THE EARLY LITERACY DEVELOPMENT
OF YOUNG MILDLY HANDICAPPED CHILDREN

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

Jerry Patricia Gentry Austin, M.Ed.
Denton, Texas
August, 1986

The purpose of this study was to describe the extent and quality of prior knowledge, transactional nature, and social context of literacy knowledge demonstrated by young mildly handicapped learners. The study was based on current theories of literacy which view literacy growth as part of the total language system development, and ethnographic methods were used to gather and analyze qualitative data. Language and literacy events were observed in three special education classrooms including 43 students ranging in age from 4 years 1 month to 9 years 11 months.

Major findings of the study included: (a) The children in this study demonstrated prior literacy knowledge much like that of non-handicapped peers. (b) Demonstrations of oral and written language system transactions decreased after students received formal instruction in reading and writing. And (c) children's ability to interpret print depended greatly on the presence or absence of context with the print.
TABLE OF CONTENTS

LIST OF TABLES ............................................. v
LIST OF ILLUSTRATIONS ................................. vi

CHAPTER

I. INTRODUCTION ....................................... 1

Statement of the Problem
Need for the Study
Significance of the Study
Review of the Literature
  Literacy knowledge prior to instruction
  Transactions between language systems
  The social context of language
Research Implications
Purpose
Research Questions

II. METHOD ............................................. 16

Site and Subject Selection
  Sites
  Subjects
  Site Entry
Data Collection
  Participant Observation
    The early childhood classroom
    The kindergarten resource classroom
    The primary resource classroom
  Structured and Non-Structured Interviews
  Collection of Artifacts
  Audio and Video Recordings
Data Analysis
  Analysis During Data Collection
    Recording the data
    Coding the data
  Analysis After Data Collection
    Identifying categories
    Drawing conclusions
    Verifying conclusions
III. RESULTS

Literacy Events
Types of literacy behavior demonstrated
Initiation of literacy events
Context in literacy events

The Context of Written Language
Application of Personal Contexts
Interpreting environmental contexts
When the context doesn't fit

Interpretation of School Context
Story context
Understanding directions

The Written Structure of Language
Knowledge of Written Language Structure
Letter knowledge
Word knowledge
Sentence and paragraph knowledge
Language experience tasks

Meta-Linguistic Knowledge About Written Language
Application of Written Language Structure
Reading
Writing

Limitations in Language Development
Transactions Between Language Systems
Summary

IV. DISCUSSION

Application of Current Research to Study Prior Literacy Knowledge
Transactions Between Language Systems
The Social Context of Language
Differences Between Handicapped and Non-handicapped

Limitations of This Study
Implications From This Study
Implications for Assessment and Instruction of Young Educationally Handicapped Students
Implications for Future Research

APPENDICES

REFERENCES
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age, Sex, Race, and Handicapping Labels of Early Childhood Students</td>
<td>18</td>
</tr>
<tr>
<td>2. Age, Sex, Race, Placement Time, and Handicapping Labels of Kindergarten Resource Students</td>
<td>19</td>
</tr>
<tr>
<td>3. Age, Grade, Sex, Race, Placement Time, and Handicapping Labels of Primary Resource Students</td>
<td>20</td>
</tr>
<tr>
<td>4. Types of Writing Events Demonstrated by Early Childhood, Kindergarten Resource and Primary Students</td>
<td>46</td>
</tr>
<tr>
<td>4.1 Scribbling Events Demonstrated by Early Childhood, Kindergarten Resource and Primary Resource Students</td>
<td>47</td>
</tr>
<tr>
<td>4.2 Word Writing Events Demonstrated by Early Childhood, Kindergarten Resource and Primary Resource Students</td>
<td>49</td>
</tr>
<tr>
<td>4.3 Text Writing Events Demonstrated by Early Childhood, Kindergarten Resource and Primary Resource Students</td>
<td>50</td>
</tr>
<tr>
<td>5. Types of Reading Events Demonstrated by Early Childhood, Kindergarten Resource, and Primary Resource Students</td>
<td>51</td>
</tr>
<tr>
<td>6. Teacher vs. Student Direction of Reading and Writing Events Observed in the Early Childhood Kindergarten Resource and Primary Classrooms</td>
<td>52</td>
</tr>
<tr>
<td>7. Student Participation in Literacy Events With and Without Context</td>
<td>53</td>
</tr>
<tr>
<td>8. Letter Formation, Sequence, and Oral Language Transactions Demonstrated by Kindergarteners When Writing the Alphabet</td>
<td>71</td>
</tr>
</tbody>
</table>
### LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Zeke Draws the Rebus Chart</td>
<td>67</td>
</tr>
<tr>
<td>2.</td>
<td>Early Childhood Students Attempt to Write Letters</td>
<td>70</td>
</tr>
<tr>
<td>3.</td>
<td>Examples of Kindergarten Word Writing</td>
<td>75</td>
</tr>
<tr>
<td>4.</td>
<td>Ali's Practices Writing His Name</td>
<td>86</td>
</tr>
<tr>
<td>5.</td>
<td>Ali Spells Blazer</td>
<td>90</td>
</tr>
<tr>
<td>6.</td>
<td>Joe's Worksheet</td>
<td>91</td>
</tr>
<tr>
<td>7.</td>
<td>Marcus Labels Word Problems</td>
<td>93</td>
</tr>
<tr>
<td>8.</td>
<td>Examples of Primary Student's Spelling</td>
<td>95</td>
</tr>
<tr>
<td>9.</td>
<td>Demica Writes Sentences</td>
<td>101</td>
</tr>
<tr>
<td>10.</td>
<td>Scott Writes Sentences</td>
<td>101</td>
</tr>
<tr>
<td>11.</td>
<td>Melanie Writes Sentences</td>
<td>101</td>
</tr>
<tr>
<td>12.</td>
<td>Scott Writes Sentences</td>
<td>103</td>
</tr>
<tr>
<td>13.</td>
<td>Chris Writes Sentences</td>
<td>103</td>
</tr>
</tbody>
</table>
The development of literacy skills has received considerable professional attention in the past two decades. The comprehension and purposeful use of printed language has become a prerequisite for survival in our society. Educators are held accountable for the literacy of learners and society has demanded basic literacy for all.

Language, Literacy and Learning

For the purposes of this study, language is all those systems which persons use to communicate within a social environment. The systems of talking, reading, writing, and thinking may be enacted separately, but each supports the others in the act of communication. Traditionally, language systems are divided into receptive and expressive systems. Receptive systems include thinking (or language comprehension) and reading, and expressive systems include talking and writing. Language systems may also be divided into oral language and written language communication systems. Oral language includes thinking and talking, and written language includes reading and writing. Reading and writing are those specific language systems that are needed for literacy.
In the last decade professionals exploring the development of literacy and its relationship to learning, have defined literacy as the comprehension and use of language in its printed form (Clay, 1979; Dyson, 1983; Halliday, 1975; Harste, Woodward, & Burke, 1984; Holdaway, 1979; Smith, 1982; Snow, 1983; Teale, 1985). The crucial defining feature of literacy is the use of print (Snow, 1983). Those activities which are directly involved with the use of print are reading and writing. However, reading and writing do not occur separate from thinking and talking. All four language systems contribute to the production and comprehension of printed language.

Through language we construct knowledge about our world. We use language to organize and control our world; to express our experiences, thoughts, and emotions, and to form the relationships which shape our lives (Temple & Gillet, 1984). Learning about our world is dependent upon ability to communicate with and interpret the environment. The development of language and literacy is a result of the need which arises as individuals attempt to make sense of their world. As we interpret the environment, we use language -- thinking, talking, reading, and writing -- to construct and express our knowledge. All four systems of language interact and support one another in the act of learning (Harste et al., 1984).
Statement of the Problem

Most children learn to use oral language systems to function effectively in their environments, but many children do not learn to use written language systems effectively. If learning to read and write is supported by the same sorts of interactions which support oral language development, we should expect that all children would become as proficient in written language as they are in oral language. However, the lack of literacy skills continues to receive considerable attention in both the public and professional literature.

Children who become successful in school are those who learn to "play the language game" (Adams, 1984). Special educators are concerned about those children who have not learned "to play the language game" and who fail in school. In spite of a century of research in reading, researchers have not unraveled all the complexities of literacy. Current explanations of why some students continue to fail to become readers and writers are inadequate. This study addresses the problem of literacy failure among educationally handicapped students. The individual handicapping conditions, as well as other relevant terms, are defined in Appendix A.

Need for the Study

Current research has described early literacy development of non-handicapped children, but the extent of literacy knowledge among young mildly handicapped children is unknown. The failure of handicapped students to accomplish reading and
writing skills is documented, but descriptions of how these same children approach the task of learning how to use language has not been reported, and little is known about the ways in which young handicapped children demonstrate literacy skills prior to formal instruction. The following study is needed to provide descriptions of early literacy learning among young handicapped learners.

Significance of the Study

This study has identified observable behaviors which surround literacy development prior to formal instruction and throughout the process of becoming literate. This study is significant because: (a) The qualitative methods used in this study provide descriptions of learning behaviors demonstrated by educationally handicapped students in a natural setting rather than one which is controlled by the research. (b) It provides descriptions which are relevant to the development of constructs that may be used to broaden theories of why educationally handicapped children fail to read and write. (c) Through the identification and description of these behaviors implications may be drawn about beginning reading and writing instruction for educationally handicapped students.

Review of the Literature

Traditional theories of early learning were based on biological and experiential readiness (see Gesell, 1925, 1940; Hilgard & Bower, 1975). Children were considered ready
to receive formal instruction in literacy skills (reading and writing) when biological growth and environmental experiences reached a level of readiness. Traditional theories of readiness have been challenged by current research into the development of literacy.

Recent studies in the early development of language and literacy have shown that (a) young children develop concepts about written language systems prior to formal instruction, (b) language systems of thinking, talking, reading, and writing are interactive and develop in parallel fashion rather than sequentially, and (c) language systems develop best in a socially rich environment (Clay, 1979; Dyson, 1983; Goodman, 1981; Harste et al., 1984; Holdaway, 1979; Reid & Hresko, 1980). Such studies have contradicted traditional theories of literacy learning based on prior readiness and sequentially structured instruction.

**Literacy knowledge prior to instruction.** Many preschool teachers have held the view that young children's attention to print in their environment and use of unconventional script was not reading and writing (Harste et al., 1984). However, many studies of young normally achieving children have shown that young children do demonstrate knowledge of reading and writing as tools for communication (Bissex, 1980; Clay, 1975; Durkin, 1966; Dyson, 1982; Ferreiro & Teberosky, 1982; Goodman, 1980; Harste, Burke & Woodward, 1983; Holdaway, 1979).
When young children see print in the environment, they interpret it according to the context of the environment. Children as young as two years recognize environmental symbols such as "McDonald's" and "Coke" signs (Bissex, 1980; Goodman, 1980). Through such interpretation young children actively construct their knowledge about reading and writing. Young children reinvent reading and writing as they construct literacy knowledge for themselves. No one teaches them the conventions of print. They make observations, form hypotheses, and invent for themselves the structure of written language. They reproduce the print they observe in the environment in a logical rather than conventional way (Kamii, 1985).

Three year old Hanna recognized the structure of written language according to its context as demonstrated by the writing samples collected by Harste et al. (1984). When directed to write a story, Hanna fills each line with scribbles from margin to margin. When directed to write a shopping list, her scribbles are arranged in a vertical list on the left side of the page. Hanna has observed her environment and discovered that written language reflects its context just as oral language does.

Prior to formal instruction children realize that specific symbols are used to represent language units and they have a fairly stable concept of "word". Between three and five years of age children produce a mixture of real
letters, mock letters, and innovative symbols to represent words (Atkins, 1984). As they mature, children refine and enlarge these concepts by playing around with writing when they draw, trace, copy, and invent spellings.

Children expect print to be meaningful. They produce unconventional print and expect that readers can "read" what they have written. Furthermore, when reading their unconventional print, young children attempt to match oral language to the print. Dyson (1983) describes how Vivi (age 5 years) points to letter segments and matches graphics with talk. Vivi writes PR RH RY and says "Mama is a baby" as she points to each letter segment. Then she adds PQ and reads the sequence again as "Mama is a baby sitter."

Preschool children know about reading and writing, but what they know may vary from child to child. Most studies of early literacy have focused on normally achieving children. A study conducted by Reid and Hresko (1980) however, found that both learning disabled and normally achieving children had acquired some reading abilities prior to formal instruction. Further, Snow (1983) has described early literacy among minority children who were formerly considered language deficient. It seems that most children have some knowledge of print as a means of communication prior to entering school.

Transactions between language systems. Traditionally, educators have assumed that oral language was prerequisite to
written language learning and placed special emphasis on it in preschool and kindergarten (Harste et al., 1984).

Language development was expected to develop sequentially from receptive to expressive and oral to written. Receptive language, such as thinking and understanding, preceded writing. Recently researchers have questioned sequential development of language systems, and research into literacy learning has demonstrated the parallel development of language systems. Correlations between oral language and reading (Reid & Hresko, 1980), oral language and writing (Dyson, 1983), oral language and thought (Vygotsky, 1962), and reading and writing (Chomsky, 1971; Smith, 1980) have supported the view that language systems develop in a parallel rather than sequential manner.

Children with adequate knowledge in one language system are more likely to demonstrate knowledge in other language systems. For example, Reid and Hresko (1980) found that learning disabled children with better oral language tended to read better than those with poorer oral language. Proficiency in one language system increases the likelihood of proficiency in another. Children understand that print is a sign for spoken language (Harste et al., 1984), and print is meaningful just as spoken language is meaningful. Children use oral language to give meaning to the written symbols they produce (Dyson, 1983). Interactions between spoken and written language systems create transactions which
both enrich and increase production in each system, as well as enhancing interactions between systems.

Vygotsky (1962) suggested that through transactions, expressive and receptive language events become more than their individual and independent selves. Thus, oral language experiences increase the capacity to formulate thoughts, and increased thoughts produce additional language. Smith (1982) discusses the same sort of interaction between reading and writing. Through the act of reading, writing skills are enhanced, and through writing, reading skills are enhanced. Transactions across language systems occur within the context of language events and impact upon one another. Reading and writing impact upon thinking and talking, and thinking and talking impact upon reading and writing. The interactions between, and within, the language systems become increasingly complex as the child grows and participates in literacy events within the various social contexts of his environment.

