionally observed by the teacher as he helped others write, thereby controlling them with his writing. The letters "J" and "W" in Figure 21 were written by Kenny in the art center. J. W. was sitting next to him as he demonstrated to J. W. how to write the letters. For an example of the informing function,
written in the science center, refer to Figure 20. As he wrote the letters of his name, Kenny noted details and compared the letters.

Fig. 21—Controlling function, Kenny

The forecasting and reasoning function was used by Kenny in the language and social studies centers. Figure 22 gives an example of the forecasting and reasoning function for Kenny. It is a score card he and Des made for playing the "Carrot Toss" game. This product was made in the social studies center.

Kenny used the projecting function in the science and language centers. Figure 23 is an example of the use of the projecting function in the language center. When asked about this writing by the teacher, Kenny said, "This is a 'm' and this is a 'o.' Doesn't the 'm' look like a cursive one?" As there was much class discussion during this part of the year concerning cursive writing, Kenny was attempting
to project into the teacher's reactions to his writing. This is a subfunction of the language function of projecting.

Fig. 22—Forecasting and reasoning function, Kenny

Fig. 23—Projecting function, Kenny

Kenny did not use all five of the functions of language in his writing in any center. He did use four functions
when writing in the language and social studies centers. His written production shows three functions in the art, science, sand, library-listening, and "other" centers. Kenny used two functions of language in his writing in the math, dramatic play, and eyes and hands centers. He did not use less than two functions of language in his writing in any center.

Functions, Curricular Themes

Table XI (see Appendix K) presents the data on functions of language from the writing of Kenny during the twenty curricular themes. The asserting and maintaining social needs function was evident in Kenny's writing during the self-concept and farm animals curricular themes. The description of Kenny's writing about his favorite television show presented earlier is an example of this language function. It was produced during the self-concept curricular theme.

Kenny used the controlling function in the following curricular themes: gingerbread man, self-concept, nursery rhymes, Fall, Halloween, shapes and colors, food and nutrition, Thanksgiving, and Christmas. Figure 22, above, evidenced this function of language and was made during the Halloween curricular theme. After the Christmas curricular theme he did not use the controlling function again.

Kenny's use of the informing function of language is evident in the sample presented in Figure 20. This product was written during the self-concept curricular theme.
The forecasting and reasoning function is in Kenny's written production during the food and nutrition and farm animals curricular themes. Figure 22 is an example of this function and was written during the farm animals curricular theme. Kenny used the projecting function of language in his writing during the self-concept and Spring curricular themes. The example given in Figure 23 was written during the Spring curricular theme.

Kenny did not use all five functions of language in his writing during any curricular theme. He used four functions during the self-concept curricular theme only. Kenny's written products reflect three functions of language during the food and nutrition and farm animals curricular themes. Kenny used two functions during the following curricular themes: gingerbread man, nursery rhymes, Fall, Halloween, shapes and colors, Thanksgiving, Christmas, and Spring. Curricular themes during which Kenny's writing shows only one function of language are Winter, transportation, Valentine, patriotism, community helpers, Easter, pets, wild animals, and Summer.

Form, Spelling

The data collected from Kenny on spelling form are presented in Table XII (see Appendix K). Throughout the study Kenny's spelling development was mainly in the fourth stage of spelling development. Kenny wrote some of his
classmates' names in the social studies center during the community helpers curricular theme, see Figure 24. The fourth stage of spelling development is in evidence in this product as Kenny used the standard English spelling for Susan, Monica, Nick, Terry, Heather, and Felicia. He had a few written productions which indicated the third stage of spelling development. In stage three the child begins to add some short vowels to the consonants when writing a word.

![Fig. 24—Form, spelling, Kenny](image)

There were only two instances when the written product reflected the second stage of spelling development for Kenny. The second stage is seen when the child uses the beginning and ending phonemes for a word. The letters "N" and "K," copied from Kenny's writing in the science center during the Valentine curricular theme, stand for Nick, see Figure 25. Nick was a classmate and friend of Kenny's.
The data collected from Kenny on print concepts form are presented in Table XII (see Appendix K). All five concepts of print are evident in the written production of Kenny during only the Winter, Valentine, patriotism, community helpers, and farm animals curricular themes. He wrote from the left top during every curricular theme except nursery rhymes, Fall, food and nutrition, Thanksgiving, pets, wild animals, and Summer. Kenny wrote from left to right during all curricular themes except pets, Easter, and Summer. Writing from the top to the bottom is in all the written products of Kenny except during the pets and Summer curricular themes.

Figure 19, shown with the previous discussion of frequency, illustrates Kenny’s use of these three print
concepts as he has written from left top, from left to right, and from top to bottom in this example. Correct print orientation was in the writing he produced during 50 percent of the curricular themes. Again in Figure 19, Kenny has correct print orientation for his letters, but the numerals "2" and "3" are reversed. Kenny failed to distinguish between print and drawing during only the Spring, Easter, wild animals, and Summer curricular themes. For example, a card he wrote during the farm animals curricular theme has a blue sky, yellow sun, and violet road and bridge on the front. The inside of the card shows Kenny's sentiments, see Figure 26. The back of the card has a multicolor drawing of a rainbow. Kenny distinguished between print and drawing in this example, physically separating them by folding the paper into a card.

Fig. 26, Form, print concepts, Kenny
Case Study Four, Jennifer

Frequency, Centers

The frequency of writing data, by centers, gathered from Jennifer's compositions are presented in Table XIII (see Appendix K). Jennifer's most frequent writing was done in the art center. In this center she composed 80 products containing 226 statements for a total frequency of 306. Her second most frequent writing was done in the dramatic play center. In this center Jennifer wrote 43 products and 152 statements for a frequency of 195. The language center was the setting of her third most frequent writing. In this center Jennifer wrote with a frequency of 189, 43 products and 146 statements.

An interesting writing sample Jennifer composed in the dramatic play center is shown in Figure 27. On this order form, Jennifer has written her name and listed the items of food she wishes to order with the cost of each item also listed under the appropriate heading of "Amount."

Frequency, Curricular Themes

The frequency of writing data, during the twenty curricular themes, gathered from Jennifer's compositions are presented in Table XIII (see Appendix K). Jennifer wrote most frequently during the Winter curricular theme. During this time she composed 33 products containing 92 statements for a total of 125. The patriotism curricular theme
influenced the subject to writing with a frequency of 94, 13 products with 81 statements. Jennifer's third most frequent writing occurred during the shapes and colors curricular theme. During this curricular theme she wrote 26 products with 65 statements for a frequency of 91.

Fig. 27—Frequency, centers, Jennifer
Figure 28 shows the front and back of one of a pair of mittens Jennifer made in the art center during the Winter curricular theme. Jennifer carefully wrote her name on both the front and back of this mitten. The limited writing space the mitten provides prompted her to separate her name into parts. On the front of the mitten she divided her name into standard syllables. On the reverse side she had to put the ending "r" on a separate line. These mittens offer little space for writing. Jennifer displayed perseverance in getting her name on each mitten. The divisions show her command of form as she divided her name into standard and near-standard syllables.

Fig. 28--Frequency, curricular themes, Jennifer
Function, Centers

Table XIV (see Appendix K) contains the data on the functions of language evident in Jennifer's compositions in the ten learning centers. The asserting and maintaining social needs function appears in Jennifer's writing in the art, science, sand, language, and dramatic play centers. Figure 29 is an example of Jennifer's use of the asserting and maintaining social needs function in her writing. This product was composed in the science center. During this period of time, Jennifer frequently wrote that she loved various people, the word "love" appears often in her writing.

Fig. 29—Asserting and maintaining social needs function, Jennifer

Jennifer used the controlling and informing functions of language to write in every center. On a paper written by Jennifer in the art center, she wrote Suzanne's name with five check marks by it and Des' name with five checks by it also. When asked about this by the teacher, Jennifer replied that Suzanne and Des got in trouble. This refers to the classroom use of assertive discipline where the child
received a check by his name and some disciplinary action each time he broke a classroom rule. Jennifer was apparently trying to control the actions of Suzanne and Des who were in the center with her and not behaving to her satisfaction. This is an example of her use of the controlling function of language.

Figure 30 is an example of Jennifer's use of the informing function in writing. In this example, she wrote her name and copied the word "transportation" from the chalkboard.

![Figure 30](image)

**Fig. 30—Informing function, Jennifer**

The forecasting and reasoning function is found in the writing Jennifer produced in the art center only. Use of this function was in evidence in the art center where the teacher had provided a picture story showing a boy walking
down the street and finding a coin lying on the sidewalk; the children were asked to complete the story. Figure 31 shows that Jennifer drew a picture of the boy picking up the coin. This is a logical conclusion to the story and shows her use of reasoning to arrive at this ending.

Fig. 31—Forecasting and reasoning function, Jennifer

The projecting function was used by this subject in the art, language, dramatic play, and "other" centers. In using the projecting function, the child often projected into the feelings of others. Jennifer did this in a composition she wrote in the art center. She drew a bare Christmas tree and scribbled over it with black crayon while expressing verbally how bad the tree felt now that the holidays were over.
Jennifer used all five functions of language in her writing in the art center only. She used four of the functions in the language and dramatic play centers. She used three functions in the science and "other" centers. Learning centers in which Jennifer's compositions reflected two functions were math, eyes and hands, social studies, sand, and library-listening. She did not use less than two functions in her writing in any center.

**Functions, Curricular Themes**

Table XIV contains the data on the functions of language evident in the written compositions of Jennifer during twenty curricular themes (see Appendix K). The asserting and maintaining social needs function appears in the writing Jennifer did during the transportation, Valentine, farm animals, and Spring curricular themes. Figure 29 presented an example of the use of this function by Jennifer. This product was written by her during the Spring curricular theme.

Jennifer used the controlling function when writing during all curricular themes except transportation, patriotism, community helpers, farm animals, Spring, Easter, wild animals, and Summer. Her composition indicating the controlling function of language, which was presented earlier in the discussion of function in learning centers, was written by Jennifer during the pets curricular theme.
Jennifer used the informing function in her writing during all curricular themes except baseline data. Figure 30 presented a sample of her use of this function. This writing was done during the transportation curricular theme.

Valentine and Spring were the only curricular themes during which Jennifer used the forecasting and reasoning function. The sample in Figure 31 of Jennifer's ending to the picture story is an example of the use of this function. This product was made by the subject during the Valentine curricular theme.

The projecting function is found in the writing Jennifer produced during the transportation, Valentine, and farm animals curricular themes. The previous discussion of Jennifer's projecting the feelings of the Christmas tree was an example of the use of this function. It appears significant that Jennifer drew and scribbled over the bare tree in January during the Winter curricular theme. This incident occurred at a time when many people were removing such trees from their homes due to the ending of the holiday season.

Jennifer used all five functions of language in her written production during the Valentine curricular theme only. She used four functions during the transportation curricular theme only. Jennifer's compositions during the farm animals and Spring curricular themes reflected the use of three functions. She used two functions in her writing during the following curricular themes: gingerbread
man, self-concept, nursery rhymes, Fall, Halloween, shapes and colors, food and nutrition, Thanksgiving, Christmas, and Winter. She used only one language function during the patriotism, community helpers, Easter, pets, wild animals, and Summer curricular themes.

**Form, Spelling**

The data on spelling forms in Jennifer's writing are presented in Table XV (see Appendix K). Jennifer wrote in the fourth stage of spelling development throughout the study. This may be attributed to her frequent writing of only her name on papers. Also much of her writing was copied, as was the previously presented work in Figure 30. As she had learned to spell her name conventionally and rarely made approximations when copying, most of her written productions were coded as stage four of spelling development, or standard spelling.