The social context of language. Halliday (1975) describes the language development process as a continuous and progressive interaction within the child's language environment. The language environment includes not only the linguistic components, but the social and cultural contexts as well. As children attempt to control their environment, they interact with, and through, language. In the beginning, these attempts may be quite primitive, but the responses from
the significant others in the child's environment reinforces approximations of language, and the child learns to attend and respond to language (Holdaway, 1979). As they attend and respond to language, children construct language systems to meet their needs.

Research has shown that the rules of language use, even written language use, are learned through social interaction at very early ages (Harste, Burke & Woodward, 1981). Through predicting and testing language, the child responds to his environment and at the same time alters his environment. "Young children make predictions about how language works and tests those predictions in daily interactions" (Harste et al., 1984). Language does not develop apart from the child's environment, or in the head of the learner, but are the result of ongoing sign interpretations. Through such purposeful language interactions, children develop broad concepts about language processes and events.

In the beginning, knowledge about print is global and not separate from existing knowledge about other language systems and communication within the environment. Not until later, as language development progresses, does differentiation occur, new language learnings become distinct, and identifiable concepts and processes emerge (Dyson, 1984). Rather than progressing from the smallest identifiable parts of language to the whole, language learning begins with the meaningful whole, the message, and
progresses with development to an understanding of the components of the message. Messages carry context from the environment in which they are produced, and children use the environmental context to interpret the message.

For example, Harste et al. (1984) describe the various definitions given to the word tree by different interpreters. A five year old defines "tree" as a "a place to swing in my back yard", a second grader defines "tree" as "wood, shade", and a 42 year old historian defines "tree" as "a major factor in the westward movement". The message carried by the word "tree" was dependent upon individual interpretations made within different contexts.

The social context of language determines the message, and print is a message bearing sign. Children observe the social context and interpret the sign. Only later after language learnings have become distinct are children able to interpret print away from its context. For many children, their first experience with decontextualized print occurs when they begin formal instruction. What literacy knowledge children bring to formal instruction is based on their previous participation in real life literacy events (Teale, 1985).

Research Implications

It is reasonable to assume that educationally handicapped children have acquired some knowledge of reading and writing prior to entering school (Reid & Hresko, 1980).
Nevertheless, handicapped children do not achieve a level of literacy skills commensurate with non-handicapped learners. Transactional theories of literacy learning may help to explain the lack of reading and writing proficiency among some learners. Transactional theories of language development are defined as mutually constructed interactions of the individual and the social context of his/her environment (Harste et al., 1984; Schickedanz & Sullivan, 1984; Teale, 1982).

The quantity and quality of literacy events in which young children participate are dependent upon the social context of the child's environment. Contextualized literacy skills - reading environmental print, reading one's own name, reading well memorized stories - occurs naturally in most environments. Literacy skills, however, include the use of decontextualized language. The quantity and quality of decontextualized, as well as contextualized, literacy events which occur in environments vary according to the social and cultural contexts (Schickedanz & Sullivan, 1984; Snow, 1983). Deviations in individual (children and adult) abilities and interest in initiating, processing, and responding to communication impact upon the social context in which language occurs. Transactional theories of language explain the variations in early literacy learning as a result of the mutually contracted interactions which occur between individuals and environmental contexts.
Smith (1982) has explained learning as dependent upon demonstration, engagement, and sensitivity. What is learned is dependent upon the learner's sensitivity to, and subsequent engagement in, the demonstrations of the social world. Sensitivity is defined as the lack of an expectation that learning will not take place. In other words, until the child learns that he cannot learn, he is sensitive to learning. As long as the child's attempts to communicate elicit the expected, or near the expected, responses, he remains sensitive to literacy learning. The social world demonstrates communication. The child engages in, attends to, the demonstrations of communication and practices the behaviors which he perceives as useful for his purposes. Through continuous and increasingly complex language transactions, the child constructs his private knowledge of communication and practices those literacy behaviors which are productive for him.

**Purpose**

While current theories of literacy development offer explanations for deviations in literacy knowledge, they were derived from studies of non-handicapped children and normal sequences of early language and literacy development. Little is known about the deviations in early literacy development among mildly handicapped students. The quantity and quality of prior literacy knowledge among handicapped learners is unknown, and the impact of deviations upon the quantity and
quality of transactions within social context is not documented.

The theoretical background for this study is based on the view that (a) handicapped children are constructors of knowledge, (b) handicapped children have some literacy knowledge prior to formal schooling, and (c) the development of handicapped children's language and literacy is dependent upon the quantity and quality of transactions which occur across the language systems within a social context. The purpose of the present study is to describe the extent and quality of prior knowledge, transactional nature, and social context of literacy learning among young handicapped learners.

Research Questions

Ethnographic research is guided by general questions, rather than hypothesis. This study was designed to observe classroom settings where language/literacy events occurred and to describe those events that demonstrated literacy learning among young handicapped children. Current descriptions of literacy learning are based on observations of non-handicapped children. The theories, which were developed from these descriptions of literacy learning, were applied to the literacy learning of handicapped children to develop questions to guide this research.

They include: (a) What is the quantity and quality of participation in literacy events by handicapped children in
the classroom environment? (b) What evidence is there that young handicapped children construct literacy knowledge?; (c) How does the quantity and quality of literacy events change across ages and handicapping conditions?; (d) Is the way that young handicapped children know about reading and writing different from descriptions of normal children's knowledge?; (e) What literacy knowledge do young handicapped children demonstrate prior to formal instruction?; (f) How do young handicapped children demonstrate transactions between the language systems?; (g) What evidence is there that limitations in one language system affect the transactions between that system and other language systems?; and (h) What role do social interactions play in the early development of language systems among handicapped learners?
CHAPTER II

METHOD

The ethnographic methods employed in this study reflect current theories about the transactional nature of literacy learning. Harste et al. (1984) have advocated the use of real language situations as basis for research. They contend that when specific aspects of language are isolated for study, the language event is distorted and is no longer the same phenomena intended for study. Ethnographic methods provide an opportunity to observe intact language events and allows real language systems in the event to transact with each other within the setting. In the present study language events were not contrived or altered, but observed and recorded in their natural classroom settings.

Site and Subject Selection

Sites. The sites selected for this study were three special education classrooms in a small town school district with total school population of 3,600. Three classroom were chosen for observation to provide a view of literacy development across ages and handicapping conditions. The three classrooms included in the study were the early childhood self-contained classroom for handicapped students (ages 4-6 years), the kindergarten resource classroom (ages 5-7 years), and a primary resource classroom (ages 6-9 years).
These classrooms were representative of young handicapped children enrolled in this school district. The early childhood classroom and the kindergarten resource classroom were the only classrooms of their type in the school district and the students placed in each of these classrooms were the total number of students identified within the school district as needing these particular services. There were five primary resource classrooms throughout the district housed in three different elementary schools. Two primary resource classrooms were placed in each of two elementary schools and one primary resource classroom was placed in the third. The third setting was chosen because it was the only such classroom in the particular elementary school where it was located, and students placed there were all those identified within that school.

Subjects. A total of 43 students were included in the data collection. Twenty-five were labeled learning disabled, seven were labeled mentally retarded, six were labeled emotionally disturbed, three were orthopedically handicapped, and two were visually handicapped. Twenty-four students were diagnosed as having a speech handicap secondary to a primary handicapping condition and received related speech therapy in addition to special education classroom placement. Of the total, 29 students were male, 14 were female, 13 were black, and 30 were white. The
students, across classrooms, ranged in age from 4 years, 1 month to 9 years, 11 months. Demographic data concerning the students from each classroom are included in Tables 1, 2, and 3.

There were nine students observed in the self contained early childhood classroom. The students arrived daily between 8:30 and 9:00 a.m. and remained until 2:30 p.m. Students received related speech therapy, physical therapy or vision therapy as needed.

Table 1

<table>
<thead>
<tr>
<th>Students</th>
<th>Age</th>
<th>Sex</th>
<th>Race</th>
<th>Handicapping Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandon</td>
<td>4-1</td>
<td>M</td>
<td>W</td>
<td>Learning Disabled</td>
</tr>
<tr>
<td>Jason D.</td>
<td>5-10</td>
<td>M</td>
<td>W</td>
<td>Orthopedically Handicapped/Speech</td>
</tr>
<tr>
<td>Jason S.</td>
<td>4-3</td>
<td>M</td>
<td>W</td>
<td>Visually Handicapped</td>
</tr>
<tr>
<td>Jennifer</td>
<td>5-1</td>
<td>F</td>
<td>W</td>
<td>Learning Disabled/ Speech</td>
</tr>
<tr>
<td>John</td>
<td>6-4</td>
<td>M</td>
<td>W</td>
<td>Mentally Retarded/ Speech</td>
</tr>
<tr>
<td>Lynn</td>
<td>6-6</td>
<td>F</td>
<td>W</td>
<td>Mentally Retarded/ Speech</td>
</tr>
<tr>
<td>Paige</td>
<td>4-6</td>
<td>F</td>
<td>W</td>
<td>Visually Handicapped/ Speech</td>
</tr>
<tr>
<td>Tiffanie</td>
<td>6-9</td>
<td>F</td>
<td>W</td>
<td>Mentally Retarded/ Speech</td>
</tr>
<tr>
<td>Tyrone</td>
<td>4-2</td>
<td>M</td>
<td>B</td>
<td>Mentally Retarded/ Speech</td>
</tr>
</tbody>
</table>
Table 2
Age, Sex, Race, Placement Time and Handicapping Condition of Kindergarten Resource Students

<table>
<thead>
<tr>
<th>Students</th>
<th>Age</th>
<th>Sex</th>
<th>Race</th>
<th>Time*</th>
<th>Handicapping Labels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ali</td>
<td>7-0</td>
<td>M</td>
<td>W</td>
<td>60</td>
<td>Emotionally Disturbed**</td>
</tr>
<tr>
<td>Chris</td>
<td>5-8</td>
<td>M</td>
<td>W</td>
<td>60</td>
<td>Emotionally Disturbed**</td>
</tr>
<tr>
<td>Elvis</td>
<td>6-0</td>
<td>M</td>
<td>W</td>
<td>30</td>
<td>Learning Disabled</td>
</tr>
<tr>
<td>Ennis</td>
<td>6-3</td>
<td>M</td>
<td>B</td>
<td>30</td>
<td>Learning Disabled**</td>
</tr>
<tr>
<td>Heather</td>
<td>6-4</td>
<td>F</td>
<td>W</td>
<td>30</td>
<td>Learning Disabled</td>
</tr>
<tr>
<td>Joe</td>
<td>6-8</td>
<td>M</td>
<td>W</td>
<td>60</td>
<td>Emotionally Disturbed**</td>
</tr>
<tr>
<td>Johnny</td>
<td>6-8</td>
<td>M</td>
<td>B</td>
<td>60</td>
<td>Learning Disabled**</td>
</tr>
<tr>
<td>Johnetta</td>
<td>5-10</td>
<td>F</td>
<td>B</td>
<td>60</td>
<td>Emotionally Disturbed**</td>
</tr>
<tr>
<td>Joshua</td>
<td>6-11</td>
<td>M</td>
<td>W</td>
<td>30</td>
<td>Learning Disabled</td>
</tr>
<tr>
<td>Kelli</td>
<td>5-11</td>
<td>F</td>
<td>W</td>
<td>60</td>
<td>Learning Disabled</td>
</tr>
<tr>
<td>Larry</td>
<td>6-4</td>
<td>M</td>
<td>B</td>
<td>30</td>
<td>Learning Disabled**</td>
</tr>
<tr>
<td>Patrick</td>
<td>6-8</td>
<td>M</td>
<td>B</td>
<td>60</td>
<td>Mentally Retarded</td>
</tr>
<tr>
<td>Richard</td>
<td>6-1</td>
<td>M</td>
<td>W</td>
<td>30</td>
<td>Learning Disabled**</td>
</tr>
<tr>
<td>Thomas</td>
<td>6-5</td>
<td>M</td>
<td>W</td>
<td>30</td>
<td>Emotionally Disturbed</td>
</tr>
<tr>
<td>Tony</td>
<td>6-10</td>
<td>M</td>
<td>B</td>
<td>60</td>
<td>Learning Disabled**</td>
</tr>
<tr>
<td>Warrick</td>
<td>5-9</td>
<td>M</td>
<td>B</td>
<td>30</td>
<td>Orthopedically Handicapped**</td>
</tr>
<tr>
<td>William</td>
<td>6-5</td>
<td>M</td>
<td>W</td>
<td>30</td>
<td>Learning Disabled</td>
</tr>
<tr>
<td>Zeke</td>
<td>7-5</td>
<td>M</td>
<td>W</td>
<td>60</td>
<td>Learning Disabled</td>
</tr>
</tbody>
</table>

Note: * Time in the resource classroom is reported in minutes. ** Students receive related speech therapy.
### Table 3

Age, Grade, Sex, Race, Placement Time and Handicapping Labels of Primary Resource Students

<table>
<thead>
<tr>
<th>Students</th>
<th>Age Grade</th>
<th>Sex</th>
<th>Race</th>
<th>Time</th>
<th>Handicapping Labels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandon</td>
<td>9-6</td>
<td>3</td>
<td>M</td>
<td>2.5</td>
<td>Emotionally Disturbed</td>
</tr>
<tr>
<td>Carla</td>
<td>6-11</td>
<td>1</td>
<td>F</td>
<td>1</td>
<td>Learning Disabled</td>
</tr>
<tr>
<td>Chris</td>
<td>6-11</td>
<td>1</td>
<td>M</td>
<td>1</td>
<td>Learning Disabled</td>
</tr>
<tr>
<td>Dale</td>
<td>9-11</td>
<td>3</td>
<td>M</td>
<td>1.5</td>
<td>Learning Disabled**</td>
</tr>
<tr>
<td>David H.</td>
<td>9-11</td>
<td>3</td>
<td>M</td>
<td>2.5</td>
<td>Learning Disabled**</td>
</tr>
<tr>
<td>David J.</td>
<td>8-3</td>
<td>1</td>
<td>M</td>
<td>1</td>
<td>Learning Disabled</td>
</tr>
<tr>
<td>Demarcus</td>
<td>8-10</td>
<td>3</td>
<td>M</td>
<td>2.5</td>
<td>Mentally Retarded</td>
</tr>
<tr>
<td>Demica</td>
<td>7-10</td>
<td>1</td>
<td>F</td>
<td>2</td>
<td>Mentally Retarded</td>
</tr>
<tr>
<td>Jason</td>
<td>8-9</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>Learning Disabled</td>
</tr>
<tr>
<td>Lucas</td>
<td>7-9</td>
<td>2</td>
<td>M</td>
<td>2</td>
<td>Learning Disabled</td>
</tr>
<tr>
<td>Missy</td>
<td>8-1</td>
<td>1</td>
<td>F</td>
<td>2</td>
<td>Learning Disabled**</td>
</tr>
<tr>
<td>Melanie</td>
<td>7-5</td>
<td>1</td>
<td>F</td>
<td>2</td>
<td>Learning Disabled</td>
</tr>
<tr>
<td>Ricia</td>
<td>7-7</td>
<td>2</td>
<td>F</td>
<td>2</td>
<td>Learning Disabled</td>
</tr>
<tr>
<td>Sarah</td>
<td>8-7</td>
<td>2</td>
<td>F</td>
<td>2</td>
<td>Orthopedically Handicapped</td>
</tr>
<tr>
<td>Scott</td>
<td>7-0</td>
<td>1</td>
<td>M</td>
<td>1</td>
<td>Learning Disabled**</td>
</tr>
<tr>
<td>Sissy</td>
<td>7-7</td>
<td>1</td>
<td>F</td>
<td>2</td>
<td>Learning Disabled**</td>
</tr>
</tbody>
</table>

Note. * Time in the resource classroom is reported by hours.  
**Student receives Related Speech Therapy
Eighteen kindergarten students were assigned to a regular kindergarten classroom for the major part of the day and were assigned to the resource classroom in groups of three to five for periods of 30 minutes to an hour. Sixteen primary students were mainstreamed into regular first, second, or third grade classrooms and received one or two and one half hours of individualized instruction in the resource classroom daily. Primary students were placed in the resource classroom to receive instruction in reading, spelling, language arts, or math.