Stage three of spelling development was indicated in her writing only during the gingerbread man, transportation, Valentine, patriotism, Spring, and wild animals curricular themes. Figure 32 represents Jennifer's work in stage three of spelling development. In writing, Jennifer attempted to spell the name of "Stephanie." She correctly began with "Ste," then realized she needed more and tried twice more with "Step," and "Stephi." In this stage of spelling development, she was using both consonants and vowels which is
indicative of stage three of spelling development. Only two instances of stage one of spelling development were recorded in Jennifer's writing, one each during the patriotism and pets curricular themes. One of these compositions was made when Jennifer decided to write a story about a picture she had colored in the art center during the pets curricular theme. She turned the paper over and wrote the letters "s" and "t" on the back, see Figure 33. As she finished, Jennifer told the teacher she had an "s" for sun and a "t" for tomato.

Fig. 32.—Form, spelling, Jennifer

Fig. 33.—Form, spelling, Jennifer
curricular theme. At this time Des wrote with a frequency of sixty-nine, eleven products and fifty-eight statements. The third curricular theme producing frequent writing was Winter. At this time he wrote with a frequency of fifty-three, sixteen products and thirty-seven statements.

During the Christmas curricular theme, Des was very interested in writing his name. When he wrote it, as shown in Figure 12, he proudly showed the teacher a "perfect 'e'" he had made.

Fig. 12—Frequency, curricular themes, Des

Function, Centers

Table VIII (see Appendix K) presents the data on functions from Des from the ten learning centers. Des used the asserting and maintaining social needs functions of language in his writing in both the dramatic play and "other" learning centers. Figure 13 was written in the dramatic play center. In this product, Des has included not only his own
Both of these objects appear in her previously drawn pictures. At this point, Jennifer seems to be using stage one of spelling development where the child uses only the initial phoneme to represent a word. Jennifer had no writing examples of stage two of spelling development where the child uses both the initial and final phonemes to represent a word.

**Form, Concepts of Print**

Table XV presents the data on print concepts form in the written production of Jennifer (see Appendix K). After the shapes and colors curricular theme, all of the writing produced by Jennifer in every curricular theme indicated all five concepts of print. Figure 29 is one such example. Written during the Spring curricular theme, this composition shows writing (a) from left top, (b) from left to right, (c) from top to bottom, (d) with proper print orientation, and (e) accompanied by no drawings.

During the base line data curricular theme, she did not write from top to bottom. Instead she chose to write across the middle of the sheet of paper. During the nursery rhymes and Halloween curricular themes, Jennifer had no indication of proper print orientation. Figure 34 is an example of this lack of print orientation. Letter-like forms can be detected in this writing which Jennifer did during the Halloween curricular theme, but the letters are often turned in other than the standard position.
Fig 34--Form, print concepts, Jennifer

This subject did not write from left to right during the shapes and colors curricular theme. Instead she chose to write in a "flowing" manner as one does with cursive writing. It seems that her pencil moved in the direction of the flow of her creation, as in Figure 35. In this writing sample, Jennifer appeared to be experimenting to see what she could accomplish with writing materials rather than to carefully adhere to the standards of form.

Summary

Collective Analysis

In the administration of the BHKT, it is apparent that some kindergarten children enter public school with some
knowledge about print. Data indicate that the BHKT can supply pertinent information about children's perceptions of concept related to print. Kindergarten children use both reading and writing concepts in developing an understanding of print. A child's experiences with writing and opportunities to write seem to contribute to a gradual movement toward higher levels of understanding about print.

Kindergarten children believe themselves to be writers. This is evident in the data as each child produced writing samples. They do not perceive themselves as readers; this is evident in data from the BHKT. For comparisons and subsequent identification of any trends in the data,
pictorial representations of the data are presented collectively in this section of the study.

**Summary Frequency, Centers**

The collective data on frequency for writing by centers for the four subjects are presented in Figure 36. This figure represents the frequency with which the subjects wrote in each learning center. The frequency was calculated by adding together the total products and total statements written by each of the four subjects in each of the ten learning centers. The greatest frequency, 306, was written by Jennifer in the art center and is the figure which is represented by 100 percent on the table. All other frequencies of writing are presented as a percentage of that largest one.

Jennifer wrote with a frequency of 64 percent in the dramatic play center and 62 percent in the language center. J. W./Tommy wrote with a frequency of 52 percent in the language center.

The next highest frequency of writing was by Kenny in the art center, 47 percent. Kenny also had approximately that same level of frequency of writing in the sand center, 46 percent; science center, 46 percent; and social studies center, 45 percent. Des wrote most frequently in the art center, 32 percent.

Examining these data collectively reveals that the most frequent writing by all four subjects occurred in the art
Fig. 36--Summary frequency by centers

T = J. W./Tommy
D = Des
K = Kenny
J = Jennifer
center with an average frequency of 48 percent. The center producing the least frequency of writing by the four subjects was the library-listening center with an average percentage of 11 percent.

The order of average frequency of writing by learning centers from highest to lowest is as follows: (1) art, (2) dramatic play, (3) language, (4) sand, (5) science, (6) social studies, (7) other, (8) eyes and hands, (9) math, and (10) library-listening.

Summary Frequency, Curricular Themes

Figure 37 shows the frequency with which the subjects wrote during the curricular themes. The frequency was calculated by adding together the total products and total statements written by each of the four subjects during each of the twenty curricular themes. The greatest frequency, 132, was written by Kenny during the self-concept curricular theme and is the figure which is represented by 100 percent on the graph. All other frequencies of writing are presented as a percentage of that largest one.

Jennifer wrote with a frequency of 95 percent during the Winter curricular theme. Kenny wrote with a frequency of 91 percent during the Christmas curricular theme. J. W./Tommy's most frequent writing, 52 percent, was done during the nursery rhymes curricular theme. Des had his most frequent writing during the farm animals curricular theme,
52 percent. The curricular theme during which the four subjects wrote most frequently was Christmas with an average frequency of 65 percent. The curricular theme producing the least frequency writing was pets with only a 5.5 percent average frequency. The order of average frequency of writing by curricular themes from highest to lowest is as follows: (1) Christmas, (2) self-concept, (3) Fall, (4) shapes and colors, (5) farm animals, (6) Thanksgiving, (7) Winter, (8) transportation, (9) nursery rhymes, (10) patriotism, (11) Valentine, (12) food and nutrition, (13) Halloween, (14) Spring, (15) wild animals, (16) community helpers, (17) gingerbread man, (18) Summer, (19), and (20) pets.

Summary Functions, Centers
The data on functions of language evident in the four subjects' writing by centers are presented in Figure 38.

Summary Functions, Curricular Themes
The data on functions of language evident in the four subjects' writing by curricular theme are presented in Figure 39. The functions of language were determined as previously described with the learning center data.

Asserting and maintaining social needs was used in writing by J. W./Tommy, Des, and Jennifer in the dramatic play center. Use of this function is evident in the written productions of Kenny in the social studies center, and by J. W./Tommy and Jennifer in the language center. It was also
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A = Asserting and Maintaining Social Needs
B = Controlling
C = Informing
D = Forecasting and Reasoning
E = Projecting

Fig. 38—Summary functions, centers

used by Kenny and Jennifer in the art, by Kenny in the sand center, and by J. W./Tommy, Des, and Kenny in "other." This function was used by J. W./Tommy in the eyes and hands and by Kenny in the library-listening center.

The controlling function was used by all subjects in all centers. The informing function was also used in the writing of all four subjects in all centers.

The forecasting and reasoning function of language occurred in the written productions of Des in the social
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studies center. Kenny, Jennifer, and J. W./Tommy used it in the mathematics, dramatic play, and social studies centers. J. W./Tommy and Des used the projecting function in their writing in the language center. Des used it in dramatic play, Jennifer in art, and Kenny in science.

All five functions of language appear in written products only in the art center. Four functions occur in the subjects' writings in the language, dramatic play, social studies, and "other" centers. Centers where three functions of language appear in the written products of the four subjects are mathematics, eyes and hands, science, sand, and library-listening. There was no center in which fewer than three functions of language were evident in the writing.

Asserting and maintaining social needs was used by all four subjects during the farm animals curricular theme only. J. W./Tommy and Jennifer also used the function during the
Valentine curricular theme. The controlling function of language is evident in writing produced by all subjects during the self-concept, Fall, Halloween, Thanksgiving, and Christmas curricular themes.

All four subjects used the informing function of language when writing. The only curricular themes where J. W./Tommy did not use this function were farm animals, Spring, and Easter. Des did not use this function during the gingerbread man, self-concept, or Easter curricular themes. Jennifer used it during all curricular themes. Kenny used this function of language during all curricular themes also.

The forecasting and reasoning function of language appears in the writing produced by Kenny during the farm animals curricular theme. It is also present in the writing of Des and Jennifer during the Spring curricular theme. The projecting function language was used to write during the self-concept curricular theme by J. W./Tommy and Kenny. It was used by J. W./Tommy during nursery rhymes and by Jennifer during transportation, Valentine, and farm animals.

All five functions appear in products written during only the Valentine curricular theme. Four functions occur in the written products of the subjects during the self-concept, Valentine, farm animals, transportation, and Spring themes.

Curricular themes during which the written products of the subjects reflect three functions of language are nursery rhymes, food and nutrition, transportation, Spring and
Easter. Eleven of the remaining curricular themes produced only two functions of language. Easter and pets had only one.

**Summary Form, Spelling**

The data on spelling form evident in the four subjects' writing are presented in Figure 40. At the beginning of the study, the writing of J. W./Tommy and Des were in the first two stages of spelling development while those of Kenny and Jennifer were both more often in the fourth stage. At the conclusion of the study, the writing of all four subjects indicated that they were often in the fourth stage of spelling development.

**Summary Form, Concepts of Print**

The data on print concepts form evident in the four subjects' writing are presented in Figure 41. Jennifer's written production throughout the school year revealed all five concepts of print. Kenny also had all five concepts of print in his writing, but often had improper print orientation, 50 percent of the time. J. W./Tommy and Des began with low numbers of print concepts but had all five in evidence in their written productions by the end of the study.

Thus, the data on form indicate a gradual, but perceptible, growth by the students in form. Gains were indicated in both spelling development and print concepts by the four subjects.
Discussion

The results from this study on frequency, function, and form of kindergarten children's written products suggest variations within the written productions of the four subjects. These variations become evident by examination of the written products and the observational notes made by the classroom teacher. The following discussion describes, explains, and offers further suggestions concerning these variations.
This study examined the frequency of writing within a kindergarten classroom's learning centers and curricular themes. Certain centers seemed to encourage more frequent writing than others. In addition, there were several curricular themes that appeared to facilitate more writing than others.

The three centers which prompted the highest frequency of writing were art, dramatic play, and language. Of all
the learning centers in the classroom, the art center had the greatest number and variety of writing tools and materials. Pencils, crayons, paint, markers, and many different sizes and shapes of paper were usually located in this center. Perhaps the availability of and diverse nature of writing tools and materials encourages more writing behavior as Coles and Goodman have suggested (1). Dramatic play also offers a wide variety of print materials. In this center they are used as props for children's creative dramatics. Vukelich and Golden (18) recommend these types of center resources. Print materials often found in the dramatic play center were magazines, order forms, and catalogues. The language center had the greatest variety of print available in the classroom. This print was often in the form of large printed charts, large printed finger plays, and manipulative wooden or plastic letters. The use of print in the classroom has been recommended by Holdaway (8) and Rhodes (14). Classroom teachers might consider adding a variety of writing tools and materials, real-life print materials, and print in varying forms to learning centers to engage children in more frequent writing.