Site Entry

Permission to enter the site was obtained from the superintendent of schools and the director of special education. Conferences with the special education director and participating teachers were held prior to entering the site to explain the nature and extent of site visits. The purposes and methods of the study were made explicit. The teachers had an opportunity to ask questions and express their concerns about the presence of the researcher in their classrooms.

Primary concerns of the teachers were the evaluative role of the researcher and the degree to which the natural course of instruction would be interrupted. The researcher assured the teachers that instruction, methods, or materials were not being evaluated, but that only the children's behaviors and participation in literacy events would be
observed and noted. Furthermore, the researcher assured the teachers that her primary goal was not to disturb the natural environment of the classroom.

Entry into the site was planned to be as unintrusive as possible. The classrooms involved are accustomed to being observed by various specialists and administrators, so that another adult in the classroom was not expected to be remarkable to the children. However, after several visits to the classrooms, the continued presence of the researcher became an object of curiosity. Children in each group questioned her presence and purpose at least once.

Questions included:

Child: "Are you a teacher?"
Researcher: "No."

Child: "Are you coming back tomorrow?"
Researcher: "Yes.

Child: "What are you writing?"
Researcher: "Notes."

Child: "Why do you write stuff?"
Researcher: "To help me remember."

Answers to such questions were given directly, as indicated above, and without hesitation. Further information was not provided unless the student followed with another question. Early visits to the classrooms were limited to observation. As the researcher’s presence became commonplace, the observer role was expanded to interact with
the children. The nature of the interaction is explained below.

Data Collection

The subjective nature of ethnographic study seeks to present the phenomenological view of the subject, as the subject is the source of knowledge. The ethnographers role is to reconstruct intact cultures and describe the subject's view of reality (Bogdan & Biklin, 1982; Goetz & LeCompte, 1984; Miles & Huberman, 1984). Ethnographic description may be derived from data collected in participant observation, from video or audio recordings of the setting, from interviews with the subjects, or from artifacts taken from the setting. All four sources of information were employed in this study.

Participant Observation

Participant observation is the most widely used method of data collection in ethnographic study (Bogdan & Biklin, 1982). It allows the researcher to observe the environment and, through interaction with the subjects, participate in the environment. The bulk of the data collected in this study was from participant observation. In order to become part of the setting without altering the setting, the researcher behaved as an interested, but non-threatening, adult. Rather than directing children's activities the researcher was accepting of the students and participated with them without instructing or disciplining. Social
interactions were initiated and responded to in a non-directive manner.

The researcher's non-directive style of interaction was developed in an earlier study that was conducted in March and April of 1985 to practice participant observation. Thirty hours were spent observing and interacting with students in a primary resource classroom for the purpose of describing language/learning behaviors. In this study the researcher entered the site as an observer and interacted with children to gain understanding of their behavior. Care was taken to respond and interact with students in a non-directive manner, and as a result the children responded openly and warmly. They accepted the presence of the researcher and understood quickly that this was a person who was interested in the "school" work they did, but one who was not available for instruction. The results of this earlier study are documented in an unpublished paper (Austin, 1985).

The role of the researcher as participant observer varied in the three classroom settings. Eighty-two observation hours were divided between the three classrooms. In each setting the researcher gathered data on groups and individual children within the group. The total time spent in the early childhood classroom was 22 hours. Twenty-four were spent in the kindergarten resource classroom and 34 hours were observed in the primary resource classroom.
The early childhood classroom. The daily schedule in the early childhood classroom included group language instruction, center play, motor development, snacks, lunch, and afternoon nap. Observations were made 16 times between 9:00 and 10:00 a.m. when the students had free center play and six times in the afternoon between 12:00 and 1:00 when the students were in a group setting for language instruction. These times were chosen for observation because the rest of the day was scheduled for motor activities, snacks, lunch, rest, and transition between activities.

The morning observations were divided between the dramatic play center and the art center. These two centers were chosen because they presented the most likely environment for language/literacy events. Descriptions of these centers are included below. The afternoon group setting allowed an opportunity to observe the children's response to language instruction.

The context of the learning centers included in the classroom varied from week to week. Permanent centers included music, floor games, books, art, blocks, dramatic play and directed learning activities. The books and floor games were made available to the children immediately following lunch during clean up time and prior to beginning group language activity. The directed learning activity was implemented during the center play time. The teacher or an
aide would set up a directed activity and invite each of the children one at a time to complete the activity with her.

The music, art, blocks, and dramatic play centers were available for the children to choose during center play time. The music center contained records, cassettes, and various musical instruments and toys which were changed weekly. The block center included a variety of added toys which also changed weekly, including large tinkertoys, toy cars and trucks, and plastic blocks. Several times posters were added with rebus directions for stacking or assembling the blocks.

The dramatic play centers were designed to simulate real life experiences. Examples of dramatic play centers used in this classroom included a grocery store, a post office, a zoo, an ice cream store, and a home center. Also on two separate occasions, a sand and water table (filled with either sand or water) was placed in the dramatic play center. Children interacted with materials and with each other in these centers in a variety of ways. The researcher observed group, peer, and individual language interactions in the dramatic play center.

The art center included preplanned activities which were completed independently by the children and free use of drawing, painting and craft materials. The preplanned activities were often accompanied by rebus instructions which were a combination of pictures and words which the
students were encouraged to "read". Students choosing to work in the art center were often encouraged to write their names on their products, and those who chose to creatively use the materials often chose to write or draw.

During center play time, the researcher moved between dramatic play and art centers to gather information. The researcher's judgement was used to determine which center was likely to produce language/literacy events at any given time. On a few occasions children did not choose to participate in one of the two centers. The children were not encouraged by the researcher at any time to choose either center. Rather, the researcher responded to the children's choices of centers and activities in the center. Information was gathered through observation and participation with students in the centers. Participation included interactions which were both initiative and responsive. Interaction was initiated when the researcher wished to encourage "talk" about the activities to provide understanding of how the child viewed what he/she was doing. For Example:

Researcher: "What are you doing?"
Marcus: "This."
Researcher: "What are you doing with this?"
Marcus: "Got to find out what happened first."
Researcher: "And how do you do that?"
Marcus: "I have to go back and read from here."

Responsive statements were made in two types of instances.
The first type of instance occurred when a child initiated interaction with the researcher. For example:

Kelli: "Can I write you a letter."
Researcher: "Yes you can."
Kelli (After scribbling across a line): "Here read this."
Researcher: "You read it to me."

The second type of instance in which a responsive statement was made occurred when the researcher wished to non-directively encourage talk about the children's activities. For example:

(Jenny and Jason are at the art table quietly cutting construction paper.)
Researcher: "Jason, you're just cutting that paper into lots of little pieces."
Jason: "Oh, Oh, look what shape it cutted out."

During language group time students interacted with the teacher about stories and participated in oral language activities designed to foster letter and number awareness. Examples of activities included story telling with pictures or puppets, group recitation of nursery rhymes, and social language demonstrations. The researcher observed group and individual interactions with each other, the teacher, and the activities.

The kindergarten resource classroom. The kindergarten resource classroom was visited at various times during the
day. Since each child was scheduled in the resource
classroom according to individual need (see Table 2 above),
observation time varied so that all instruction periods were
observed several times in an attempt to collect data on all
the children. However, more data were collected on those
children who were scheduled for longer periods of instruc-
tion.

The kindergarten classroom was arranged in centers, and
the teacher planned instruction so that she worked individ-
ually with students in one of the centers while the other
children were occupied with independent learning activities
in other centers. The centers included table and folder
games, dramatic play, blocks, water or sand table, easel for
painting and art/writing activities. Instruction included
visual and auditory perception, manuscript writing, fine
motor development, and listening comprehension. Initially
the researcher developed a writing center to be used
independently by students. The center consisted of a table
and various writing materials. The materials included
pencils, pens, markers, crayons, lined and unlined paper,
tracing sheets for practicing writing their names, letters,
and numbers, and contextual items (such as date books). The
researcher remained in the writing center for the entire
observation time scheduled, and students were allowed to
choose the center for independent learning. From the
beginning, students were reluctant to choose the writing
center, and the teacher, without consulting the researcher, decided to assign students to the center. Furthermore, the teacher intervened to provide instruction when she observed that students used invented spelling or incorrectly drew a letter. Since this interfered with the spontaneous reading and writing that the researcher hoped to observe, the researcher initiated a conference with the teacher.

In conference the teacher revealed that she was uncomfortable with the writing center. She felt that the writing center placed inappropriate demands upon the students and that they were not ready to "do writing". Teacher's and student's expectations about writing are discussed further in Chapter III. The researcher agreed to a compromise and the writing center was moved to a bigger table and art materials were added to the writing materials.

The children were instructed to use any of the materials in most any way they would choose. However, each Monday, the teacher conducted a lesson for a particular activity which would remain in the center for that week. The children were encouraged to practice that activity and to freely use the materials for other free choice activities throughout the week. The teacher directed student activities and participated with the students at the art/writing center and the researcher observed from outside the center.
or participated at the table with the children and the teacher.

Although this was not the initial plan, it proved to be a satisfactory arrangement. The children were allowed to interact with each other, the teacher, the researcher and the materials in most any way they chose. The weekly activities, introduced on Monday, were art activities that included practice in coloring, drawing, cutting, pasting, and assembling. The directions for each activity were posted on rebus charts and the children were encouraged to follow the directions by reading the words and pictures. Similar activities were freely chosen and practiced by the children throughout the study.

The researcher initiated and responded to interactions in much the same way that she did with the early childhood class. In the last two weeks a language experience activity was added to increase the researcher's participant role. The researcher sat down at the art/writing center and asked individual children and small groups of children to dictate stories or lists. Observations were made of the children's use of, and interactions with, spoken and written language systems to complete this activity. The topics for dictation included a list of words to describe a turtle brought to class by a student, a list of favorite words, lists of favorite things to do, stories about themselves, and "made up" stories.
The primary resource classroom. Observations in the primary resource classroom occurred mornings between 8:30 and 11:30. During this time language arts were taught to 17 first, second, and third graders. A writing center much like the one initially set up in the kindergarten resource classroom was implemented on Friday mornings. The center consisted of various writing materials and the students were encouraged to use the writing materials in any way they chose.

Two or three students were assigned to the writing center for periods of approximately twenty minutes each. The researcher interacted with the students in a non-directive manner, as described above, and did not direct the writing experiences in any way. Students were directed to use the materials in the writing center in most any way they might choose. Their initial response to this direction was surprise and doubt, and they tested the limits of this direction by drawing and coloring with the markers. One primary student asked "Can we do art if we want to?". Freedom to use the materials was maintained and a mixture of writing and drawings were produced.

The researcher interacted with the students by asking them to tell about what they had drawn or to read what they had written. As much as possible the researcher refrained from giving instruction or assistance. When students asked for help with spelling, the researcher's response was "You
may spell the word anyway you choose" or "You may guess at it". In a few instances, the behavior of students demonstrated insecurity with these responses and the researcher gave assistance without giving instruction. These instances are discussed later.

In addition to the writing center observations, on other weekdays the researcher observed reading groups and written assignment completion. Written assignments included spelling tests, mastery word practice, grammar assignments, and reading comprehension assignments. Reading groups were either oral reading activities or word recognition activities. Also one Math class was observed during instruction of how to read and complete word problems.

In the last month of the study, the researcher interacted with students to produce language experience stories. The students were invited to dictate the story to the researcher who keyed them into an Apple Computer, as they dictated. The Bank Street Writer word processing program was used to write and print the language experience stories. The stories were keyed in exactly as dictated and once they were printed the students were asked to read their story. The stories were collected in a notebook and the students were asked to reread the stories one and two weeks later. The stories were analyzed and observations of the repeated readings were recorded.
Structured and Non-Structured Interviews.

Structured and unstructured interviews were conducted with students and teachers. Structured interviews were conducted by the researcher with all 3 teachers, with 3 early childhood students, 12 kindergarten resource students and 8 primary resource students. Questions for the interviews were selected to confirm observational data and to collect additional information. Structured interviews with students also provided data that helped interpret the meta-cognitive processes involved in the use of printed language. The structured interviews with teachers provided confirmation of data collected in the classrooms. The interviews were conducted in the last week of data collection, and questions included in the structured interviews for each group are in Appendix B.

Unstructured interviews were unplanned and occurred spontaneously in the classroom setting at various times throughout the research to provide additional information, and to confirm or explain events as they occurred. Information from the unstructured interviews were included in the field notes. Three instances which resulted in unstructured interviews were (a) when the researcher wished to ascertain student intentions or motivations, (b) when the researcher sought meta-cognitive observations from the students, and (c) when the researcher wished to confirm an observation with the teacher.
Structured and Non-Structured Interviews.