The three centers providing the lowest frequency of writing were library-listening, eyes and hands, and math. Each of these centers, as did every learning center in the classroom, contained paper, pencils, and print materials. In addition, in library-listening, there were books, records,
and listening tapes. In math there were also objects to count, flannelboard figures, and various math learning games. In eyes and hands there were blocks, trucks, and building tools. Perhaps the nature of the materials in these centers predisposed children to engage in activities which, in many instances, made it awkward or uncomfortably distracting to use their hands for writing. The activities the children were engaged in at these centers are all developmentally appropriate. Writing is not always the most desirable activity for young children. But a teacher who desires to encourage more frequent writing in these centers might consider giving the children more pragmatic reasons for writing. Children could be encouraged to provide written records of the activities in which they were engaged in the learning centers. Forms for responding to manipulations such as the flannelboard could be placed in the learning centers. If a kindergarten child made several sets of objects on the flannelboard, the teacher might encourage the child to use a form to record the sets he made. A log book could be placed in the center where building blocks are located. Young builders might be asked to draw and describe the structures they make. Incorporating suggestions like those above might elicit more frequent writing in those centers where this study indicated a lower frequency of composition.
The data on frequency further reveal the curricular themes evoking the highest frequency of writing. These curricular themes were self-concept, Winter, Christmas, Thanksgiving, shapes and colors, patriotism, and farm animals.

During the self-concept curricular theme, emphasis on each child as a person was developed. Although this curricular theme was used early in the school year, the children found it meaningful enough to produce a high number of compositions. The Winter curricular theme occurred right after the holidays and children might have brought a renewed enthusiasm for learning after this break. The two holiday curricular themes, Thanksgiving and Christmas, produced high frequencies of writing also. Perhaps our cultural emphasis upon this time of year made these themes so meaningful that the children found much to write about at that time.

Piaget (12) described the need of the young child to have concrete experiences. The shapes and colors curricular theme may have encouraged children to write frequently because it does incorporate concrete learning experiences. Patriotism is far less concrete, yet the children of this study wrote often during this theme also. The classroom teacher had collected a rather extensive set of resources for this theme, due partially to the earlier Bicentennial celebration in the United States. This wide range of resources could explain the high frequency of writing.
Children were able to study large prints of historical symbols, there were many teacher-made patriotic games. Patriotic books and pamphlets were also available.

Another unexpected source of frequent writing was the farm animals curricular theme. This theme was not expected to produce a great deal of writing in the city children of this study. Possibly the participation in a field trip to a farm prompted children to write often.

A low frequency of writing was found in the following curricular themes: Easter, Summer, community helpers, gingerbread man, pets, Spring, and wild animals. The Easter curricular theme occurred immediately after the Spring theme. During this theme, the teacher had a personal crisis which could explain some of the drop in writing frequency at this time. A new baby in the family kept Kenny out of school much of this time. Des missed two weeks of school with the chicken pox. Jennifer's asthma caused her to have frequent absences. These personal complications are part of life and might be expected to affect classroom learning at any time.

The community helpers curricular theme is almost universally used by teachers; yet this theme evoked a low frequency of writing. A possible cause of this might be scheduling. The teacher, being new to the district, was not aware that a field trip to the fire station was taken
early in the school year. This field trip might have given
a meaningful experience to this theme and children would
probably have written more often. But community helpers
and the field trip were separated by several months due to
scheduling and there was little, if any, carry-over. The
gingerbread man curricular theme was the first one and, as
expected, did not elicit much writing from the children.
Likewise, Summer, as the last curricular theme, produced
little writing.

The low frequency of writing by subjects during the
pets and wild animals curricular themes might be explained
by the low socioeconomic status of the families. The
children all received either free or reduced-rate lunches.
For this reason there were not many pets in their homes as
they could not afford them. Wild animals were not personally
meaningful to these children as none of them could afford
trips to the zoo.

Classroom teachers might plan field trips to coincide
with appropriate curricular themes to encourage more
frequent writing. These trips could be especially valuable
for those children whose families cannot afford to provide
these experiences.

In a classroom which offers learning centers where
children have a choice of tools and materials, real or
functional reasons for writing, and much print material
to stimulate writing, a high frequency of writing by
children would probably occur (1, 8, 14, 18). Appropriate scheduling of field trips to provide real experiences which coincide with curricular themes thereby giving children real-life experiences to write about might be beneficial. These field trips would be especially appropriate for children from the low socioeconomic class who have not had the benefit of a variety of life experiences. A wide range of meaningful experiences have been found to facilitate children's literacy development by previous research (4, 6, 10, 11). The results of this study found this to be true and provided insights into other practical suggestions to implement in kindergarten classrooms. The implementation of these suggestions for learning centers and curricular themes would probably evoke a higher frequency of writing in the classroom.

Function

Learning centers and curricular themes also appear to have an influence upon the number of functions evident in the written production of the four subjects. As with the frequency of writing, certain centers and curricular themes appear to encourage children to employ more functions of language than did others.

The highest number of functions described by Shafer, Staab, and Smith (15) is five. There were no less than
three functions of language found in the written products in every center.

The following centers produced the greatest number of functions of language in the written products of the subjects: art (5), dramatic play (4), language (4), social studies (4), and other (4).

Eisner (3) states that teachers seldom interfere in the creative processes of children engaged in art activities. The subjects of this study used all five functions of language in the writing they produced in only one center, art. The possibility exists that the freedom from teacher control in that particular center encourages the use of more functions of language.

Children also have more freedom from teacher control in the dramatic play and social studies centers. The dramatic play center often has grown-up clothing for children to play dress-up. Environmental print from such sources as magazines, food containers, menus, etc. can often be found in this center. These center resources might inspire the play of the children. This play could be the cause of the use of four of the five functions of language by the subjects in their written products. Florio and Clark (4) remark about the importance of play in the literacy development of children.

The social studies center usually offers games for the children to play. These games often require some form of
record keeping. Functional writing such as this is recommended by Goodman and Goodman (5). This center also produced the use of four of the five functions of language in the writing of the four subjects.

The use of four of the five functions of language in the "other" center is in contrast to those of the art, dramatic play, and social studies centers. Although some of the writing credited to the "other" center was written by the subjects on their own, the majority of this writing was done in response to teacher-initiation. The teacher's previous training in whole language instruction may explain why this teacher-directed center elicited four of the five functions of language in the written products of the four subjects. This finding appears to support Smith (16) who stressed the importance of the teacher upon the written composition of the students.

The art, dramatic play, and language centers all were the scene of high frequency of writing by the four subjects. This frequency of writing alone might explain why the children used four of the five functions of language when writing in these centers. The high degree of social interaction which occurs in these three centers might also have had an effect on the writing of the four subjects. Vygotsky (19) long ago encouraged social interaction for literacy learning. This interaction might produce not only more frequent
writing, but also more reasons for, or functions of, writing.

There were no centers in which the subjects employed less than three functions of language in their writing. These data appear to contradict those of Pinnell (13). The subjects of Pinnell's study used few functions of language in their oral language.

Curricular themes also seem to have influenced the number of functions of language which appear in the written products. Only the Valentine curricular theme influenced the subjects to use all five functions of language. Valentine is a holiday of love and much social interaction. Jennifer was particularly interested in love during this period of time. Her parents were in the process of separation and Jennifer showed her concern with frequent references to the word "love" in her compositions. Perhaps the emphasis on social interaction this holiday promotes gave the subjects of this study more reasons to write. Furthermore, the addressing of Valentine cards to their classmates was probably a functional reason for writing.

The farm animals curricular theme provided the children with a real-life experience, and produced four functions of language in the children's writing. Before the trip, information was shared and rules for behavior were discussed. Children were encouraged to predict what animals they might
expect to see on the trip. The Future Farmers, local high
school students who conducted the tour, told the children
about the likes and dislikes of certain farm animals.
These practical experiences gave the children reasons to
write for information, control, social needs, forecasting
and reasoning, and projecting.

The self-concept theme facilitated the children using
four of the five functions of language. Self-concept is
directly related to the child and could be expected to
elicit more writing and reasons for writing. Piaget (12)
describes this as egocentrism. The teacher encouraged
children to write about what they looked like, foods and
television programs they enjoyed, and what their homes
and families were like.

The transportation curricular theme prompted the chil-
dren to use four language functions in their compositions.
Vehicles such as toy trucks, planes, and ships were added
to the classroom environment during this curricular theme.
These additions seemed to facilitate more building, of ramps
and air terminals for example. Children wrote about their
center-mates and what they built together. They often
attempted to control each other's behavior by writing down
another child's name and putting check marks beside it as
was done in the assertive discipline program used by the
teacher. The students would draw a picture of a smiling
astronaut, an indication of projecting. This popular kindergarten curricular theme provided a fertile base from which the children drew reasons for writing.

The Spring curricular theme elicited four of the five functions of language in the children's writing. This theme provided a natural background for forecasting and reasoning as the class discussed what was happening to seeds, plants, animals, and the weather. These discussions were reflected in their writing. The children were offered the opportunity to project in their writing when shown pictures to describe the feelings of the subject of the picture.

The nursery rhymes and food and nutrition curricular themes produced three of the five functions of language in the written production of the four subjects of the study. The majority of the remaining curricular themes elicited two functions of language. Only Easter and pets evoked one function of language. Easter has previously been described as a difficult time personally for the teacher and for several of the subjects. The children did not have pets as they could not afford them.

Two functions of language occurred frequently in the writing of the four subjects, (1) controlling and (2) informing. The controlling function was used by the subjects more often at the beginning of the study. Perhaps
there might be a correlation between this reason for writing and the unavoidable classroom emphasis on rules at this time. Children might also be establishing their own positions within the group then. The informing function is the function most often associated with school (7). The four subjects therefore reflected this common association in their frequent use of this function in their written productions.

Personal and concrete experiences appeared to have a great influence on the children's reasons for writing. Teachers who are sensitive to these two needs should be able to provide appropriate planning and implementation of concrete and personal learning experiences. This planning and implementation should encourage children to write for a variety of reasons. This writing then would probably reflect more functions of language as suggested by Pinnell (13).

**Form**

For this study the form in writing was considered to consist of spelling development and print concepts. All four subjects exhibited variances in their stages of spelling development during the Spring curricular theme. The teacher-researcher had a personal crisis at this time. Perhaps the distraction thus caused is apparent in the changes in
spelling that occurred in the writing during this period. The health-related absences of Des and Jennifer and the frequent absences of Kenny due to his family situation probably also affected the children's writing at this time.

The teacher who is aware of these unavoidable complications which arise within the classroom due to personal situations will be better prepared for changes such as these. Recognition of these causes might prevent the teacher from altering instruction and cause her to proceed as planned using the whole language approach with confidence that children will continue to progress after these seeming set-backs happen.

The data on stages of spelling development appear to indicate a high level of spelling in the writing of the four subjects. These data might be misleading because much of the writing was name-writing and copying. Since their names are very important to the children and are used functionally, to label belongings for example, the children quickly learn to spell them correctly. Copying from print in the classroom encourages correct spelling also. An example of this was given earlier, when the subject copied the name of the social studies center. A further example occurred when Jennifer, who usually wrote in the fourth stage of spelling development tried to write her cousin's name. The word "Stephanie" was not displayed in the classroom, so Jennifer began to develop the spelling by herself
with "St," "Ste," and "Steph." Her visual memory probably helped her remember some of the correct spelling, but her increasing familiarity with sounds and symbols may have also been a factor.