Structured and unstructured interviews were conducted with students and teachers. Structured interviews were conducted by the researcher with all 3 teachers, with 3 early childhood students, 12 kindergarten resource students and 8 primary resource students. Questions for the interviews were selected to confirm observational data and to collect additional information. Structured interviews with students also provided data that helped interpret the meta-cognitive processes involved in the use of printed language. The structured interviews with teachers provided confirmation of data collected in the classrooms. The interviews were conducted in the last week of data collection, and questions included in the structured interviews for each group are in Appendix B.

Unstructured interviews were unplanned and occurred spontaneously in the classroom setting at various times throughout the research to provide additional information, and to confirm or explain events as they occurred. Information from the unstructured interviews were included in the field notes. Three instances which resulted in unstructured interviews were (a) when the researcher wished to ascertain student intentions or motivations, (b) when the researcher sought meta-cognitive observations from the students, and (c) when the researcher wished to confirm an observation with the teacher.
art/writing centers in the primary and kindergarten resource classrooms and in the art and dramatic play centers in the early childhood classrooms. In the primary resource classroom audio cassettes were used to record activities in reading groups. Also, audio cassettes were used in the structured interviews to confirm data recorded by hand.

Students were initially curious about the cassette recorder and the camera and asked "What is that?" or "What are you doing?". Their questions were answered briefly and honestly and in every case students resumed natural activities with only occasional notice being taken of the instruments.

The audio cassette recorder was placed in a variety of places throughout the observations. Attempts were made initially to disguise the cassette recorder, but the researcher was unable to maintain quality sound when the recorder was placed behind or under another object or piece of furniture. A decision was made to be obvious about the recording with the hope that time would diminish behavioral reactions to the recorder. Each time that it was first in plain view of the students, they asked, "Why are you recording us?". The researcher always replied, "So I will remember what we do." No other questions were asked after the initial ones, and normal classroom activities were resumed.
Video recordings were made with an RCA Camcorder. The camera was placed on a tripod in each classroom during periods of observation. An attempt was made to film the observations as the researcher recorded by hand. However, this did not always occur. Many times the camera was directed to a setting that was immediately vacated by students and teachers. Some of the time it was possible for the researcher to redirect the camera and other times it seemed more crucial to continue taking notes. When video recording coincided with written field notes the film was used to verify the notes taken. On several occasions, the video record produced additional observations that were initially unrecorded by the researcher.

Early childhood students were inclined to momentarily stare at the camera and to attempt to manipulate the lens. After two to three minutes, they would resume activities. They did not demonstrate an awareness that they were being photographed, and their curiosity about the camera did not interrupt normal classroom activity. The kindergarten class understood that pictures were being made and were also curious, but they indicated confusion about how pictures were being made. For example, Chris asked, "Where are the pictures coming out?", and Kelli asked "When are you going to take our pictures?". The primary resource students understood the purpose of the camera and performed by making faces and waving whenever they remembered and looked in the
direction of the camera. However, they quickly resumed
activities and took no further notice of the camera.

As an additional activity, at the end of the study, the
researcher selected video recordings of the classes to
be shown to the students. The researcher observed the
students observing themselves involved in various literacy
events with the expectation of observing meta-cognitive
behavior. The results of this participant observation are
reported later.

Data Analysis

Data analysis was ongoing and directed the research of
ethnographic study. Through ongoing analysis of the data as
it was collected, the direction of the research was made
narrow and specific. It has been advocated that
ethnographers conduct analysis during data collection to
allow the researcher to think about existing data and to
generate strategies for collecting new data (Miles &
Huberman, 1984). In this study, methods of analysis used
during data collection and after data collection overlapped.
Methods of analysis were implemented as needed to guide the
data collection. The process was cyclic. Data was
collected and analyzed. New data was added and analysis was
repeated. When particular events recurred consistently, or
when expected events were noticeably absent, the researcher
made notations to seek verification or clarification in
future observations or interviews. As the data took shape,
decisions were made about what new data would be collected to supplement or confirm the present data. Several methods of analysis were applied to the data during and after data collection. In the sections below the methods used primarily during and after data collection are described, however, no methods were used exclusively in either time period.

Analysis During Data Collection

**Recording the data.** Most of the data were collected as field notes taken from observation in the setting and from the audio and visual recordings. A word processor was used to record the field notes daily. Files were created for each observation date and stored on a separate disk for each setting. Structured interviews and language experience stories were also recorded into files and on separate disks labeled with individual names. All files were eventually printed and filed in folders for each setting. Artifacts were filed in separate folders for each child, and notations about them were added to the appropriate computer disk files. The printed files were compared with the video and audio recordings and additions or corrections were keyed into the files.

**Coding the data.** As daily notes were recorded and printed, they were surveyed and a coding system was developed to indicate the kinds and types of literacy behaviors which occurred in the data (see Appendix C). The codes were
noted on the margins of the printed copies of the field notes. Matrixes were designed and the number and kinds of behaviors and events were recorded.

Analysis After Data Collection

Identifying categories. Once all the data were collected, keyed into the computer, stored onto appropriate disks, printed, coded, and filed into appropriate folders, the researcher resurveyed the data and identified categories for further analysis. Several strategies were used to identify categories.

The research questions which originally guided the research were applied to the data. As expected the questions had changed and new questions had emerged as the data increased. Responses to all the above questions from the data were identified as initial categories. The categories which emerged from the research questions included (a) quantity of literacy events, (c) kinds of literacy events, (d) participation in literacy events, (e) initiation of literacy events, (f) written or oral language evidence of construction of literacy knowledge, (g) classification of events by age and handicapping condition, (h) use of print to send or receive communication, (i) evidence that environmental print is understood, (j) use of print as a tool for learning (k) evidence that children see print as having context, (l) children's knowledge and use of decontextualized print, (m) oral language transactions with print, (n) the effect of oral language limitations on print
the effect of oral language limitations on print knowledge, (o) the effect of physical motor limitations on print knowledge, (p) what interactions occur between children and teachers in literacy events, (q) who initiates literacy interactions, and (r) how do interactions alter the literacy event.

Computer files were created for each category. Data from participant observation, interviews, and video and audio recordings were surveyed for relevant bits of information and data were copied onto the category files. A Samna Word II wordprocessor was used to complete file transactions. The resulting category files were studied and data was synthesized.

Drawing Conclusions. Patterns of learning behaviors, literacy events, social contexts, and language system interactions were expected to emerge from the category files. In ethnographic research, however, the ethnographer is not limited to expected patterns. Miles and Huberman (1984) have suggested that qualitative researchers count, look for themes, cluster related observations, seek plausibility, try out metaphors, look for common factors among variables, note relationships between variables, and build a logical chain of evidence. As category files were created the researcher counted events and behaviors and set up matrixes to identify clusters. Additional matrixes were developed from the clusters and themes were identified.
Variables within the themes were examined for variability and for relationships between variables and logical chains were developed to examine the themes across ages.

Verifying conclusions. Methods for verification of the data were implemented throughout the study. As conclusions were drawn verification methods were implemented to confirm the validity of conclusions. They were checked for representativeness across ages and groups and for researcher effects on the site. Triangulation methods were implemented by looking for evidence that supported the conclusions in field notes, video recordings, audio recordings, and structured interviews. Data were resurveyed for any negative evidence that contradicted the conclusions. These methods were repeated each time a conclusion was modified. Finally, resulting conclusions were clustered into related themes for purposes of reporting. The results, including tables, figures and narrative descriptions based on the data, are reported in Chapter III.
CHAPTER III

RESULTS

The purpose of this study was to describe the extent and quality of prior knowledge, transactional nature and social context of literacy learning among young handicapped learners. The research questions included: (a) What is the quantity and quality of participation in literacy events by handicapped children in the classroom environment?; (b) What evidence is there that young handicapped children construct literacy knowledge?; (c) How does the quantity and quality of literacy events change across ages and handicapping conditions?; (d) Is the way that young handicapped children know about reading and writing different from descriptions of normal children's knowledge?; (e) What literacy knowledge do young handicapped children demonstrate prior to formal instruction?; (f) How do young handicapped children demonstrate transactions between the language systems?; (g) What evidence is there that limitations in one language system affect the transactions between that system and other language systems?; and (h) What role do social interactions play in the early development of language systems among handicapped learners?

Specific descriptions and responses to the research questions and to other questions which emerged in the study
are presented in the following sections of this chapter. Nominal data, including numbers and types of events and changes in events across ages and handicapping conditions, are reported first. Next, the quality of events are examined. The context of written language and demonstrations of knowledge construction through context are described in the second section. The structure of written language and children's knowledge and application of that structure are described in the third section. In the fourth section observations of the effects of handicapping conditions upon participation in literacy events are discussed, and descriptions of transactions across language systems follow. Descriptions of variations across ages and handicapping conditions are included in all of the sections. The closing section of the chapter presents a summary of the findings.

**Literacy Events**

In three months of study 248 literacy events were observed and recorded. Forty-five of these were recorded from the early childhood classroom, 77 from the kindergarten resource classroom and 126 from the primary resource classroom. Literacy events were examined across six dimensions: (a) types of literacy behavior demonstrated; (b) differences in participation across ages; (c) handicapping condition of student participating; (d) student or teacher direction of the event; (e) presence or absence of context; and (f) numbers of events in each category. Literacy events
were defined as those instances of reading or writing which were observed in the classroom setting. They included language experience stories which were initiated by the researcher but that were directed by the students. They did not include structured interviews conducted with students as structured interviews were researcher directed and were not part of the expected classroom setting.

**Types of literacy behavior demonstrated.** Literacy behaviors were observed in two general types of events; reading and writing. Writing events were divided into eight sub-categories: drawing, scribbling, writing letters, writing numbers, writing words, writing text, completing worksheets, and language experience stories. Reading events were divided into six different sub-categories: reading environmental print, reading names, reading pictures, reading directions, practicing word recognition, and teacher directed oral reading.

Participation changes across age groups in writing events are described in Table 4. As they were exposed to formal instruction in the kindergarten and primary resource classrooms, students' demonstrations of scribbling decreased and writing words and text and completing worksheets increased. However, there were minimum demonstrations of decontextualized print (writing letters or numbers) in all groups. Children did not choose to practice decontextualized writing in any group before or after formal instruction.
Table 4

Types of Writing Events Demonstrated by Early Childhood, Kindergarten Resource and Primary Students

<table>
<thead>
<tr>
<th>Types of Writing Events</th>
<th>Early Childhood Classroom</th>
<th>Kindergarten Resource Classroom</th>
<th>Primary Resource Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drawing</td>
<td>8</td>
<td>27</td>
<td>23</td>
</tr>
<tr>
<td>Scribbling</td>
<td>13</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Writing Letters</td>
<td>2</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Writing Numbers</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Writing Words</td>
<td>4</td>
<td>12</td>
<td>28</td>
</tr>
<tr>
<td>Writing Texts</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Completing Worksheets</td>
<td>0</td>
<td>1</td>
<td>16</td>
</tr>
</tbody>
</table>

Dictated Language Experience Events

<table>
<thead>
<tr>
<th></th>
<th>Early Childhood Classroom</th>
<th>Kindergarten Resource Classroom</th>
<th>Primary Resource Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lists</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Stories</td>
<td>0</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

Totals

<table>
<thead>
<tr>
<th></th>
<th>Early Childhood Classroom</th>
<th>Kindergarten Resource Classroom</th>
<th>Primary Resource Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30</td>
<td>69</td>
<td>89</td>
</tr>
</tbody>
</table>

increased as children's fine motor skills matured and they were able to control writing instruments. They continued to use drawing as a means of communication through primary grades.

Further analysis of writing events was conducted to determine what kinds of events elicited scribbles, which words were written, and what kinds of texts were produced. Scribbling is examined in Table 4.1.
Table 4.1
Scribbling Events Demonstrated by Early Childhood, Kindergarten Resource and Primary Students

<table>
<thead>
<tr>
<th>Types of Scribble Events</th>
<th>Early Childhood Classroom</th>
<th>Kindergarten Resource Classroom</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scribbles without purpose</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Unlabeled letter-like marks</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Scribbles which represent names</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Purposeful, but unlabeled scribbles</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Scribbles labeled with oral language</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Totals</td>
<td>13</td>
<td>7</td>
<td>19</td>
</tr>
</tbody>
</table>

When children scribbled without purpose, they looked away while they were scribbling and made back and forth movements across the page. Letter-like marks and attempts to make letters were only present before formal instruction. Once children were instructed how to make letters, they only wrote the ones they knew how to write. Further, scribbles were produced to represent names before formal instruction. After formal instruction, all the children observed in the study were able to write at least some of the letters in their own and other persons' names.
Children scribbled purposefully when they attempted to control the marks they made. In contrast to scribbles without a purpose, children watched as their scribbles took shape. They attempted to control the writing instrument. Some students copied cursive writing and filled lines with jagged or looped marks. They did not, however, try to copy or draw shapes, such as circles or squares, nor did they attempt to draw letters. As children increased in literacy knowledge prior to instruction, they were more likely to label their scribbles and expect others to be able to read what they had written.

The ways in which writing of words changed across the settings are illustrated in Table 4.2. The four instances of word writing in the early childhood group were name writing and were produced by three children. Kindergarten students were exposed to beginning instruction in writing, but only one student wrote words other than names. Word writing events by primary students were more varied. The greatest number of events demonstrated, however, were teacher directed. Only one kindergarten student initiated writing any word other than a name and only two primary students wrote random words at the writing center. One student, on two different occasions, chose to write spelling words at the writing center.

Text writing events were only observed in the primary resource classroom. More teacher directed word writing events (17) than text writing events (4) were observed.
Table 4.2
Word Writing Events Demonstrated by Early Childhood, Kindergarten Resource and Primary Students

<table>
<thead>
<tr>
<th>Types of Word Writing</th>
<th>Early Childhood Classroom</th>
<th>Kindergarten Resource Classroom</th>
<th>Primary Resource Classroom</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writes own name</td>
<td>3</td>
<td>8</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Writes others' name</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Writes reading or spelling words /teacher directed</td>
<td>0</td>
<td>0</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Writes words without teacher direction:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random words</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Spelling words</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Totals</td>
<td>4</td>
<td>10</td>
<td>27</td>
<td>41</td>
</tr>
</tbody>
</table>

However, the number of students participating in student directed text writing (7) was similar to the number participating in student directed word writing events (4). Teacher directed text writing included writing labels for the numbers in word problems and writing a summary of a story that was read orally. Student directed text writing included writing "I love you" messages to various persons and making a list of names with amounts of money written beside them. One child wrote random sentences.

A total of 60 reading events were divided into three sub-categories of word naming, reading stories and text, and
Table 4.3

Text Writing Events Demonstrated by Early Childhood, Kindergarten Resource and Primary Students

<table>
<thead>
<tr>
<th>Types of Text Writing</th>
<th>Primary Resource Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teacher Directed:</strong></td>
<td></td>
</tr>
<tr>
<td>Explaining Word Problems</td>
<td>3</td>
</tr>
<tr>
<td>Writing a summary of oral reading</td>
<td>1</td>
</tr>
<tr>
<td><strong>Student Initiated:</strong></td>
<td></td>
</tr>
<tr>
<td>Writes &quot;I love you&quot;</td>
<td>4</td>
</tr>
<tr>
<td>Imitating the environment</td>
<td>2</td>
</tr>
<tr>
<td>Writing random sentences</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>11</td>
</tr>
</tbody>
</table>

reading environmental print. Sixteen early childhood students, 10 kindergarten resource students and 34 primary resource students participated in the reading events.

Nominal data presented in Table 5 describes three types of reading events which were observed in each of the three settings. There were considerably fewer reading events (60) than writing events (188) observed in all three settings. Also, the data illustrates a distinct difference in the kinds of reading events which occurred prior to formal instruction and those which occurred after. Earlier events were more likely to be contextualized and student directed, whereas, reading events in the primary group were most likely to be teacher directed and decontextualized.
### Table 5

Types of Reading Events Demonstrated by Early Childhood, Kindergarten Resource, and Primary Students

<table>
<thead>
<tr>
<th>Types of Reading Events</th>
<th>Early Childhood Classroom</th>
<th>Kindergarten Resource Classroom</th>
<th>Primary Resource Classroom</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Environmental Print</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Reading Names</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Reading Pictures</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Reading Directions: Rebus</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Directions: Worksheet</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Practicing Word Recognition</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Teacher Directed Oral Reading</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Totals</td>
<td>16</td>
<td>10</td>
<td>34</td>
<td>60</td>
</tr>
</tbody>
</table>

**Initiation of literacy events.** Table 6 presents data to compare teacher directed events with student directed events. Teacher directed events were those in which the teacher initiated, directed, and instructed the student in the performance of a particular literacy task. Student directed tasks were those in which the student initiated and controlled the context of the event. Also included as student directed events were language experience tasks and summary writing. These events were initiated by the teacher or researcher, but context and performance of the event was
Table 6
Teacher vs. Student Direction of Reading and Writing Events Observed in the Early Childhood, Kindergarten Resource, and Primary Classroom

<table>
<thead>
<tr>
<th>Type of Events</th>
<th>Early Childhood Classroom</th>
<th>Kindergarten Resource Classroom</th>
<th>Primary Resource Classroom</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Directed:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing</td>
<td>4</td>
<td>14</td>
<td>44</td>
<td>61</td>
</tr>
<tr>
<td>Reading</td>
<td>10</td>
<td>2</td>
<td>34</td>
<td>46</td>
</tr>
<tr>
<td>Student Directed:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing</td>
<td>18</td>
<td>28</td>
<td>22</td>
<td>67</td>
</tr>
<tr>
<td>Reading</td>
<td>5</td>
<td>8</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Totals</td>
<td>38</td>
<td>52</td>
<td>100</td>
<td>190</td>
</tr>
</tbody>
</table>

controlled by the student. Teacher directed events increased considerably in the primary resource classroom and student directed activities decreased. The student directed writing events remained constant across ages, but the only student directed writing observed in the primary classroom were those events that occurred in the writing center introduced by the researcher. The early childhood and kindergarten classrooms were organized to encourage student initiation and direction of activities, whereas, the primary classroom was organized around activities which were teacher planned, instructed and directed.

Context in literacy events. Finally, literacy events were examined to determine which demonstrated contextualized
use of print and which demonstrated decontextualized use of print. Contextualized events were those that existed around or about a context which was understood by the child participating in the event. Contextualized reading events included reading names of classmates, reading pictures, reading language experience stories, or reading environmental print. Contextualized writing events included writing names, writing stories, or writing answers to questions. Decontextualized reading and writing events were those that included symbols of print without adding context and included letter naming, word recognition, alphabet order, and writing single letters, numbers or words. Student participation in literacy events with and without context are described in Table 7.

Table 7

Student Participation in Literacy Events With and Without Context

<table>
<thead>
<tr>
<th>Types of Literacy Events</th>
<th>Early Childhood Classroom</th>
<th>Kindergarten Resource Classroom</th>
<th>Primary Resource Classroom</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Events</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With Context</td>
<td>16</td>
<td>10</td>
<td>15</td>
<td>41</td>
</tr>
<tr>
<td>Without Context</td>
<td>0</td>
<td>0</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Writing Events</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With Context</td>
<td>10</td>
<td>32</td>
<td>34</td>
<td>74</td>
</tr>
<tr>
<td>Without Context</td>
<td>12</td>
<td>10</td>
<td>32</td>
<td>54</td>
</tr>
<tr>
<td>Totals</td>
<td>38</td>
<td>52</td>
<td>100</td>
<td>190</td>
</tr>
</tbody>
</table>
In the early childhood classroom decontextualized events consisted of scribbling and the writing of letter-like marks labeled as letters or numbers. Scribbles or marks which were labeled as names were defined as contextualized print. Examples of reading contextualized print observed in the early childhood resource classroom were reading environmental print, reading rebus charts, reading pictures, and reading names. In the kindergarten resource classroom use of decontextualized print occurred in events including practice writing of numbers or letters, completing alphabet order worksheets, and recalling alphabet order orally. Print with context was included in writing language experience stories, writing names, writing phone numbers, and reading pictures. In the primary resource classroom decontextualized use of print occurred with spelling and the writing and memorization of reading vocabulary words. Oral reading of stories, worksheet directions, and writing language experience stories were uses of contextualized print by primary resource students.

No reading events occurred without context prior to formal instruction. Early childhood and kindergarten students were only observed reading print within a context that was familiar to them. Primary students read print without context when they were instructed or directed to practice word lists. Writing events with context increased from early childhood to kindergarten but remained constant across the
primary class. The number of writing events without context increased in the primary class.

The observed events indicated that after formal instruction was initiated in reading and writing the number of literacy events which were decontextualized and teacher directed increased. Prior to formal instruction students have control over the type and content of literacy events which occur, and afterwards the teacher has control. After formal instruction, the students observed became uninvolved in the learning process. They began to avoid print and expressed insecurity about their ability to use it effectively. The focus of school activities became "what do you want me to do", rather than "I have a message to communicate", or "What does this say".

The Context of Written Language

The data were examined to find explanations for why school activities became meaningless tasks. The researcher found that children interpreted school context by applying personal context to the current activity. Many children applied context from prior experience directly to the current event without constructing generalizations. Sometimes prior experiences did not fit the current context and students did not interpret the context correctly. Some children were observed to add context from prior experiences that did not relate to the current event. When this occurred, the resulting interpretation was confused.
Application of Personal Contexts

Interpreting environmental contexts. Younger children observed in the study limited the context of print to what they knew about the immediate environment. For example, in the early childhood classroom, Jenny played in the grocery center. She read labels and announced prices as she entered them into the cash register and put them in a sack. She seldom read the labels correctly (she recognized "Kool Aid" and "Blueberry Muffins") and the prices were always the same (99 cents), but she was applying what she knew about the environment to the print. On another occasion, Jenny noticed the calendar, pointed to it and said "That say January". Then she frowned and said "That say February". Actually it was March. She was unable to read the print and not sure of the month, but Jenny understood what the calendar represented. Jenny used what she knew about the environment to interpret print.

Kindergarten children also demonstrated direct application of context from the environment. For example, when Kelli found a Hallmark calendar in the writing center, she said "This is what my mommy does", as she wrote the letter E on a date. "Where is spring? Show me", "Where is my birthday?", and "Where is your birthday?", she continued as she went through the calendar and made random marks on various dates.
When the context doesn't fit. Children's understandings of the environment are based on their personal experiences and when the print message doesn't fit what children are able to understand, students are confused. Joe played in the grocery center. He read the prices written on the grocery labels and entered them in the cash register. When he encountered a can of pineapple juice without a label, he took it to the teacher and asked for help. She pointed out that this product had a computer label and showed the computer marks to him. Joe looked confused and asked again "Where's the price?". The teacher responded by asking Joe to recall when he had gone to the grocery store with his mother and watched the cashier slide the grocery items across the computer window. Joe had not made this observation and after a moment he took the can, put it back on the shelf, and left the grocery center.

The quality of prior experiences and ability to relate those experiences to current events was demonstrated by several observations. In the structured interview, the researcher asked kindergarteners "Why do people write letters?". Zeke's response suggested a generalization from his experiences, "to tell somebody something". Most children's responses reflected their prior experiences without making generalizations across environments. One child responded "like when you write to your uncle in jail" and another responded "I write a letter to my grandmom."
Others gave responses that related to their experiences, but that were either confused or incomplete. Kelli said "send it cause somebody at the post office wants it" and Johnny said, "to send to somebody - at they house". Several students responded by simply not answering, shrugging their shoulders or saying "I don't know", but other incomplete responses included "cause they want to" (Chris), and "when you write to somebody" (Johnetta). The kindergarten children in these observations responded from their personal experiences with letters. They (with the exception of Zeke) did not make generalizations from those personal experiences to the concept of letter writing. The researcher speculated that those who responded incompletely had not attended, or lacked opportunity to attend, to letter writing in their personal environments.

When children were confused about the interpretation of print, they referred to the immediate environment. When it did not provide the clues they needed, older children would attempt to impose their personal environment upon the text. For example, when reading a story which included a character named "Ms. Piggle Wiggle", third graders, Dale, David, and Marcus continued to read the name as "Ms. Piggly Wiggly", which is the name of a local grocery store. Even after the teacher stopped several times to point out the difference between the two samples of print, the boys continued to misread the name.
The immediate environment of print includes pictures in a story, the location of the print, and the other objects or persons near the print. When reading the story, above, about Ms. Piggle Wiggle, the boys recognized that the print was a name, because they understood the context of surrounding print. They were not able to recall the name and looked at the picture for clues. The picture was of a fat lady with glasses and old fashioned clothing. When they found no useful clues in the picture, they looked up at the teacher and said "Ms. Piggly Wiggly".

When Demica composed her list of favorite things, she scanned the environment for clues to help her spell words correctly. When she saw the label "Apple" on the computer, she cried "Apple! I like apples. I can copy it!" She next thought of writing "orange". She looked around the room, spied a chart which listed and illustrated the colors, ran to the chart, put her finger on the word, said the letters out loud, and returned to the computer to write them.

Marcus and Brandon demonstrated the use of pictures to predict what print had to say. In an oral reading group, the teacher said "Now, let's read to find out what happens next", and Marcus replied, "A ghost is gonna come get him. See." He turned the page to show the picture of a ghost. The picture showed a ghost coming through a round window on the wall of an eastern Indian style house. Brandon continued reading the story and when he read of the ghost coming
through the "window", he read it as "the ghost came through the hollow". The word "hollow" has no visual similarity to "window", but the round window looked like a hollow in a tree to Brandon.

In another instance, Brandon was directed to read a short story independently and to answer questions about the sequence of events. When I asked Brandon to tell me what he was doing, he replied, "Well, see this boy is fixing orange juice and he tries to squeeze the oranges before he cuts them and he got orange juice all over the floor". The story was actually about how a boy figured out that he had to cut the orange first before he could squeeze it and make orange juice and the sequence of making orange juice was the context of the story. There was a picture of the boy trying to squeeze the whole orange, but there was no instance of the orange juice being spilled on the floor included in the story. When the researcher asked Brandon if that had ever happened to him, he replied, "Yeah, and I cut the orange and everything." Brandon had applied clues from the picture and added information from his prior experience to interpret print. Children expect that print will communicate relevant information and that it will make sense to them. When the print is not relevant to their personal experiences, some children change the context of print to match their prior knowledge.
Interpretation of school context

The context of school is different from all other contexts in the child's experiences. Many events which are teacher directed have no real life experience to which the child can relate. Many of the observations made in this study were of children practicing the reading and writing of letters, numbers and words which were out of context. Print which is out of context is defined as decontextualized print, but actually all the activities with print, which are conducted at school, have a context -- the context of school. The context of school is a real context, but an unfamiliar one for many children. The observations in this study indicated that school context became familiar, but remained confusing for children as they continued in school.

Story context. Stories which are included in readers for primary students are expected to have contexts which would be familiar to most children. The third graders, Marcus, Dale, David and Brandon demonstrated difficulty with relating to the context of stories in their readers. Each time they were observed reading orally, the teacher directed the boys' attention to the context of the story. Yet, these boys continued to miscall words with related directly to the context. For example, Marcus misread "Dick's mother wants to" for "Dick's mother watches the" and "She talked to herself" for "She thought to herself". Dale misread, "He took a sock of peppermint" for "He took a stick of
peppermint", and "She marked him home" for "She marched him home". Also Dale read "She let them back cookies", changed it to "bike cookies" and finally with teacher direction read "bake cookies". Even though phrases like "a stick of peppermint" and "bake cookies" should have been familiar to these boys they did not relate their experiences to the context of the story they were reading.

Other observations demonstrated confusion in the act of relating personal context to story context. Marcus read a story of his choice from his reader to the researcher. The story which he chose, was about two children who took a younger brother to the park. The younger brother became lost and the older children looked for him. As Marcus read, the researcher interjected questions to observe his comprehension of the story.

Researcher: "How do you think Janet and John feel right now?"

Marcus: "Happy."

Researcher: "They are happy because - "

Marcus: "Cause they at the park."

Researcher: "But, their little brother is lost."

(Marcus shrugged his shoulders.)

Researcher: "What do you think their mother will say?"

(Marcus shrugged again.)

Researcher: "Do you have a little brother?"
Marcus: "Yes."

Researcher: "What would your mother say if she told you to take care of him and he got lost."

Marcus: "He could find his way back."