Perhaps the underlying concepts of standard spelling are not internalized but spelling is more conventional as the year progresses. The print-saturated environment might influence the child's concept of the sound-symbol relationship. As a subject copied the names of the leaders from the posted list and associated these names with classmates, he might learn to spell these names which were important to him.

The teacher has found another use for writing and reading children's names since the time of the study. Mats for rest time are now labeled with children's names and the leader each day passes these mats out by "reading" the names on them. Children are thus exposed to a pragmatic use of written language and seem to quickly learn to differentiate the sound-symbol relationships in order to give the proper mat to its owner. The classroom teacher might also encourage more risk-taking in the children's writing. This can probably best be accomplished by the manner in which she responds to their compositions. Responses to meaning seem to encourage children to try spelling. The spelling development of the subjects of this study appears to have
been influenced less by particular curricular themes than by the time involved in its resultant maturational development. Kindergarten teachers should expect some apparent reversals in children's spelling development as they change from copying to spelling on their own.

The greatest variation in the print concepts of the subjects was found early in the school year, as might be expected, and again about mid-year. These later changes could reflect the maturation of the subjects. Perhaps increased visual acuity or eye-hand coordination development might explain these changes. The importance of physical development such as this is described by Temple, Nathan, and Burris (17).

As with spelling development, the internalization of print concepts does not appear to be affected by particular curricular themes. Progress in this area of form appears to occur gradually over a period of time with more frequent variations than occurred in the spelling development. Some of the most dramatic data from this part of the study are from the written products of Des. At the beginning of the school year, he was in the scribbling stages of writing. With exposure to writing tools and materials, print materials in the environment, and functional uses of writing, letter-like forms began to emerge in his writing. By the end of the school year, Des often displayed all five concepts of print in his writing.
The exposure to print, the accessibility of writing tools and materials, and meaningful print experiences appear to have given the subjects of this study the opportunity and encouragement to explore print concepts. This exploration in turn may explain the increasing grasp of print concepts evidenced in the subjects' compositions.

A teacher who wanted to further promote children's grasp of print concepts might add more print resources to the learning centers in the form of printed finger plays and shared books. A wider variety of writing tools and materials could be added to more learning centers. These added print experiences and opportunities to write should have a positive effect on children's use of print concepts in their writing.

To facilitate growth in the conventions of writing, a teacher might add more functional uses of print in the classroom by using more labels and directions for game-playing or art projects. Printed recipes to cook with are functional and meaningful and could be used more often to offer children examples of print conventions. Careful attention to grading, with the teacher responding to meaning rather than form, might encourage more risk-taking by children as they write. This increased risk-taking could stimulate mastery over form as it comes from within the child rather than an outside source. Added print resources,
opportunity and equipment for reading, and sensitive teacher reactions could further children's growth toward form in their writings (8, 13, 14, 18).

Chapter Summary

These four kindergarten children demonstrated their ability to write frequently, meaningfully, and with improving skill during the time of the study. The whole language environment of their classroom appears to have influenced their writing in a positive manner. Teachers who would like to further the frequency, functions, and form in their students' writing might consider the apparent factors of variation evident in the compositions of the subjects of this study. These variations appear to have occurred due to the availability of materials such as print resources and writing tools, real experiences, social interaction, teacher knowledge and preparation, and personal situations. Careful attention to and extension of these factors should enhance the writing of other kindergarten children.
CHAPTER BIBLIOGRAPHY


6. Hall, M. A., Teaching Reading as a Language Experience, Columbus, Charles E. Merrill, 1981.


10. King, M. L. and V. Rentel, How Do Children Learn to Write?, The Early Writing Project funded by the National Institute of Education, Columbus, Ohio State University, 1981.


CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to analyze and compare the written products of four kindergarten children in a whole language environment. These products were assigned a context, then the products were encoded for frequency, function, and form. These products and observational notes were kept in a folder by the teacher-researcher.

Instruments used were the Book Handling Knowledge Task (BHKT) at the beginning of the study to select the sample; Shafer, Staab, and Smith's Five Functions of Language; Paul's Rules of Spelling Development; and Clay's Concepts of Print. While not a part of the research, the BHKT was also administered at the conclusion of the study to supply further information about changes in the book handling abilities of the four subjects. The sample for the study was four kindergarten children selected from the children attending one public school classroom.

All written products made by the subjects were collected and kept in a folder by the teacher-researcher. She assigned each of these products a two-part context (1) the
learning center where it was written and (2) the curricular theme during which it was written.

The writings of the four subjects were recorded in tabular form as to number of products, and the number of statements, or units of thought, each contained. This combination represented the frequency with which each subject wrote. Each written product of the subjects was then assigned a function of language. Each written composition of the four subjects was also encoded by the stage of spelling development. Each composition was further encoded by the number of print concepts it contained. The stage of spelling development and the print concepts evident represent the form of the written compositions.

Findings

The findings presented in this section apply only to the subjects used in this study. The findings may have been influenced by the whole language environment of the classroom, and the instruments used to collect and code the data. The following findings resulted from the study.

1. The order of average frequency of writing within the ten learning centers from highest to lowest was art, dramatic play, language, sand, science, social studies, "other," eyes and hands, math, and library-listening.

2. The order of average frequency of writing by the four subjects during curricular themes from highest to
lowest was Christmas, self-concept, Fall, shapes and colors, farm animals, Thanksgiving, Winter, transportation, nursery rhymes, patriotism, Valentine, food and nutrition, Halloween, Spring, wild animals, community helpers, gingerbread man, Summer, Easter, and pets.

3. All five functions of language appear in the writing of the four subjects in only one center, art. Four functions, (1) language, (2) dramatic play, (3) social studies, and (4) "other," occurred in four centers. Three functions of language were used in five centers: (1) mathematics, (2) eyes and hands, (3) science, (4) sand, and (5) library-listening. There was no center where less than three functions of language were evident in the written productions of the four subjects.

4. All five functions of language appear in the writing of the four subjects during only one curricular theme, Valentine. Four functions occurred during four curricular themes, (1) self-concept, (2) transportation, (3) farm animals, and (4) Spring. Three functions of language are evident in the written productions of the subjects during two curricular themes; (1) nursery rhymes and (2) food and nutrition. Only two functions of language are apparent in the subjects' writing during eleven curricular themes. The Easter and pets curricular themes prompted the use of only one function of language by the subjects in their compositions.
5. Form consists of spelling development and print concepts for this study. As a group, the spelling development of the four case studies indicates gains as the written production was often in the fourth stage of spelling development at the end of the study. Also, as a group, more print concepts are evident in the written productions of the four case studies at the end of the study than were evident at the beginning.

Conclusions

The following conclusions are based upon the findings from the four subjects of the case studies. The subjects wrote more frequently in some learning centers and during certain curricular themes than others. They used more functions of language in the writing they produced in some learning centers and during certain curricular themes than others. The form of the subjects' writing improved during the course of the school year.

Frequency

The center where the subjects wrote with the greatest frequency was the art center. The greatest number and variety of writing tools and materials were located in this center. Researchers Coles and Goodman (7) and Vukelich and Golden (32) have recommended a diversity of tools and materials. The pencils, crayons, paint, markers, and many
sizes and shapes of paper could have provided an impetus to the four subjects to write frequently just as these researchers earlier suggested.

The scene of the second highest frequency of writing by these four subjects was the dramatic play center. Functional and real-life print materials such as magazines, order forms, menus, and catalogues were present in this center. Dewey; Goodman and Goodman; Ferreiro; and Harste, Burke, and Woodward (8, 11, 16, 20) have previously indicated the importance of functional materials such as these to enhance learning. The high frequency of writing in this center would seem to support this contention.

The third highest frequency of writing by the four subjects occurred in the language center. This center had the greatest variety of print available in the classroom. Large printed charts and fingerplays, manipulative wooden and plastic letters, and alphabet games were often used by the subjects in this center. The use of varying forms of print such as these has been found to be successful by Holdaway (22) and Rhodes (30). The subjects of this study also appear to have responded positively to the variety of print forms by writing frequently in this center.

During the self-concept curricular theme, the four subjects of the case studies wrote frequently. As this theme is centered on the child himself, it is apparently very meaningful to the child. Allen, Hall, and Ashton Warner (1, 2,
18) have emphasized the importance of personal meaning. The findings from these four case studies seem to lend credence to the position of these educators.

The second highest frequency of writing by the four subjects was during the Winter curricular theme. This theme was introduced immediately after the holidays. The children might have found renewed interest in writing at this time because of the return to school and the resultant interaction. The need for social interaction has been pointed out by Black, Genishi, Halliday, Lamme and Childers, Milz, and Piaget (13, 19, 24, 26, 27). The high frequency of writing during the Winter curricular theme could be considered supportive of these earlier researchers.

Christmas was the curricular theme during which the subjects wrote with the third highest frequency. Our society emphasizes this time of year and this probably makes it very meaningful to children. As with the self-concept curricular theme earlier discussed, the personal meaningfulness of this curricular theme appears to have prompted a high frequency of writing by the four subjects.

Function

All five functions of language were apparent in the writing produced by the four subjects in the art center. Children are usually free from teacher control when they are engaged in art activities. Perhaps the autonomy experienced
by the subjects in this learning center contributed to their use of all the functions of language in the writing produced there just as Eisner (10) suggested it might.

Four functions of language were evident in the written production of the four subjects from the dramatic play and social studies centers. These two centers encouraged much social interaction as the children used environmental print such as cereal boxes, catalogues, and telephone books in the dramatic play center and games which necessitate score-keeping in the social studies center. In these two centers writing for a variety of reasons appears to have been prompted by (1) social interaction as recommended by Black, Genish, Lamme and Childers, and Milz (3, 13, 24, 26); (2) a variety of real-life print much like that earlier found to be meaningful by Goodman (14) and Ferriero (11); and (3) functional reasons for writing as described by the research of Florio (12) and Goodman and Goodman (16).

The only other center where the subjects of the four case studies used four functions of language in their writing was the "other" center. This center was usually not a specific location in the classroom, but encompassed writing produced by the children at the teacher's request. The teacher's training in whole language and sensitivity to the abilities and knowledge the children brought to the writing task might explain why so many functions of language appeared in these written productions. Educators Hickman, Dyson,
Goodman, and Smith (9, 14, 21, 32) had reported the importance of the teacher, and this research supports them.

All five functions of language were used by the subjects during only the Valentine curricular theme. Valentine encouraged social interaction as the children wrote messages of love to families and friends. These messages were often in the form of Valentine cards. These cards required names. These writing activities combined both social interaction and functional reasons for writing. The findings from the data during this curricular theme uphold the findings of Piaget, Weber, Lamme and Childers (23, 27, 34) in the area of social interaction and those of Dewey, Pinnell, and Goodman and Goodman (8, 16, 28) in the area of pragmatic usage of language.

The concrete experiences the children had by taking the farm trip appears to have influenced their writing. This would support Dewey, McCarthy, and Piaget (8, 25, 27). During the farm curricular theme the subjects used four of the five functions of language in their writing.

Four functions were also apparent in the writing the subjects produced during the transportation curricular theme. During this theme children built train tracks and garages for cars. They wrote about what they built and who they built it with. Social interaction was probably an important factor in giving the subjects many reasons for writing during this
curricular theme. This data supports that of Black, Genishi, and Milz (3, 13, 26).

In the same manner the curricular theme of self-concept prompted more frequent writing, this theme also prompted the use of four functions of language in the subjects' writing. As earlier discussed, the personal meaningfulness of this curricular theme could explain why it elicited a variety of reasons for writing by the subjects.

The Spring curricular theme also evoked the use of four of the five functions of language in the writing of the four subjects. This theme provides a natural background for forecasting and reasoning. Oral discussion about what happened to plants, animals, and the weather and the use of appropriate pictures during this theme gave the children opportunities to integrate language activities. This integration of language has been suggested by Vygotsky, Britton, Clark, Graves, and King and Rentel (4, 5, 17, 23, 33). The findings of this study support their suggestions.

**Form**

Much of the writing of the four subjects was copying and name writing. These activities offered the subjects familiarity with the sound-symbol relationships. Just as Read (29) found that kindergarten children progress through different levels of spelling development, the subjects of this study also appear to have followed a like progression.
The subjects of this study used all of Clay's (6) print concepts during the year-long period of time. As the subjects were exposed to print, had opportunities and materials with which to write, and experienced meaningful print encounters, they explored print concepts. This is seemingly evidenced in the subjects' compositions as more print concepts occur in their later written productions.

Summary

Many factors influence children's language usage. Some of these factors include the parents, siblings, maturation, television, socioeconomic status, ethnicity, and health. These factors and many others were not addressed by this study but their importance must be recognized. The subjects were found to write more frequently, for more reasons, and with an increasing command of convention in certain learning centers and during certain curricular themes than others. The characteristics of the learning centers and curricular themes which elicited the most frequent and greatest number of reasons for writing were many and varied writing tools and materials, a diversity of print resources, functional and personal print experiences, a high degree of social interaction, and the skill and knowledge of the teacher. These characteristics have all been found to influence children by previous educators, and the results of this study support their earlier findings.
Implications

The following implications are suggested from the data in this study. Teachers need to be aware of the nature of learning centers and curricular themes and how they impact the frequency of children's writing. Teachers also need to be aware of the nature of learning centers and curricular themes and how they impact the reasons, or functions, for which children write. Growth toward form, or conventionality, in the written compositions of kindergarten children occurs over a period of time. Kindergarten teachers, and other early childhood educators, need to become aware of this information.

Recommendations

This study suggests recommendations for further research. The recommendations are as follow: (1) a longitudinal study is recommended to compare later differences between these subjects and other peers; (2) the examination of socioeconomic status, cultural, and ethnic influences that affect children's writing is recommended; (3) the development of a form or instrument is recommended to more precisely describe spelling development; and (4) a quantitative study with a research design having a control group is recommended to compare the effects of the whole language classroom with that of the traditional classroom upon the written production of kindergarten children.
CHAPTER BIBLIOGRAPHY


13. Genishi, C., "Young Children Communicating in the Classroom: Selected Research," Theory Into Practice, 18 (October, 1979), 244-250.


23. King, M. L. and V. Rentel, How Do Children Learn to Write?, The Early Writing Project funded by the National Institute of Education, Columbus, Ohio State University, 1981.


September 20, 1983

Ms. Linda Medearis
Burks Elementary School
McKinney I. S. D.
1801 Hill
McKinney, Texas 75069

Dear Ms. Medearis:

Permission is granted for you to conduct a study at Burks entitled, "Four Kindergartners' Written Production in a Whole Language Classroom: Function, Frequency, and Form" as a part of your dissertation requirements. Please as a matter of record report your findings to me since there may well be some information that would be helpful to the district as a whole as a result of your study.

You are to be commended for your pursuit of a doctorate. If we may assist in any way, please let us know.

Sincerely,

Thomas C. Holland
Assistant Superintendent
Curriculum and Instruction

TCH:ks
CC: Scott Johnson
     Reuben Johnson
Appendix B

Informed Consent

1. I hereby give consent to Linda L. Medearis to perform the following investigational procedures:
   Observation in the classroom
   Diagnostic and evaluative testing

2. I have heard a clear explanation and understand the nature and purpose of the procedure; possible appropriate alternative procedures that would be advantageous; and the attendant discomforts or risks involved and the possibility of complications which might arise. I have heard a clear explanation and understand the benefits to be expected. I understand that the procedures to be performed is investigational and that I may withdraw my consent. With my understanding of this, having received this information and satisfactory answers to the questions I have asked, I voluntarily consent to the procedures designated in Paragraph 1 above.

Signed:

Person Responsible

Relationship

Date:
Appendix C

December 6, 1983
216 McCarley
McKinney, TX 75069

Dear Committee Member:

As agreed upon at the time of the proposal defense, four subjects were identified by stratified random sampling. One of these subjects has recently moved to another town.

I have discussed this matter with Dr. Black and she in turn conferred with Dr. Luttrell. Their suggestion is that I pick up another subject from my class whose score on the instrument used is closest to that of the subject who has moved. This change in procedure will be acknowledged and discussed in the dissertation.

If you have further questions or concerns about this replacement, please contact me. My home telephone is 214/542-6556 and my work number is 214/542-2605. If you agree with this change in procedure, please sign the enclosed form and return it to me in the enclosed stamped, and self-addressed envelope.

Thank each of you again for your continuing interest and support.

Yours truly,

Linda Medearis

Enclosure

Copies to: Dr. Dale Luttrell
Dr. Janet Black
Dr. Frank Kemerer
Dr. Sam Ed Brown
Dr. Rose Spicola
Dr. George Robb
Dr. Gloria Williamson
Approval Form

The necessity for and method of replacement of one of the four subjects of the dissertation research of Linda Medearis has been explained to my satisfaction. I am in agreement with this replacement.

(signature)

(date)
Appendix D

Book Handling Knowledge Task

Categorizations*

1. What's this called?
   A. Book  B. Story  C. Title of book
   D. Other  E. Don't know

2. What do you do with it?
   A. Read it  B. Look at it  C. Open it
   D. Tell it  E. Don't know  F. Other

3. What's inside it?
   A. Story  B. Pictures  C. Words
   D. Numbers  E. Letters  F. Names
   G. Other  H. Don't know

   A. Front cover  B. First page  C. Back cover
   D. Random page  E. Title page  F. Other

5. Show me a page.
   A. Page  B. Front cover  C. Back cover
   D. Don't know

*Based on Goodman and Cox, 1978; Shotts, 1980; Dykes, 1982
6. Read to me.
   A. Child reads  B. Child "reads" (tells story)
   C. I can't read.  D. No response
7. Where do I begin?
   A. First page  B. Last page  C. Any page
   D. Front cover  E. Back cover  F. Don't know
8. Point where I begin.
   A. First word  B. Any word  C. Picture
   D. First page  E. Any page  F. Don't know
9. Which way do I go?
   A. Left-to-right movement
   B. Right-to-left movement
   C. Top to bottom
   D. Bottom to top
   E. Other
10. Where now?
    A. First line, next page
    B. Any line, next page
    C. Picture
    D. Other
11. Show me end of book.
    A. Back cover  B. Last page  C. Other
12. What does this mean? (reading title and author)

A. Name of the book/story

B. The author (person who wrote the book)

C. Both A and B

D. Don't know

E. Other

F. No response
Appendix E
Shafer, Staab, and Smith's Functions

Five Functions of Language with Subfunctions and Examples

Function I: Asserting and Maintaining Social Needs

<table>
<thead>
<tr>
<th>Subfunction</th>
<th>Examples</th>
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</thead>
<tbody>
<tr>
<td>1. Asserting personal rights and/or needs</td>
<td>a. I want some joice</td>
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<td></td>
<td>b. Give it to me, it's mine.</td>
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<td>c. I'm first 'cuz I'm the oldest.</td>
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<td>d. I hit him because he hit me first.</td>
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<td></td>
<td>e. I need a blue crayon.</td>
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<td>2. Asserting negative expressions: criticizing, arguing, threatenining, and giving negative opinions.</td>
<td>a. You're talking too much</td>
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<td>b. I told you to quit it.</td>
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<td>c. Stop it or I'll tell</td>
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<td>d. That looks dumb.</td>
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<td></td>
<td>b. I like your building</td>
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<td></td>
<td>c. It tastes good to me.</td>
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<td>4. Requesting an opinion</td>
<td>a. Do you like this?</td>
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<td>5. Incidental expressions</td>
<td>a. Oh, gee.</td>
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<td></td>
<td>b. Good grief.</td>
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Function II: Controlling

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<th>Subfunctions</th>
<th>Examples</th>
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<tbody>
<tr>
<td>1. Controlling actions of self and others</td>
<td>a. Turn it around (to self).</td>
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<td></td>
<td>b. Get one egg.</td>
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<td>c. Give me the blue one.</td>
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<td>d. Put your name at the top and I'll give it to the teacher.</td>
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</table>
2. Requesting directions  
   a. How do you do this?  
   b. Where shall I put this?

3. Requesting another's attention  
   a. Watch this.  
   b. Look here.

Function 3: Informing

Subfunction  

1. Commenting on past or present events: labeling, noting details, and/or noting sequence (includes statements made in both first and third person)

   a. That's a car.  
   b. It's blue and white.  
   c. I (the boy) have (has) some paint.  
   d. I put the red on before the yellow.

2. Comparing

   a. The first bus is longer than the second.

3. Making generalizations based on specific events and details

   a. My brother is sick today.  
   b. The cars were in an accident.

4. Requesting information

   a. What color is this?  
   b. Is this one longer?

Function 4: Forecasting and Reasoning

Subfunction  

1. Noting or speculating about cause/effect relationships

   a. The bridge fell because the logs were too heavy.  
   b. You won't be able to carry that bag, it's too heavy.  
   c. If you want the bottle to float, you'll have to put the cap on.

2. Speculating about an event

   a. It might rain tomorrow.  
   b. That probably won't work.
3. Noting or speculating about an event followed by its solution (includes drawing conclusions)

   a. You're too tall so you'll have to bend over.
   b. We better not run away from home, we might get hungry.

4. Requesting a reason

   a. Why can't I go?
   b. Why does this happen?

Function 5: Projecting

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<th>Subfunction</th>
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</table>
| 1. Projecting into the feelings and reactions of others | a. He's feeling sad.  
   b. He's probably mad about it. |
| 2. Projecting into the experiences of others | a. I wouldn't like to live in the zoo like tigers.  
   b. That boy's parents are fighting and he is caught in the middle. |
Appendix F

Checksheet for

Book Handling Knowledge Task I

Child's Name:

1. A B C D E
2. A B C D E F
3. A B C D E F G H
4. A B C D E F
5. A B C D
6. A B C D
7. A B C D E F
8. A B C D E F
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Appendix G

Classroom Introduction of the
Pets Curricular Theme

Teacher- "I'd like for you just to forget that the tape recorder is even here. Okay? We'll just do like we always do. We're starting a Pet unit this week. We're going to talk about pets, and pets that you might have at home, and how you take care of them, and pets that you'd like to have, and pets that, you know, that other people have. All kinds of different pets. In Eyes and Hands, we have these little farm pets puzzles with an envelope, a plastic envelope on the back. You take the pictures of the farm pets out and you match them to the pictures on the puzzle. Now there is a problem. One of the pets is missing. So when you get them all matched up, you'll have one that you won't have a picture to match with. I want you to take a piece of paper and write on it for me which farm pet is missing. You won't have one of these pictures for it, but it'll be on this card. Okay? Do you understand what I want you to do there? Is there anything else you can write about with this? Can you think of anything? Okay. Let's go on. Susie, would you put that in the Eyes and Hands? Let's do Social Studies next.