Even though it may be assumed that a story's context is universal, the way in which it is interpreted may be very personal. Marcus's experience with being lost was not the same as the one portrayed in the story and Marcus was confused by the expectation that Janet and John would be upset about losing their younger brother.

In another instance, David read a story of his choice to the teacher. He selected a story about a newborn fawn and his mother. After reading the story, David was directed to write a summary of the story on the computer. David wrote the following story.

(This is a transcription of the way he read the summary, not an actual copy of the way he wrote the summary.)

Once upon a time, there was a mother deer named, Whitetail. And her fawn's name was Browneyes. I like Browneyes because he is a playboy and he is a good boy. He got him a girlfriend too. He is a sharp man. He is a cool man. He is a playboy. He got brown eyes and his mother is pretty. She is a nice mom. She is a good mother. Little brown eyes is a magic. He is too magic for me.
David applied prior experiences with stories to his interpretation, but he did not merge the experiences appropriately. He correctly reported the names of the story characters and he described the relationship between them, but he added content from other stories. In an unstructured interview the teacher indicated that David talked a lot about watching music videos and that might explain the addition of "He is a sharp man - He is a cool man", and that earlier the group had read a story about magic that may have explained the insertion of magic.

Students appeared to be more successful when they related school tasks to a familiar context. In the primary resource classroom, the teacher used a predictable book, "Where the Wild Things Are", to teach reading to first graders. After reading the story orally several times, the students drilled on individual words from the story. The main character in the story was named "Max". When "Max" was included in a spelling test, Melanie cried out "O-o-o-o, that's easy". The teacher asked "Why is that easy?". Melanie said, "Because we read it." Melanie was able to apply a context to the word "Max" and the context helped her to recall its spelling. The teacher followed up with questions about the spelling words to examine how children visualized the words they were spelling. She asked, "When I say the word Max, do you see a picture of Max, or do you see the word Max?" Melanie, Demica, and Chris replied, "A
picture." Scott replied, "The word." The teacher followed up with asking the same question about several words with familiar contexts (gum, rat, cat). The responses remained the same. Scott continued to report that he saw the words. On his paper Scott had written "mas" for "Max" and "gam" for "gum". In an unstructured interview, the teacher indicated that Scott experienced greater difficulty with print than any of the other first graders. The researcher speculated that being able to relate a familiar context to print made it easier to recall the details of print.

Understanding Directions. The art activities which were introduced in the kindergarten classroom were outlined on a rebus chart and students were directed to "read" the chart to remember how to complete a particular activity. The context of the rebus charts were - how to complete an activity. Context which explains how to do something is characteristic of school. Children are expected to follow specific directions to complete school tasks in specific ways. When directions are not followed specifically, the tasks are not completed correctly. Observations of children in this study indicated that they experience difficulty with specific, sequenced directions.

In the kindergarten classroom Zeke attempted to read the rebus directions to draw a bunny. He studied the chart for a few moments and then drew the chart on his paper. He did not combine the steps which were outlined, but instead copied the
chart and drew each step individually (see Figure 1 on page 67). In another instance several children were given directions to cut and paste a caterpillar in a specific sequence. William followed the directions as given. Joe resisted the teacher's directions and attempted to maintain control of the activity. The teacher intervened and managed to convince Joe to follow her directions. Ali entered the group after the directions had been given and he accomplished the task by watching William. The directions for this activity were posted on a rebus chart and the teacher directed the children to refer to the chart whenever they needed additional help, but they did not. The instructions were repeated later in the day for a different group of boys. Zeke, Patrick and Larry referred to the caterpillars which had been completed by the morning group to figure out the sequence of assembly rather than read the rebus chart. When students cannot apply a prior context to the school task (reading rebus directions), they look for clues in the environment to interpret the task.

Third graders, Dale, Brandon, Marcus and David, were observed completing a worksheet on adverbs. The teacher reminded the boys that adverbs tell how to do something. Before she read the directions to them, Marcus announced that he remembered "Adverbs are words with -ly on them" and he immediately began to look for ly in the sentences and wrote the -ly words in the blank. Actually, the directions were to
How to Draw

1. Draw a P $\rightarrow$ P
2. Add a C $\rightarrow$
3. Add $\Rightarrow$
4. Add $\Rightarrow$
5. Add $\Rightarrow$

Figure 1. Zeke draws the rebus chart.
Zeke did not follow the rebus directions above. Instead he drew the chart as illustrated on the right.
write the words which the adverbs modified in the blanks.
The teacher continued to explain in careful sequenced steps how the boys would complete this task, but each of them tried to figure out what they had to do to finish the task, rather than understand the task. None of them completed the task correctly. Brandon rolled his pencils across his desk top during the "lesson" and then looked to see what Marcus was writing. Dale read ahead and finished first with every answer incorrect. David attended to the directions and then incorrectly wrote the adverbs in the blanks. The teacher stopped each boy in turn and attempted to redirect them. Each of them correctly answered only those items which the teacher individually directed. Independently they were unable to complete the task correctly. The boys did not attempt to understand the concept of adverbs. Their behavior was focused on how to complete the task. There was no demonstration of understanding parts of speech, rather the demonstration was of completing the task.

Other school tasks without context which were observed included practicing reading and writing vocabulary words, spelling, letter recognition, and alphabet sequence. Older students demonstrated strategies to find clues that helped them interpret school contexts. They searched the immediate environment, they observed their peers, they asked for help, and they avoided print.
The Written Structure of Language

Observations of children in the study indicated that they recognized the precise structure of written language, but they did not demonstrate familiarity with that structure. They do not know where sentences or paragraphs begin or end on the page. Younger children confuse letters and numbers and older children confuse words and positions of letters in the words. The children studied did not visually attend to the fine differences in print. They looked at print holistically. They were overwhelmed by the structure of print and many avoided print whenever possible.

Descriptions of children's attempts to understand the structure of written language follow. Demonstrations of children's knowledge of letters, words, and their arrangements on the page are reported first. Children's meta-linguistic knowledge about reading and about writing are described next. Finally the ways in which children demonstrated construction of written language structure are reported.

Knowledge of Written Language Structure

Letter knowledge. Four early childhood students (Jenny, Lynn, Jason S. and John) attempted to produce letters at various times throughout the study (see Figure 2 on page 70). They were not inhibited by instruction. Kindergarten students, however, received instruction in letter formation and they were less likely to produce letters without
Figure 2. Early childhood students attempt to write letters.
(a) Lynn signs her name to her art work. (b) Jason S. writes his name. (c) Jenny writes OTOC. (d) Jenny writes her name. (e) John writes his name.
following a model. When given the opportunity, they either traced or copied the letters.

In a structured interview, kindergarten students were asked to write the alphabet. A description of how students completed this task is in Table 8.

<table>
<thead>
<tr>
<th>Students</th>
<th>Letter Formation</th>
<th>Sequence</th>
<th>Oral Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ali</td>
<td>Upper Case Correct</td>
<td>BRABBB...</td>
<td>none</td>
</tr>
<tr>
<td>Chris</td>
<td>Scribble marks</td>
<td>none</td>
<td>sang ABC song</td>
</tr>
<tr>
<td>Elvis</td>
<td>Wrote his name</td>
<td>none</td>
<td>sang ABC song</td>
</tr>
<tr>
<td>Heather</td>
<td>Upper case correct</td>
<td>AP+OB</td>
<td>none</td>
</tr>
<tr>
<td>Johnetta</td>
<td>Mixed scribbles and letters - J is backwards</td>
<td>VPJ scribble</td>
<td>sang ABC song</td>
</tr>
<tr>
<td>Johnny</td>
<td>Upper case correct</td>
<td>A - I correct</td>
<td>none</td>
</tr>
<tr>
<td>Kelli</td>
<td>Mixed upper and lower case - overlapped letters</td>
<td>A - L correct</td>
<td>sang ABC song</td>
</tr>
<tr>
<td>Larry</td>
<td>Upper case correct</td>
<td>A - L correct</td>
<td>sang ABC song</td>
</tr>
<tr>
<td>Patrick</td>
<td>Scribbles</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>Tony</td>
<td>Upper case correct</td>
<td>ABC correct followed by random letters</td>
<td>none</td>
</tr>
<tr>
<td>William</td>
<td>Upper case - only A is correct</td>
<td>ABC correct followed by FGD</td>
<td>sang ABC song</td>
</tr>
<tr>
<td>Zeke</td>
<td>Upper case correct</td>
<td>ABCD correct</td>
<td>said abc's as he wrote</td>
</tr>
</tbody>
</table>
Comments made by the children as they wrote the alphabet indicated knowledge of correct letter formation even when they were not able to reproduce it. William and Zeke demonstrated insecurity about writing the letters. They both declared "I can't" and had to be coaxed into trying. Zeke became upset when he could not remember whether F or E came after D. Seven of the 12 children used oral language to monitor the sequence of the letters. Although Chris did not produce letter symbols, he was aware of a sequence for the alphabet and sang the Alphabet song. Several children demonstrated awareness of correct letter formations even though they were not able to produce them. Larry asked "How do you make an I?", William said, "I can't make a F", and Kelli asked "Is this a P or a B?".

All of the primary students interviewed wrote the alphabet with correct letter formation and sequence. However, 4 out of the 7 sang the Alphabet song to maintain sequence and all of them referred to the chart above the chalkboard to recall correct letter formation or directional placement of letters on the line. The children included in this study demonstrated that they knew letters had specific formations and that a specific sequence existed. They also demonstrated an awareness of their inability to accurately reproduce the letters. Zeke said "I always mess up on R". Johnny reported, "That's all I know", when he had written A through I correctly. When Kellie wrote the letters correctly
through M, she scribbled and said, "That's all I want to do right now."

**Word knowledge.** The youngest children observed recognized their own and other students' names. Seven of the 9 early childhood students demonstrated knowledge of environmental signs (McDonald's, 7-Eleven), but did not recognize the words apart from the environmental logo. Kindergarten students received instruction with sight words and all of them could recognize a few words, but there was a difference demonstrated between their ability to recognize, to read, and to write a word. Larry, Ennis and Joshua spelled/copied words from word cards with magnetic letters. When the researcher asked them to read the words they had copied, they could not, but they correctly found the word when the researcher asked them to find the word "bird", "house" or "man". In the structured interview the researcher asked the students to write five words that they knew. Those students who wrote words were Zeke, who wrote "No", "On", and "Zeke", and Johnny, who wrote "cat" and "Zeke". Heather, Elvis, and Tony wrote a mixture of letters and numbers. When Elvis was asked what he wrote he replied, "I don't know, I can't read". William assured the researcher that he didn't know how to make words, and when coaxed he wrote random letters. When asked to read what he had written, he looked confused and said, "I don't know." Chris, and Kelli scribbled, and Johnetta mixed scribbles with letters from her name. Patrick and Larry drew letter like marks. Larry added a shape which
he defined as "a fish jumping out of water" (see Figure 3 on page 75 for examples of kindergarten word writing). Kindergarten students recognized words but could not read or write them. When primary students completed the same structured interview, they all responded by writing five words from their spelling or reading vocabulary. Primary students recognized the print boundaries of words and found single words in text. They did not recognize the print boundaries of sentences and paragraphs.

Sentence and paragraph knowledge. In an observation of oral reading, the teacher asked Dale to reread a sentence. He returned to the left edge of the line and began reading. The teacher asked, "Show me the first word in the sentence." Dale pointed to the last word. The teacher continued, "That is the last word, show me the first word." Dale returned to the first word in the paragraph. The teacher pointed to the first word of the sentence for him. In another instance, Demica responded in a similar manner. The teacher asked, "Demica, read the second sentence on that page" and Demica read the second line of print. In the structured interview, the researcher asked primary students how many paragraphs were on a given page. The responses were "one", "two", or "none". None of the students correctly answered four paragraphs.
Figure 3. Examples of kindergarten word writing. (a) Chris (b) Tony (c) Johnetta (d) Kelli (e) Larry (f) Heather (g) Johnny (h) Zeke
Three of 7 primary students who were asked to write sentences wrote sentences with correct semantics. One of the three included correct punctuation. Four students wrote unrelated series of words. These same students completed weekly assignments writing sentences with their reading vocabulary and spelling words. In an unstructured interview, the teacher reported that they regularly produced sentences with appropriate semantics, but their grammar and punctuation were often incorrect.

Primary students attended to sentence structure when they dictated language experience stories to the researcher. Each of them dictated a series of semantically correct words which related a single thought and then hesitated while the researcher completed entry on the computer. They read the computer screen as the researcher typed and interjected corrections, additions, and changes. Evidence indicates that primary students could produce appropriate sentences, but did not do so in every instance. The contradictions in performance may be explained by the student's interpretation of the context in which the task was performed.

Language experience tasks. Language experience tasks were introduced by the researcher to provide additional observations of writing events in which the students controlled the context. Language experience tasks included writing lists and writing stories. Fourteen stories were dictated and eight lists were dictated. Two of the list
writing events were produced by groups and all other events were individual. Group writing events produced oral language transactions.

A group of kindergarten students was asked to write a list of words to describe a turtle they were observing. The boys in this group dictated five words and eleven phrases to describe the turtle. They were involved in the task and examined the turtle carefully to decide exactly which words were appropriate. They discussed their observations and reached mutual decisions about the descriptors they used. In another instance Zeke and Thomas were asked to dictate lists of favorite things to do. Neither boy had produced any text writing before this and both had expressed insecurity about writing. Thomas dictated 12 statements. Two statements were complete sentences and the remainder were one, two or three word phrases. Zeke dictated six sentences and five phrases of two or three words. Only four of the statements produced by the boys were duplicated. The boys talked to each other about their choices of favorite things to do and oral language transactions was believed to increase the amount of written language produced by these kindergarten students.

Individually dictated stories also gave evidence of language transactions. Lucas, Ricia, Demica, David, Brandon and Marcus read their dictated sentences aloud from the computer screen as the researcher typed them. They called attention to typing errors and informed the researcher if she
typed a period before they had finished a sentence. All of the students altered the form of their speech when they dictated. They recognized the difference between social speech and written language.

The content of language experience stories varied. Some of the children imitated the story form with which they were familiar. Warrick, Marcus, and Demica each started their stories with "Once upon a time...". Sara adopted familiar themes with stories titled "The Wizard of Oz" and "Ghostbusters". Brandon (primary class) and Chris (kindergarten class) each dictated unrelated sentences. As they dictated, each sentence seemed to bring to mind the next sentence. Ricia dictated an original story about a witch. She used complete sentences and her story demonstrated a theme and sequence of ideas. David incorporated features from a story, which he had read earlier that day in the oral reading group, into a story about he and his friends.