"In Social Studies, I thought you would enjoy having some of these finger plays like we've done before. That you could hold up. Let me read you what this says. Bow wow wow, whose dog art thou? Little Tommy Tucker's dog, bow, wow, wow. And this one. What is this one?"

Class- "Turtle."

Teacher- "This is my turtle who lives in a shell. He likes his home very well. He pokes his head out when he wants to eat, and pulls it back in when he wants to....."

Class- "Sleep!"

Teacher- "My darling little goldfish hasn't any toes. He swims around without a sound, and bumps
his hungry ......"

Class- "Nose."

Teacher- "He can't get out to play with me, nor can I get in to him, although I say come out and play and he, come in and ........"

Class- "Swim!"

Teacher- "This is a really tricky one. See how those words go around the edge?"

Child- "Wow!"

Teacher- "My rabbit has two big ....."

Class- "Ears."

Teacher- "He likes to nibble carrots, and he hops wherever he goes. See the word 'hops' that goes way up high, there? And he has a funny little ....."

Class- "Nose."

Teacher- "You have to read all the way around to read that one. This is one of my favorites. Naughty pussy cat. You are very fat. Look at that big, fat word there. You have butter on your whiskers, naughty pussy cat. (Laughter) I like that one. "And these all go in Social Studies for you to read to each other. Bryan, would you put those in Social Studies? And I have one more thing for Social Studies. You know that I have a pet horse? This is a picture of a horse, of course. You are to color the picture by reading the names. The horse's mane is yellow, most of the horse is brown, and thats the only two colors you have to use. Yellow and brown. His tail will be ....."

Child- "Yellow."

Teacher- "Like his mane. Don't forget to put your name at the top of the paper. What I'd like you to do with this is to name the horse for me. Give him a name and you write it down here on
the bottom. Put your name on the top, but somewhere down here, I'd like for you to give the horse a name, like, you know, my horse's name is Patsy? See if you could think of a name you'd like to name a horse. And this goes in Social Studies, also.

"Now for Art, we're going to make a cat with whiskers. I did mine this way because I have a Siamese cat. But cats don't all have to be gray, with black ears, whiskers and feet, do they? What other colors are cats?"

Child- "Brown."
Teacher- "Heather?"
Heather- "Some cats are yellowish."
Teacher- "Right. Kenny?"
Kenny- "Some cats are black."
Teacher- "Nick?"
Nick- "Some are sort of a peach color. A peach colored or kind of an orange color. Some cats are."
Teacher- "Susan?"
Susan- "Orange and white."
Teacher- "Yes, you might find a cat that is orange and white. Julianne?"
Julianne- "Gray."
Teacher- "Ben?"
Ben- "A cat that's all white."
Teacher- "Yes, an all white cat. You could leave it like this or color it with your white crayon, couldn't you? Jeremy?"
Jeremy- "You could color it brown and white."
Teacher- "Brown and white spotted, like this? Okay, you've got lots of different colors you can use for cats. What could you write about a cat? Nick?"
"You might want to get one."

"About a cat you might like to have? Susan?"

"A cat that died, like mine did."

"Yes, you could write about what happened to your cat when it died. Heather?"

"You could draw a picture of a cat and name it."

"Okay, you could draw a picture of a cat and name it, or you could even name this one that you make. You will color it, cut it out, and then let me help you with the whiskers. I'm going to put mine up on the wall, but this one will be in the Art Center for you. Julianne, would you put this over in Art for me? "Now, let me give you another chance at the Sand Center, because I couldn't resist letting you pretend that you were a pet dog. When you're in the Sand Center, burying the bone in the sand, and then drawing a map and leaving it in the Sand Center so the next person that goes there can take your map and find the bone. Do you think you could do that?"

"Yeah."

"Is there anything else you could write about in the Sand Center with the bone?"

"You could write on a piece of paper to go fetch it, like people tell dogs to do."

"Tommy?"

"You could write about the bone."

"Yes, you could write about the bone, what a good, juicy bone it is. Something like that? Nick?"

"You could pretend like you were over on the other side and you're the dog going after it."

"Suzanne?"

"You can tell the dog to dig it up."
"Yes, you could pretend you are the dog's owner and tell the dog to dig it up. Of course, you go there after somebody else has been there; you're going to have to use their map to find the bone, right? Would you put this bone over in the Sand Center for us, Suzanne? "This is a pet shop for Dramatic Play, but this has got some problems. It says look for the mistakes in the picture. For instance, this is silly, look at this little mouse. His ears and his tail look like what?"

"A bunny rabbit."

"That's not right, is it?"

"No."

"Take your pencil and draw a circle around the things that are wrong. I'd like for you, if you could, to write me on a piece of paper what it is that's wrong with each animal. Or, what else could you write about a pet shop?"

"How people come in it and what it costs."

"How much it costs to buy the pet."

"You could make believe about buying the pets."

"And maybe giving them to people who would like to have them and can't buy them themselves. If you want to do your writing on the back of this page, it's okay. Or if you'd like to use the regular writing paper, whichever one you want to use. If you want to color the animals, you can, but you don't have to if you don't want to. Derek, would you put this in Dramatic Play for me? "This is for Science. Look at this poor kitty. He's missing some parts, isn't he?"

"Yeah."

"Ryan, can you tell us what I want you to do with this picture? What do you think?"

"You join together the parts that are missing."

"Part of his tail is missing."
Teacher- "Yes, Susan. Heather?"

Heather- "part of his foot."

Child- "Part of his head."

Teacher- "I'd like you to put your name up here, finish the picture with a pencil, and if you want to write about how this kitten is playing with this yarn, you may use the back of the paper or the writing paper. And this is in Science. Would you put it in Science for us, Sara? "This is your Math paper. It's kind of funny. It shows a dog in a cart. You put your pencil at the dot by the number one, and you join the dots together and it will finish your cart. Guess what I want you to write about this paper? What do you think you could write about this paper?"

Child- "You could tell where he came from."

Heather- "You could play like he's rolling down a hill."

Teacher- "And tell how he's playing."

Child- "You could pretend like you were buying it and it costs a lot of money."

Child- "You could pretend that he was rolling down and that you were running after it to save it."

Teacher- "You could tell a story about how you think that poor little puppy got in that cart rolling down that hill. This goes in the Math Center. Jeremy, would you put it in the Math Center for us? "You know what this is?"

Class- "A 'J'."

Teacher- "This is your 'J' card like you've had all the others to mark. You know what to do with it, don't you? One problem, I did unplug the tape recorder, so you need to plug it back in before you use it. If you need help, let me know. Derek, please put this over in the Library/Listening Center. "Okay, now I did find a few books about pets. Happiness is a Warm Puppy. This is a book about
Tip and Mittens, a dog and cat. Yes, Nick."

Nick-"I got that Charlie Brown book."

Teacher-"Happiness is a Warm Puppy is a good book, isn't it, Nick? Here's some Clifford books. I thought most of you knew about Clifford.

Child-"I got that, and a record."

Teacher-"This is Clifford, the Big Red Dog. This is Clifford at the Circus, and this is Clifford's Good Deed. That makes three Clifford books here for you to read. These go in the Library/Listening. Jeremy, would you put these in Library/Listening for me? I also left up there the books from before that were also about pets, because bunnies are not only for Easter, some of them are for pets, aren't they, Susan? If you were going to write something for me in Library/Listening, what would you write, Jennifer?"

Jennifer-"I used to have a bunny rabbit."

Teacher-"There're several books about bunny rabbits up there. Could you write about it in Library/Listening for us? Kenny? Did you say something?"

Kenny-"No."

Teacher-"Well then, would you please be quiet so that we can hear the other boys and girls? Tommy Floyd?"

Tommy F.-"My Daddy saw a real one one time."

Teacher-"A real rabbit? Why don't you write about that if you go to Library/Listening?"

Susan-"We have to feed our bunnies after school."

Heather-"I used to have a bunny and we taught him how to hop."

Teacher-"My goodness! She taught a bunny how to hop."

Ben-"You could pretend that ....."

Teacher-"You were going to tell us about what you were going to write in Library/Listening?"
Ben- "Yes, that you had a puppy and he jumped in there and he got all wet."

Teacher- Ben's going to write some stories this time, I think. Right, Ben? Is that what you're telling us?

"Okay, and this last one goes in the Language Center. It shows the picture of a puppy. This time, this puppy's got put in a watering can. (Laughter) And he's got a tomato next to him. Isn't that silly?"

Class- "Yeah."

Teacher- "Michael, do you know what I want you to write about this one, if you do any writing?"

Michael- "No."

Teacher- "Tell me what in the world that puppy is doing in the watering can. Do you think its an accident?"

Michael- "No."

Teacher- "Do you think somebody put him there on purpose? (Laughter) Christina?"

Christina- "He climbed in it and got wet."

Teacher- "Okay, I want you to write that for me, either on this paper or on the writing paper. What do you think happened to that puppy in that watering can? "Now, everywhere you see the number 1, its going to be colored red, and I have to put them over there because there's no place over by Language. See over by the calendar? Ones are red, twos are....."

Class- "Brown."

Teacher- "Threes are ......?"

Class- "Green."

Teacher- "And here's something tricky here. There is no four. But fives are......?"

Class- "Yellow."
Teacher- "If there is anything here that doesn't have a number, what color will you use? Any color you want to. Okay?
"Don't forget your name at the top of the paper. This goes in the Language Center. Tommy, would you put it over there?
"If you go to Art and decide you want to paint, paint me a pet picture. If it's a special pet and you want to write the name of it, you could do that for me. Don't forget to put your name on the back. Do you have any questions about what we put out in centers? Would you like to hear what you just said?"

Class- "Uh huh."

(Teacher plays back the tape to the children.)
Appendix H

Classroom Center Activity During Pets Curricular Theme

Teacher- "And what are you doing? What are you using - what are you using the pointer for? What do you do with the pointer, Christina?"

Christina- "Point at the letters you like."

Teacher- "That's what you're finding in the book now? And, Julianne, what did you say you were going to do with this book?"

Julianne- "Write the words down."

Teacher- "Can you tell me which words you're going to write?"

Julianne- "All of them."

Teacher- "All of the words in the whole book? Oh, you have a lot to write. Do you know what that word right there says?"

Julianne- "Cat."

Teacher- "That's right. Lots of cats at that picnic, aren't there?"

Julianne- "Yeah."

Teacher- "Oh, look! You've already written the word cat. Now what are you going to do, Julianne? What, Christina?"

Christina- "She messed up on that."

Teacher- "Oh, did she? She had to erase it and do it over? Oh, you're used to making that 'J' with the bar across it? I bet you did that in your other school, didn't you, Julianne? Ryan, did you plug it in? What are you listening to?"

Ryan- "That tape."

Teacher- "Oh. Is it the one that goes with the 'J'? Was there anything on it?"
"I heard it."

Teacher- "What did it say?"

Ryan- "I don't remember."

Teacher- "Listen to it again and let me know what it says, okay? Yes, Christina?"

Christina- "This is a story book."

Teacher- "What's it a story about, Christina?"

Christina- "A bunny rabbit and a bird."

Teacher- "Umm. What happens in the story?"

Christina- "The bird flies up in the air and the bunny hops around. And he reads a book."