Each child was given a copy of his story and asked to read it to the researcher. Primary students read the stories immediately following dictation and two weeks later with few errors. Kindergarten students, with the exception of Warrick, replied they could not read. With encouragement, Zeke, Joshua, and Joe read their stories with few errors. Ali did not respond and Chris read incorrectly with no attention to the page.
Students demonstrated knowledge of written language structure when they dictated language experience stories. The quantity and quality of written language produced increased when the student controlled the context and the researcher did the mechanical writing. Students in this study demonstrated that they understood written language structure, but they were not able to implement the structure independently.

**Meta-Linguistic Knowledge About Written Language**

Through structured and unstructured interviews the researcher sought demonstrations of meta-linguistic knowledge. In the early childhood classroom, students did not respond to efforts to elicit speech about what they were doing. John turned his back on the researcher when she commented "John is writing. I wonder what he has written". In the dramatic play center, Lynn dialed a number on the telephone and picked up the earpiece. Lynn stared blankly without speaking when the researcher said, "I wonder who Lynn is calling." After several such instances, the researcher asked the teacher if she had observed student talk among peers or to the teacher about what they were doing. She replied that she had not observed the students talking about what they were doing at any time.

Kindergarten students were willing to respond to the researcher's questions, but their responses indicated
incomplete concepts about print. They were asked "What is a word?" Two students shrugged their shoulders and made no verbal response. Three responded by naming words from their list of sight words. One student said "This" and pointed to a word on the bulletin board. Another student responded by saying letter names (TDPB) and one said "A word is a letter". William gave the only answer that referred to a word as part of speech, "talk - when people make noise".

The same group was asked to identify samples of writing, print and numbers. More students identified numbers and writing, than print. They confused print and writing. One student said "print is cursive writing". The same group of students could recognize several words in print and could write individual manuscript letters.

Primary students responses to "What is a word included the following:

Scott: "Something from the ABC's. You can put them together and mix them up. You can try some letters. Change some around. See if you have a word."

Demica: "A word is just a word - like when you read - like when they give out the words to you."

Melanie: "A word is something you spell."

Chris: "Something you can use when you have something to say."
When the same students were asked to define a sentence they responded "More words put together", "Lots of words", and "I don't know". When they were asked to show the researcher a sentence only one correctly identified the beginning and end of the sentence. All others indicated a single line of print.

Students demonstrated varying abilities to use oral language to define print. Most of them could not use oral language to define words, sentences, or paragraphs, but many of them demonstrated linguistic knowledge as they interacted with print.

**Application of Written Language Structure**

**Reading.** Children observed in the early childhood classroom read pictures and viewed the print as holistic expressions of what the picture said. Jason D. was observed holding a book in front of him and reading it to the group. He held the book upside down so that when he looked down at the pictures they were right side up. He told about the pictures repeating the teacher's language. "The elephant swings his trunk back and forth, back and forth." He demonstrated by swaying his body back and forth. Jason S. sat on the floor with a large book in front of him. He leaned over the book and examined the pictures closely. He did not look at the print. Jenny sat with a book in her lap. She turned the pages and ran her hands across the pictures as she looked at each one. She talked about the pictures as she
looked. "The baby cried and mama came and picked her up."
She did not look at the print on the page.

The kindergarten teacher reported that Warrick read many
books which had been read to him. He was observed reading on
three different occasions. Although he skipped words
occasionally, Warrick read with accuracy. In an unstructured
interview, the teacher reported that Warrick was able to read
on a fourth grade level according to achievement tests. When
questioned about individual letters or letter sounds, Warrick
recognized all the letters by name but did not know short
vowel sounds or many consonant sounds. He read words
holistically and by applying context clues. Even though
Warrick had developed an exceptional ability to read, he did
not attend to the details of print when reading.

Zeke dictated a list of "favorite things to do" to the
researcher. His list consisted of 11 statements and filled a
page with large print. The researcher asked Zeke to read his
list. His eyes got big and he said, "I can't read all that."
She asked him to find the sentence that told about going
swimming. He ran his finger down the the left column of
print. The researcher asked, "What are you looking for?"
Zeke replied, "Swimming." The researcher printed "swimming"
for Zeke and he looked for the matching word. He scanned the
page holistically without attending to any single words and
did not find the statement "going swimming".
One kindergartener, Kelli, scribbled text on several instances and read it to me. Each time she read without looking at the scribbles she had made. Once, she wrote a "letter" to the researcher and asked that it be read to her. Missy, a first grader, wrote BIPWE and when asked what does this say?, replied "It says To my Daddy. I love him so very, very much!". Younger students looked at print as carrying a message and they did not attend to the finer details of the structure of print, rather they looked for the message.

Primary students, who were observed in oral reading groups, did not attend to structural differences between words like "that" and "what", "marked" and "marched", "sock" and "stick", or "bike" and "bake". As they read, the teacher continually redirected members of the group to the place on the page. When any of the primary readers encountered a word they did not know, they looked up at the teacher for help. She would direct them to look at the beginning sounds, the ending sounds and think about what the rest of the sentence said. Demica confused the beginning and ending sounds, Dale could not find the beginning of the word on the page, David could not say the separate or blended sounds for "floated", and Marcus was reminded numerous times to read past the unknown word to get additional context. Children attended to whole thoughts conveyed by the print as they read, but they could not use the details of print to help interpret the
message. Before and after instruction they did not attend to
the position of print on the page or to the unique details of
each word.

Writing. Prior to formal instruction students made
observations of written language structure in their
environment. Several observations demonstrated how they
applied what they knew to writing. John and Jenny attended
to the letters in their name and wrote them in correct order.
Lynn made small jagged scribbles across the page as though
she were writing on a line. Jason D. wrote his name with
letter-like marks in the upper right hand corner of his
painting, when the teacher's aide requested that he write his
name on his work.

Jason S. demonstrated that he knew the structure of
written language in the following sequence which occurred at
the art table.

Paige: "I'm through
Researcher: "Write your name on your paper."
Jason S.: "She can't."
Researcher: "How do you know that?"
Jason S.: "Because I know."
(Paige made some scribble marks on her paper
looked at Jason S. and at me.)
Jason S: "See!" He pointed to what Paige had
scribbled. "There's Paige's name." He
pointed to her name on the floor in the
group language center.
Jason S. applied what he knew from reading Paige's name in the environment and judged the scribbles which Paige made. Paige demonstrated that she understood the act of name writing even though she was unable to produce anything other than a scribble.

Kindergarten students received instruction in manuscript writing and many of them had learned to produce quite a few letters (See Table 8 above). The teacher demonstrated precise written structure of letters. When students practiced manuscript writing, she gave them models to trace. Some of the students reflected expectations of precise structure. For example, when Larry and Ennis arranged magnetic letters in alphabetic sequence, they discussed the difference between b and d. Larry said, "I know it turns this way because there is a b in my brother's name. In the structured interview the teacher indicated that although most students were able to produce correct formation of letters with direction, they did not do so independently. A practice folder was maintained for each student with worksheets for practicing writing their names, abc sequence, and numbers. Students often traced their names on the top line and then wrote them incorrectly on the line below (See Figure 4 on page 86).

Those who were most knowledgeable about correct letter formation avoided writing. Zeke was the only student who wrote random words in the art/writing center and he
Figure 4. Ali practices writing his name. Ali traced his name correctly, but he skipped letters and copied out of sequence on the line below. The numerals indicate the order in which he wrote the letters.
demonstrated meta-linguistic knowledge, but he became visibly upset when the researcher requested him to write individual letters. Zeke was aware of the precise structure of letters, and he was not sure that he could reproduce it.

Joshua demonstrated an awareness that written language is different from oral language. Prior to initiating a language experience story, the researcher talked extensively with Joshua. He was excited about opening the swimming pool in his backyard the previous weekend and told about removing the cover. When the researcher suggested "Let's write a story about opening the swimming pool", Joshua agreed but his speech was no longer spontaneous. He monitored his speech, shortened his sentences and carefully sequenced his words. He watched the researcher write and waited for her to finish before he dictated the next sentence.

When the researcher requested that students write a note to their mother, 5 out of 12 replied "I can't." Others demonstrated varying applications of written language structure. Johnny wrote the word "Cat" and when asked to read what he had written, he said, "I want my mama to bring my cat to school." Heather and Tony wrote random letters across the first line. Chris, Kelli, and Johnetta scribbled across the page and used oral language to give meaning to what they had written. Students demonstrated that they knew where to begin writing a note, even when they did not print.
Ali directly applied the environment to his knowledge of written language structure. In conversation prior to beginning a language experience story, Ali told the researcher about picking berries. The researcher suggested that Ali dictate a story about picking berries. She wrote "Ali picked berries" and the following sequence occurred.

Researcher: "Tell me more about picking berries."
Ali: "Milk."
Researcher: "You had milk with the berries."
(He nodded and the researcher wrote "Milk.")
Ali: "Car, Blazer, Tires."
Researcher: "Oh, you went in the car to pick the berries."
Ali: "No! Car, Blazer, tires!"
Researcher: "Oh you must have a blazer."
Ali nodded, so the researcher wrote "Car, Blazer-"
Before anything else could be written Ali reached across the table and smeared the writing.
Ali: "No! Get that off, B spells Blazer."
Researcher: "You want me to know that B spells Blazer" and she wrote "B spells Blazer.
Ali: "B spells Blazer." He grabbed the paper away and began writing.

He first wrote an S, looked at it scribbled through it, and followed with BBVV. Then he repeated, "B spells
Blazer." He continued down the page writing B's and V's and then went back up to the top and wrote AR (his initials). In an unstructured interview with the teacher, she said that Ali's family had just purchased a new Blazer and that she recalled seeing a B and roman numeral V on the fender of the Blazer. Ali had observed the written structure of print in his environment and copied it precisely (See Figure 5 on page 90).

Kindergarten students used drawings to communicate. In one observation, Joe indicated that he viewed writing and drawing as like activities. When the researcher initiated a language experience story with Joe, he stated "I want to make a picture." The researcher gave Joe paper and said "Ok, make a picture first and then we will tell a story." When he had finished his drawing, the researcher continued, "Now you are ready to help me write a story." Joe looked up surprised and said "I just drawed it to you." On another occasion, Joe demonstrated written language structure when he imitated the writing practice worksheets by drawing the lines and writing his name between them on his paper (See Figure 6 on page 91).

Primary students also applied written language structure in varying degrees. As a group they demonstrated greater awareness of the preciseness of written language than younger students, but were not consistent in its application. When the third graders studied word problems in math, the teacher
A. R. picked berries.
Milk. Eat berries with milk. Car Blazer
B spells Blazer.

Figure 5. Ali spells Blazer. Ali was not satisfied with the researcher's spelling of Blazer. He took the paner and demonstrated the correct spelling which he had observed in his environment.
Figure 6. Joe's worksheet. The researcher asked Joe to write something. He drew "my worksheet".
demonstrated how to label the numbers by writing a model on the chalkboard. After repeated explanations, the students were unable to copy the model exactly as it was presented. Marcus (See Figure 7 on page 93) did not place the numbers correctly on the page. He did not align the label with the number. The size of his letters and numbers interfered with placement of the writing on the page.

Lucas constructed sentences on the computer. He correctly sequenced words to make sense, but he failed to use periods or capitals. When Sara wrote her reading mastery words on the chalkboard and when Ricia wrote her reading mastery words on the typewriter, they did not space between words. Each girl copied words in horizontal lines in run-on positions.

All of the primary students demonstrated awareness of precise spelling of words. At the writing center, when anyone asked the researcher how to spell a particular word, she replied "You may spell it any way you want" or "You may guess at it". This response caused frustration for several students. Chris chose to change the word, rather than guessing. Demica said "No. How do you really spell it." Scott said, "But then it won't be right." When David asked how to spell Pizza and received the same response, he looked at the researcher and said "l-a-c-k?" with raised eyebrows. When the researcher shrugged without responding orally, he wrote Pezz.
Figure 7. Marcus labels word problems. Marcus could not fit the labels for the numbers in his word problem into the space available.

Mrs. Sing puts 38 big in one box.

and 51 little in another box. In all, how many are there?

If there are 12, in one box, how many are there in both boxes?

If they have in all 35, in their store, how many boxes of fruit did they put in all?

Mr. and Mrs. Sing had 15 boxes of apples and 20 boxes of bananas in
Some students demonstrated that they understood word parts. Lucas and Scott used speech to test their spelling. They repeated the words over several times trying to hear all the sounds. For example, when writing "Alabama", Lucas said, "Al (and wrote AL) uh uh uh (wrote a) bam (wrote bam) uh" and he wrote the last a. Scott wrote a note to his mother. He spelled mow and lawn by repeating the words to himself as he wrote moe and lone. Chris wrote "who r you" to say "who are you". Students invented spellings by attending to the word parts. Examples of spelling words by the way they sounded are illustrated in Figure 8 on page 95.

Demica, Melanie and Missy demonstrated awareness of the written language structure at school when they took turns dictating spelling tests. Demica copied the teacher by saying the word, making a sentence with it and saying the word again. When no one would play with her, Demica dictated the words to herself, wrote them and then graded her paper.

After formal instruction, children understand that formal language has a precise structure and they may recognize it when they see and apply it with teacher direction, but they appear to be limited in their ability to apply it independently.

Limitations in Language Development

The students observed in this study were aware of the structure of written language, but they did not apply that structure in their independent writings. They demonstrated
Mary makes a cake. First she gets the ingredients then she puts the stuff in a hole. Then she mixes the stuff. Then she bakes the cake. Then she cuts the cake. Then she writes it out and puts it on the table.

Figure 8. Examples of Primary student's spelling. Some Primary students listened to the sounds of word parts and spelled words phonetically.
recognition of written language structure. Their dictated language experience stories were evidence that they understood sentence structure and the format of stories, but when asked to write text independently they struggled and expressed insecurity. The researcher speculated about possible explanations for this contradiction and drew conclusions about the limitations of handicapping conditions.

First, the data did not demonstrate an identifiable difference between the handicapping conditions. Those who were labeled mentally retarded were as likely to perform as well (sometimes worse, sometimes better) as those labeled emotionally disturbed or learning disabled. For example, Marcus, who was labeled mentally retarded, performed in much the same way as David and Dale, who were labeled learning disabled. Demica (mentally retarded) demonstrated more written language than Missy (learning disabled) and John (mentally retarded) was the most advanced student in the early childhood class.