Child- "I need some more of that yellow paper."

Teacher- "There's some more in that closet over there. What? You can't understand what he's saying? Why don't you take that one out again and try this (tape) over here....that one. I don't know what this one has on it either, Ryan. ("This is the Library/Listening Center. I'm going to the Sand Center now.) "Ben? What did you want?"

Ben- "I'm going to put this in the Sand Center and leave it right here."

Teacher- "Is that your map for where the bone is buried? And that's where you're going to leave the bone? Why don't you just leave it right there so somebody else can use that map to find the bone? Boys and girls, when you come to Sand now, Ben has buried the bone and he has left you a map to use to find the bone...so when you come over here next time, you'll want to find the bone. (This is the Dramatic Play Center.) What are you girls doing?"

Girls- "We're writing a word."

Teacher- "What word are you writing, Susan?"
Susan- "About their names."

Teacher- "The names of the animals you're tracing over? What could we call that one? What do you think, Heather?"

Heather- "A rat."

Teacher- "It does kind of look like a rat, doesn't it? Because it's bigger than the mouse. But it kind of looks like a rat."

Child- "A fox."

Teacher- "And a fox. Yes, that's a fox, and I see you've written the word fox right there, no here it is, down here. You've written it twice? Oh, I see. The 'F' was messed up? Yes, you're right, it was. You're doing a good job on that. How did you know how to write fox, Susan?"

Susan- "I just could."

Teacher- "Oh, I see. Very good."

Heather- "I'm going to name all mine a name."

Teacher- "You're going to give all your animals names? Oh, no. That's a silly looking tail for a monkey, isn't it? It looks like a fox's tail."

Heather- "I may write Gina for one of 'em."

Teacher- "Gina would be a good name for a pet. Tell us what you're doing, Jennifer?"

Jennifer- "I'm tracing over the words."

Teacher- "Can you tell me what letter that is that you just wrote over?"

Jennifer- "It's an 'H'."

Teacher- "Uh huh. Very good. What are you going to do with them after you're through tracing over them?"

Jennifer- "Put it in the finished tray."

Teacher- "Is that all you're going to do with the paper is trace over the letters?"
Jennifer-  "I'm going to trace over all the words."
Teacher-  "All the words? Gosh, you've got a lot of work to do there, Jennifer. I'd better leave you alone and let you finish your work, huh? Am I bothering you?"
Jennifer-  "Nope." (Laughter)
Teacher-  (Here's the Art Center.) "Karen?"
Karen-  "Yeah."
Teacher-  "I'm looking at your painting that you have over there on the easel. It's got some writing on it, could you tell me what you wrote on your painting?"
Karen-  "J."
Teacher-  "You wrote the letter that we're talking about this week? The letter 'J'? And what else did you write on it?"
Karen-  "Dog."
Teacher-  "Yes, I see that dog that you wrote."
Karen-  "And a rabbit."
Teacher-  "Let's see. The rabbit is the yellow one, with with the big, long ears? Suzanne, what are you doing?"
Suzanne-  "Making puppet stuff."
Teacher-  "Out of the yellow paper, you're making finger puppets? And Sondra, is that what you're doing, too? Do you need some help, Sondra? Suzanne, could you help Sondra with her duck some?"
Kenny-  "I'm doing that one."
Teacher-  "What, Kenny?"
Kenny-  "I'm letting Suzanne borrow my blue right now."
Teacher-  "Well, that's very nice of you."
Josh-  "Mrs. Medearis, I'm writing 'pink' in cursive."
Teacher- "Well, Josh, how did you learn how to write 'pink' in cursive? Did Jason teach you to do that? Did you're Momma teach you? That is super good."

Kenny- "Did you know what?"

Teacher- "What, Kenny?"

Kenny- "I'm doing an Easter duck."

Teacher- "An Easter duck?"

Kenny- "A duck. Don't you like those Easter colors?"

Teacher- "Yes, Kenny. Those are very pretty Easter colors. What is that on your shirt?"

Kenny- "A Mickey Mouse football shirt."

Teacher- "It is! It's a Mickey Mouse football shirt. That's really neat. You've got the word 'Mickey' on your shirt."

Kenny- "Mouse."

Teacher- "How did you know what that said? Can you read it upside-down?"

Kenny- "I can read it."

Teacher- "That's great. You're a good reader if you can read Mickey upside-down. I need to go over and help Tommy Floyd in the Social Studies Center. He's got his hand up. "Tommy, do you need help? What have you written there, Tommy?"

Tommy F.- "Numbers from the calendar."

Teacher- "Did you get the different days all up there from the calendar?"

Tommy F.- "No."

Teacher- "Did you know them in your head? Boy, you're smart. What's this right here?"

Tommy F.- "It's a 'J'."
Teacher- "A 'J'. The letter we're talking about. And this is your name, Tommy, and you put an 'F' so I wouldn't think it was Tommy Duckett, didn't you? That is really good writing you've got there. I like this number 3 right here. That's a really good 3. Is there any number on there that you think is especially good?"

Tommy F.- "Seventeen."

Teacher- "The 17, yes, that is a good seven, isn't it? Are you working on your 'K', Jodie? What are you working on? ..........(background noise).........Okay. Tommy, what do we need to do with the paper? Okay, you're not through with it yet? You want to put some more numbers on it? I want to see it when you get some more numbers on it, okay? "Tell me the name of this center."

Child- "Eyes and Hands."

Teacher- "Okay, Eyes and Hands Center. Tommy Duckett, what are you doing? When you get through, you're going to have a picture of a butterfly? Looks like you've got a lot of pieces to put in there yet, don't you, Tommy? How do you know it's going to be a picture of a butterfly?"

Tommy D.- "Cause I seen it."

Teacher- "Super, I want to see it when you get through. Will you show it to me when you get through with it?"

Nick- "I can help him, Teacher."

Teacher- "Okay, Nick. What are you working on?"

Nick- "I'm going to help him."

Teacher- "Terry, tell us what you're doing on that paper you've got."

Terry- "I'm coloring this rabbit."

Teacher- "What else are you doing?"

Terry- "Coloring this rabbit and I'm going to show it to you."

Teacher- "What have you done down there?"
Terry-  "A 'J'."
Teacher-  "Yes, and what is this here?"
Terry-  "My name."
Teacher-  "And how did that get on there?"
Terry-  "I put it on there."
Teacher-  "Did you write it on there?"
Terry-  "Yes."
Teacher-  "You're doing a good job writing your name, Terry. What did you do here with this pencil?"
Terry-  "Led the rabbit to the carrot."
Teacher-  "Through the maze? What made you decide to color the bunny black?"
Terry-  "I made the bunny just black."
Teacher-  "Very good. Derek, what are you doing? You made a space ship with the golf tees? Umm. Show me where the nose cone is. Don't space ships have a nose cone? Show me the nose cone."
Derek-  "Nose cone?"
Teacher-  "Doesn't yours have a nose cone? Is yours like a satelite?"
Derek-  "This is where it goes outer space."
Teacher-  "Like a space station?"
Derek-  "Like ....yeah. A space ship."
Teacher-  "Oh, like in Star Wars, the great big thing, is that what you're talking about? Golly, did you use all of the golf tees? You know what you might do, Derek?"
Derek-  "What?"
Teacher-  "When you get it all put together, you might draw a picture of it on a piece of paper and
write 'space station' so everybody could see how you made one. So somebody else could make one if they wanted to."

Derek- "Okay."

Teacher- "And I see you helped the bunny get to his carrot too."

Derek- "Uh huh."

Teacher- "And what did Derek write on his paper?"

Derek- "My last name."

Teacher- "Very good. Nick, tell me what's special about your paper."

Nick- "I helped the bunny get through the maze and I told Terry how to find the short cut and go to there."

Teacher- "Look at your name, Nick. What did you do?"

Nick- "I wrote my last name."

Teacher- "You wrote Nicholas, too. That's super!"

Nick- "I know what we're going to do. We're going listen to this (tape)."

Teacher- "Maybe we will, if you want to. Let's talk to these boys down here first. What are you boys building?"

Jeremy- "We're building a house, a battle cat house."

Teacher- "A what? It looks like they both have ramps on them. Do they?"

Jeremy- "They do!"

Teacher- "Where's the ramp in this house, Jeremy? What do you need all those ramps for?"

Jeremy- "Trucks."

Teacher- "No, I don't think this truck is going to fit on that ramp, is it?"

Jeremy- "I know. It's not supposed to fit on the ramp."
Other boy- "A car fits on it. We have to build one."

Teacher- "This is the Language Center. Tommy Duckett, tell me what is this on your paper right there?"

Tommy D.- "My name."

Teacher- "Did you write the name on there?"

Tommy D.- "Yes."

Teacher- "What is this letter right here?"

Tommy D.- "A 'D'."

Teacher- "Why did you put a 'D' on it?"

Tommy D.- "I always put a 'D' on my name."

Teacher- "Do you know why you put a 'D' right there?"

Tommy D.- "It starts my last name."

Teacher- "Do we have another Tommy in our class? What does he put for his last name?"

Tommy D.- "I don't know that, Teacher."

Teacher- "His name is Tommy Floyd, so he puts an 'F' where you put a 'D' so we can tell what are your papers and what are his. Do you know what I put on that paper, Tommy? What do you think that says that I wrote on your paper?"

Tommy D.- "What?"

Teacher- .....Okay, Julianne, you need to take your scissors and cut through the pieces of paper on those lines.....(background noise)......This says that you didn't finish your paper, Tommy. Do you know why I had to write that on there?"

Tommy D.- "Cause I didn't finish my paper."

Teacher- "That's right. I needed that to let you and me know that you needed to finish that paper. Okay. Jeremy, tell me about what you have written on your paper?"

Jeremy- "Jeremy Page."
Teacher- "You wrote your last name, too. Your whole last name. That's really good, Jeremy. When did you learn to write your last name?"

Jeremy- "My Dad told me."

Teacher- "That is great, Jeremy. Are you going to be able to do it in the first grade next year?"

Jeremy- "Yes. I can do my second one. Do you want me to do my second name?"

Teacher- "You can do all three of your names? Terrific!. What are those letters?"

Jeremy- "A-l-l-e-n."

Teacher- "Good. Did your Dad tell you how to write your second name, too?"

Jeremy- "He did."

Teacher- "What else are you going to write on that paper?"

Jeremy- "A bunny rabbit, with an Easter basket with eggs in it.."

Teacher- "Are you finished with your paper, Kenny? Okay, good."

Kenny- "Anyway, I couldn't find a foot."

Teacher- "Did you color one on there for me?..........(noise) ...Tommy Duckett, are you going to do any more writing on your paper? What else are you going to put on your paper? ..........(noise)... Are you going to copy something on it" Oh, Jeremy has another paper, Tommy."

Tommy D.- "Yeah."

Teacher- "What's that about?"

Tommy D.- "Butterflies."

Teacher- "Julianne Lamb has her name on this. Go put this in the finished tray, Julianne. That's wonderful. Where did you get that, Jeremy?"

Jeremy- "Art."
Teacher- "From the Art Center. Sometime if you wanted to do a butterfly picture, Tommy, you could go to the Art Center and get one there. Look at this word underneath 'Jeremy', there. Can you read that word? Tommy, do you know what that word says?"

Jeremy- "Butterfly."

Teacher- "Good for you, Jeremy. You're a good reader. Suzanne, this is the Quiet Center, is that right? Tell me what you're doing."

Suzanne- "I'm copying a cat and a mother cat."

Teacher- "Can you show me the word 'cat' or 'kitten'? Do you have that anywhere on there? What would the word kitten start with, do you know?"

Suzanne- "A 'K'."

Teacher- "Can you find a 'K' word? That's it right there, that word is kitten, did you know that?"

Suzanne- "I have a new kitten, she's fluffy and ....soft."

Teacher- "Good."

Suzanne- "I named her. Do you know what her name was?"

Teacher- "What would you name a kitten?"

Suzanne- "Whitey."

Teacher- "That's a good name for a kitten. Can you tell me what you have written up here?"

Suzanne- "My name."

Teacher- "Suzanne Taylor, both your names. Great. When you go to first grade, are you going to write both your names on your paper? You've got some more copying, don't you? Don't let me bother you. You keep on writing. I just want to watch what you're doing here for a while. You get me the little bitty scissors on my desk and bring them to me .......(noise)....Sondra's already got her name on the back of her cat. Good for you, Sondra .......(noise)....Do you need an eraser? There's a pencil on my desk with an eraser if you want to get it.
Teacher: "Tommy, can you tell me the name of this center?"

Tommy F.: "The Math Center."

Teacher: "Tell me about what you're writing."

Tommy F.: "Butterflies."

Teacher: "And what is this right here? .... (noise) .. . That's okay. Just go ahead and write. Tell me about what you're writing as you write it, would you? What are you starting something on here? What is that letter, can you tell me?"

Tommy F.: "A 'T'."

Teacher: "Let's see. What could you be going to write that's got a 'T' in it? I'll watch you and we'll see what you're going to write now. Ah hah! .... (noise). . . What does that say? .... (Noise) It says Tommy, doesn't it?"

Tommy F.: "No."

Teacher: "Are you tricking me? What does that say?"

Tommy F.: "That says 'T. J.'"

Teacher: "Oh, you've got a 'J' on there too. How come you put the 'J', Tommy? Does your middle name have a 'J' in it?"

Tommy F.: "My last name does."

Teacher: "Your last name has a 'J' in it? I didn't know that. What do you usually put after your name so I'll know that it's not Tommy Ducket writing it. How do you show me that? .... (noise)... you don't have to tell me, you can write it if you want to."

Tommy F.: "I make an 'F'."

Teacher: "You make an 'F' for Floyd, don't you? Yeah, that way I know it's not Tommy Ducket's writing. Do you know what the next letter in your name is? .... (noise)... It's an 'L'. Do you know how to make an 'L'? .... Right there, that's got an 'L'. Do you see it? Make one of those. Beautiful. And the next letter is
'O'. Good. You going to make another one? Which one is the capital 'L'? Can you tell me? You're tricking me. What did you write that time?'

Tommy F.- "B."

Teacher- "What other letters do you know?"

Tommy F.- "T-o-j?"

Teacher- "Is that what that says? You're just putting J's all in your name. Is that what you're doing, putting J's in your name? And B's in your name? You're making other words out of your name, aren't you, Tommy? ...... (Noise)...... What is that, Tommy? Tell me about all this writing you've got on there. Do you have some words on there? Show me a word. Can you point to it with your finger? I see a word. ...... (noise).... You drew your butterflies in the middle of the page? Do you know what 'i-s' is? That's a word. It spells 'is'. You know that word. Tommy, you know that word. That's 'Tommy' again, isn't it? And what is this right here?"

Tommy F.- "That's a little 'j'."

Teacher- "A little 'j'? What's the other one?"

Tommy F.- "A 'B'."

Teacher- "A 'B'? And an 'N'? Did you want to tell me anything else about that? How many butterflies do you have on that page? Count them and see how many butterflies you have."

Tommy F.- "One, two, three.... four. Four."

Teacher- Write the number four for me, would you, Tommy? So I'll know how many butterflies you made without having to count them. Super. If you were to make one more butterfly, how many would you have?"

Tommy F.- "Five."

Teacher- "Can you write the number 5? ...... Boys and girls, we need the chairs put up on the tables now."
Appendix J

Schedule

8:15 - 8:30  Lunch Count and Roll Call
8:30 - 8:45  Calendar and Group Time
8:45 - 8:50  Planning
8:50 - 9:20  Center I
9:20 - 9:50  Clean Up
9:50 - 10:20 Recess
10:20 - 10:30 Restroom and Wash Hands
10:30 - 11:00 Lunch
11:00 - 11:20 Book, Storytime
11:20 - 11:40 Restroom and Drinks, get mats
11:40 - 12:40 Rest Time
12:40 - 12:45 Planning
12:45 - 1:45  Center II
1:45 - 1:55  Clean Up
1:55 - 2:15  Group Time
2:15 - 2:30  Dismissal
Appendix K

TABLE I

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<td>Derek</td>
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Books used were Harold and the Purple Crayon in September and The Little Fish that Got Away in May.
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TABLE IV
FREQUENCY OF WRITTEN LANGUAGE IN A KINDERGARTNER'S WRITING

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*Centers are: 1--Language, 2--Math, 3--Dramatic Play, 4--Eyes and Hands, 5--Art, 6--Science, 7--Social Studies, 8--Sand, 9--Library-Listening, 10--Other; A is the number of products, B is the number of statements.
### TABLE V

**FUNCTIONS OF WRITTEN LANGUAGE IN A KINDERGARTENER'S WRITING**

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*Learning Centers* refers to the themes covered in each of the listed areas of the kindergarten curriculum.
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*Learning Centers are: 1--Language, 2--Math, 3--Dramatic Play, 4--Eyes and Hands, 5--Art, 6--Science, 7--Social Studies, 8--Sand, 9--Library-Listening, 10--Other; A is asserting and maintaining social needs, B is controlling, C is informing, D is forecasting and reasoning, and E is projecting.
### TABLE VI

**FORM OF WRITTEN LANGUAGE IN A KINDERGARTNER'S WRITING**

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TABLE VI—Continued

Child’s Name: J. W./Tommy

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*Spelling rules are: 1—uses first phoneme only, 2—uses first and last phoneme only, 3—uses short vowels, and 4—uses standard.

**Concepts of Form are: 1—written from left top, 2—written left to right, 3—written top to bottom, 4—print orientation, and 5—distinguishes between print and drawing.
TABLE VII
FREQUENCY OF WRITTEN LANGUAGE IN A KINDERGARTNER'S WRITING

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### TABLE IX

**FORM OF WRITTEN LANGUAGE IN A KINDERGARTNER'S WRITING**

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Child's Name: Kenny

225
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*Centers are: 1--Language, 2--Math, 3--Dramatic Play, 4--Eyes and Hands, 5--Art, 6--Science, 7--Social Studies, 8--Sand, 9--Library-Listening, 10--Other; A is the number of products, B is the number of statements.
TABLE XI
FUNCTIONS OF WRITTEN LANGUAGE IN A KINDERGARTNER'S WRITING

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227
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*Learning Centers are: 1--Language, 2--Math, 3--Dramatic Play, 4--Eyes and Hands, 5--Art, 6--Science, 7--Social Studies, 8--Sand, 9--Library-Listening, 10--Other; A is asserting and maintaining social needs, B is controlling, C is informing, D is forecasting and reasoning, and E is projecting.*
## TABLE XII

### FORM OF WRITTEN LANGUAGE IN A KINDERGARTNER'S WRITING

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TABLE XII—Continued

Child's Name: Kenny

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*Spelling rules are: 1—uses first phoneme only, 2—uses first and last phoneme only, 3—uses short vowels, and 4—uses standard.

**Concepts of Form are: 1—written from left to top, 2—written left to right, 3—written top to bottom, 4—print orientation, and 5—distinguishes between print and drawing.
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*Columns represent different learning centers.
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*Centers are: 1—Language, 2—Math, 3—Dramatic Play, 4—Eyes and Hands, 5—Art, 6—Science, 7—Social Studies, 8—Sand, 9—Library-Listening, 10—Other; A is the number of products, B is the number of statements.*
### TABLE XIV

**FUNCTIONS OF WRITTEN LANGUAGE IN A KINDERGARTNER’S WRITING**

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# TABLE XV

## FORM OF WRITTEN LANGUAGE IN A KINDERGARTNER'S WRITING

**Child's Name:** Jennifer

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</table>
TABLE XV—Continued

Child's Name: Jennifer

<table>
<thead>
<tr>
<th>Curricular Themes</th>
<th>Spelling*</th>
<th>Print Concepts**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1  2  3  4</td>
<td></td>
</tr>
<tr>
<td>Pets</td>
<td>1 . . 3</td>
<td>3 4 4 2 1</td>
</tr>
<tr>
<td>Wild Animals</td>
<td>. . 1 3</td>
<td>4 4 4 3</td>
</tr>
<tr>
<td>Summer</td>
<td>. . . 3</td>
<td>3 3 3 2 2</td>
</tr>
</tbody>
</table>

*Spelling rules are: 1—uses first phoneme only, 2—uses first and last phoneme only, 3—uses short vowels, and 4—uses standard.

**Concepts of Form are: 1—written from left top, 2—written left to right, 3—written top to bottom, 4—print orientation, and 5—distinguishes between print and drawing.
BIBLIOGRAPHY

Books


Durkin, D., Getting Reading Started, Boston, Allyn and Bacon, Inc., 1982.


Hall, M. A., Teaching Reading as a Language Experience, Columbus, Charles E. Merrill, 1981.


**Articles**


Coles, R. E. and Y. Goodman, "Do We Really Need Those Oversized Pencils to Write With?," *Theory Into Practice*, 19 (Summer, 1980), 194-196.


Dyson, A. H., "Reading, Writing, and Language: Young Children Solving the Written Language Puzzle," Language Arts, 59 (November-December, 1982), 829-839.

__________, "Research Currents: Who Controls Classroom Writing Contexts?," Language Arts, 61 (October, 1984), 618-626.

__________, "Teachers and Young Children: Missed Connections in Teaching/Learning to Write," Language Arts, 59 (October, 1982), 674-680.


Evans, H. D., "We Must Begin Educational Reforms 'Every Place at Once,'" Phi Delta Kappan, 65 (November, 1983), 173-177.


Gallup, D. H., "Gallup Poll of the Public's Attitudes Toward the Public Schools," Phi Delta Kappan, 64 (September, 1982), 37-50.


__________, "Young Children Communicating in the Classroom: Selected Research," Theory Into Practice, 18 (October, 1979), 244-250.


Smith, F., "Reading Like a Writer," Language Arts, 60 (May, 1983), 558-567.


Reports


Publications of Learned Organizations


Black, J. K. and R. Martin, Children's Concepts about Writing at Home and at School, National Reading Conference Yearbook, 1983.


College Board, Academic Preparation for College: What Students Need to Know and Be Able to Do, New York, 1983.


King, M. L. and V. Rentel, How Do Children Learn to Write?, The Early Writing Project funded by the National Institute of Education, Columbus, Ohio State University, 1981.


Texas Association for the Education of Young Children, Developmentally Appropriate Kindergarten Reading Programs, A position statement, Denton, Texas, 1984.


Unpublished Materials


Eisner, E. W., Speech to the Federation of North Texas Area Universities Early Childhood Education Symposium, Dallas, Texas, October 21, 1982.

Goodman, Y., Speech to the Federation of North Texas Area Universities Early Childhood Education Symposium, Dallas, Texas, February 19, 1981.


Weber, L., Speech to Early Childhood Education Federation, Dallas, Texas, June 16, 1983.
Newspapers