Observations gave evidence of individual differences more than differences by handicapping condition. Paige and Jason S. were within three months of each other's age and both were visually handicapped. There was however, a remarkable difference in their language development. Jason S. had understandable speech; Paige could only be understood by those who knew her well. Ali, Chris, Joe and Johnetta
each were labeled emotionally disturbed but their abilities were very different. Ali and Joe interpreted print according to its environment, but Ali demonstrated immature oral language (he used incomplete sentence structure) and Joe's oral language was semantically correct. Chris and Johnetta demonstrated disordered oral speech and their written language was limited to writing some of the letters from their name.

One possible explanation that emerged from the data was the influence of oral language upon literacy skills. Observed oral language and written language participations are compared on Tables 9 and 10 on pages 98 and 99. In the early childhood classroom, children whose speech was unintelligible (Brandon and Paige) were not observed participating in any written language events other than scribbling. John was shy and did not respond with oral language when approached, but he had intelligible speech and participated with oral language at group language time. Jason D. used social speech to interact with teachers and responded appropriately when approached by the researcher, however he did not have the motor skills to control writing instruments. Lynn did not respond to the researcher, but she did interact with the teacher. Her use of written language was limited to scribbles and a few letter like marks. Jason S. and Jenny participated in the greatest number of written language events. Jenny talked with the teachers and the researcher,
but did not use oral language to socially interact with peers. Jason S. socially interacted with peers and teachers.

Table 9
A Comparison of the Oral and Written Language Demonstrated by Early Childhood Students

<table>
<thead>
<tr>
<th>Talks Little</th>
<th>Talks Little</th>
<th>Talkative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot Under-</td>
<td>Understandable</td>
<td>Understandable</td>
</tr>
<tr>
<td>stand speech</td>
<td>Speech</td>
<td>Speech</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scribbles</th>
<th>Jason D.(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paige(1)</td>
<td>Lynn(1)</td>
</tr>
<tr>
<td></td>
<td>Jason S.(5)</td>
</tr>
<tr>
<td></td>
<td>Jenny(2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Writes Letters</th>
<th>Jason S.(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jenny(1)</td>
</tr>
<tr>
<td>John(1)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Writes Words</th>
<th>John(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jason S.(2)</td>
</tr>
<tr>
<td></td>
<td>Jenny(1)</td>
</tr>
</tbody>
</table>

Note. The number of writing events observed throughout this study are in parentheses.

Kindergarten students were verbal and there were no instances of unintelligible speech. There were however three students whose oral speech was disordered or immature. Ali used one, two, or three word statements. His speech consisted primarily of nouns and verbs. Chris talked non-stop. He used complete sentences, but he was distracted and his sentences did not relate to one another. Johnetta's observed speech was disordered. She talked to herself and the content of her
Table 10
A Comparison of the Oral and Written Language Demonstrated by Kindergarten Resource Students

<table>
<thead>
<tr>
<th>Talks Little Understandable Speech</th>
<th>Talkative Understandable Speech</th>
<th>Disordered Speech</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scribbles</td>
<td>Johnny (1)</td>
<td>Chris (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kelli (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Johnnetta (1)</td>
</tr>
<tr>
<td>Writes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numbers</td>
<td>Elvis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ennis</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Heather</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Joe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Johnnetta (1)</td>
</tr>
<tr>
<td>Johnny (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joshua</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patrick</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thomas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tony</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Warrick</td>
</tr>
<tr>
<td></td>
<td></td>
<td>William</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zeke (3)</td>
</tr>
<tr>
<td>Writes</td>
<td>Johnny</td>
<td>Zeke (1)</td>
</tr>
<tr>
<td>Words - Other than Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reads</td>
<td>Johnny</td>
<td>Zeke</td>
</tr>
<tr>
<td>words - Other than Name</td>
<td></td>
<td>Warrick</td>
</tr>
</tbody>
</table>

Note. The number of writing events observed in this study are included in the parentheses. Students who produced writing in the structured interview are included even though they did not demonstrate writing in the classroom setting.
speech was not relevant to the situation. The remaining students were either talkative or shy with understandable speech. There were more students observed participating in written language events who were talkative. Those who talked little performed written language tasks when directed to do so, but did not initiate events as often as the former group. Kindergarten students appear to be in transition between early childhood and formal instruction. They were beginning to write decontextualized print that is needed for school context, and those who were aware of the precise structure of written language were reluctant to initiate written language events. Those with less knowledge were willing to experiment, whereas those with more knowledge were not.

Primary students demonstrated a greater deal of frustration with the mechanics of writing. Their written products gave evidence to spatial and directional confusion, incorrect letter formation, and insecurity demonstrated by the number of erasures. Figures 9, 10, and 11 on page 101 are typical of written products. Primary students appear to be limited in written language production by fine motor control, distractibility, and inability to sequence a task.

When Brandon, Marcus and David came to the writing center three types of behaviors which may interfere with completing school tasks were observed. Brandon changed tasks frequently and did not finish any project. David did not initiate tasks but watched and copied what others were doing. Marcus changed
Figure 9. Demica writes sentences. "I went with my mother."
"I ate all the cookies."

Figure 10. Scott writes sentences. "I ate all the cookies up."
"May is today."

Figure 11. Melanie writes sentences. "Run away to me."
"up the hill to."
tasks frequently and within a few minutes of arriving had a stack of scattered papers. The papers spread over into the other boys territory and they pushed them back to Marcus. Marcus continued to work without stopping to put the papers in order. These boys did not impose order over what they did.

Examples of writing from the primary classroom show large letters which do not fit into the lines and spaces on the page. Observations of children forming the letters indicated that students are confused about where to place their pencil on the line when they write and which directions to move the writing instrument. See Figures 12, and 13 on page 103 for examples of writing which demonstrated directional confusion and poor fine motor control.

When copying words, all of the primary students frequently miscopied words and letters within words. They copied letters out of sequence, added or omitted letters and words. In language experience activities, students filled in missing words as they read. Demica wrote "The with her mother." She read "The girl went with her mother." David wrote "...and her name browneyes" and read it as "and her fawn's name was Browneyes".

Students did not attend visually to the content and sequence of print. This lack of attention to written language structure was discussed in an earlier section. The inability to focus attention on relevant features of print is not within itself a handicapping condition. Yet, students, with every
Figure 12. Scott writes sentences. "Sam has a red car." and "Bill plays ball with Jill."

Figure 13. Chris writes sentences. "I ran to you."
handicapping condition observed, demonstrated an inability
to focus attention on relevant features of print.

Students across ages and handicapping conditions did not demonstrate common limitations caused by their handicapping conditions. Limitations were demonstrated on an individual basis rather than according to age or handicapping condition. Students who did not demonstrate proficient oral language demonstrated less written language. There was evidence that many students did not focus visual attention to the relevant features of print. Also, many students struggled with the mechanical task of writing. They were confused about direction and form and failed to attend to the sequence of letters within words. Other behaviors which interfered with written language interpretation and production was a lack of organization and ability to sequence the parts of a task.

Transactions Between Language Systems

Children included in this study demonstrated language transactions by using self talk, describing and labeling their art work and unconventional script with oral language, orally planning their written products, and using oral language to monitor written language. The quality and quantity of oral language transactions observed varied among the individual children. Differences were observed across the age groups, but there were no demonstrations of differences between handicapping conditions.
Self Talk

Early childhood students, Jason S. and Jenny, demonstrated use of self talk on several occasions. Jenny used self talk to describe what she did in the dramatic play center. Jenny rearranged figures on the flannel board and was observed talking to herself as she worked. "Put the pig in the bed." In the dramatic play center Jenny used self talk to describe her play with zoo animals.

"Get up here and eat this leaves off the tree."

"Elephant gets in the water."

"Hippo get me."

Jenny further used self-talk to describe her written products. She traced shapes with a stencil and said "Make yellow circle. Red triangle. Blue rectangle." She drew circles and horizontal lines on manilla art paper when she said "O T O C". On two different occasions, she made vertical lines and dots with markers and paints and each time she use self talk to give meaning to her drawings.

"A red dot by number one."

"I'm painting dots. Yellow dots."

"Make black dots on the red color."

"A yellow one."

When Jenny described her actions she did not indicate that she was directing her speech to any other person. She continued to look at her art work and to concentrate on the action involved.
Jason S. talked to himself when he explored with water color paints. He rinsed the brush in the water and said "O-o-o water is all color." Jason S. drew circles and horizontal lines and said "Make some numbers." Jason S. also used self talk playfully when he helped pick up the plastic fruits in the home center. "An orange, an orange, a good ole orange."

**Labeling and Describing**

Students in all three groups used oral language to describe and give meaning to their drawings and scribbles. Further, they interacted with others and used oral language to call attention to what they were doing. Jason S. used talk to describe his actions and to interact with the teacher about what he was doing. When he stacked blocks to make a stool he said, "Look what I made." When he cut odd shapes from art paper he said, "Look here all cut shape" and "Look, now Look what I do." He drew a line across the paper and cut on the line. "Look, here is the big line." Paige called "Look, Nonny, Look" to any adult who stopped to observe her scribbles.

Some examples of oral language descriptions from the kindergarten classroom follow.

Chris: "I made a dinosaur. I went down and then up. I made a dot. A eye."

Patrick: "Look, I made a scarey monkey."

Kelli: "I'm writing letters I know."

Kelli: "I made my new letter person, Mr. P."
Observations from the primary resource classroom also demonstrated how children give meaning to their drawings and described their written products.

Melanie: "That says Annie."
Dale: "See, I made a car."
David J. "That's my brother's name."
Scott told a story about his drawing. "This man's getting his car fixed up and his wheel broke."
Brandon drew a rocket and discussed the recent shuttle accident. "You know what that rocket booster was? It was the one that blew up. I saw it on TV. Did you?"

Evidence of Planning

In the early childhood classroom, students asked permission to paint or draw. Otherwise they gave no evidence of giving thought to or planning their written products. Their use of materials was more exploratory than purposeful. Observations in the kindergarten classroom indicated an increase in planning and thoughts about written work. Johnny planned as he drew. "I'm going to make a moon. What color is the moon. I don't know how to make a tree. How do you make a tree?"

announced "I'm going to write a book", as he took a stack of art paper and began drawing.

Primary students gave evidence of thought and planning in many of the same ways.

Melanie: I'm drawing something."
Scott: I'm going to make me a heart and cut it out."
David H.: "I'm drawing me a truck."
Missy: "I'm going to color all over."

**Using Oral Language to Monitor Written Language.**

Students used oral language to monitor their written language by attending to sounds of letters and word parts and by reading what they had written. Only one observation from the early childhood classroom gave evidence of monitoring written language. This instance, described earlier, occurred when Jason S. pointed out that Paige's scribbled name was not correct. Kindergarten and primary students, however, demonstrated the use of oral language to monitor written language on several occasions.

Kindergarten students who most successfully wrote the alphabet in sequence used the ABC song to monitor what they wrote. When Larry, Ennis, and Joshua arranged magnetic letters in sequence they referred to the ABC song to recall the sequence. Warrick dictated the first sentence of his language experience story, "Once upon a time there were three bears standing on the pond sitting down." The researcher was not sure that she had heard him correctly, so after writing
this down, she read it back to him. Warrick listened intently and said "Yeah!" with a grin on his face. It appeared that the oral language reading of his sentence pleased Warrick.

Some primary students used oral reading to check what they had written. Lucas wrote sentences at the computer and as he finished each one he read it orally. David J. wrote "I can you", read it orally and said "I messed up". Other primary students failed to demonstrate language transaction when they read what they had written. A summary written by David H. was discussed earlier. David's written summary was incomplete, but as he read he inserted words to complete the thoughts. When David read the summary orally, he gave no indication that the written version was different from the oral version.

Even though students received instruction in phonetic analysis of words, they seldom applied phonic knowledge to monitor their spelling. Lucas and Scott were the only students observed who orally sounded out words as they spelled them.

Summary

Analysis of the data yielded descriptions of language and literacy development of young mildly handicapped children. From the analysis the following general conclusions were drawn in response to the initial research questions. The quantity and quality of literacy events varied across ages and across handicapping conditions. However, when given the opportunity,
young handicapped children of all ages initiated practice of drawing, writing, and reading, and explored with materials to gain mastery over mechanical skills necessary to perform literacy tasks. There was evidence that young handicapped children constructed language/literacy knowledge, but handicapping conditions interfered with and limited the transactions necessary for knowledge construction. Literacy knowledge changed as children grew and experienced formal instruction, but demonstrations of literacy knowledge were incomplete across all ages. For example, children recognized that written language had a precise structure which must be understood, however, handicapped students did not attend or respond to the details of that structure. They were confused about the spatial orientation of print on the page, and they were unable to consistently produce or recognize the written symbols necessary for written communication. Most of the children studied did not use print as a tool for communication and as they were exposed to formal instruction they tended to avoid print. They did not initiate use of decontextualized print in playful, or task oriented, ways. Children tended to apply context from their personal environments to interpret printed text. At all ages children demonstrated oral/written language transactions, but preschoolers were limited in their use of oral language. Oral language transactions increased as students matured and became more proficient with oral
language, but all students demonstrated an insecurity with written language and many remained insecure with oral language use.
CHAPTER IV

DISCUSSION

Literacy knowledge is a primary concern of professionals who work with handicapped learners. Current theories of literacy development were derived from studies of non-handicapped learners, therefore, the present study was designed to examine and describe the literacy knowledge of handicapped learners. The results of this study have described the extent and quality of prior knowledge, transactional nature, and social context of literacy knowledge demonstrated by young handicapped learners.

Application of Current Research in Literacy

The results of this study indicated that children included in this study demonstrate literacy behaviors more like those of non-handicapped populations than different. Although there were demonstrations of individual qualitative differences, as a group the literacy behaviors observed were representative of current research. The kinds of literacy events were similar to those described in studies of non-handicapped children and were representative of the sequence described. The ways in which literacy behaviors observed in this study were alike and unlike those currently described in studies of non-handicapped children follows.
Prior Literacy Knowledge

Previous studies have shown that young children demonstrate knowledge of reading and writing prior to formal instruction (Bissex, 1980; Clay, 1975; Durkin, 1966; Dyson, 1982; Ferreiro & Teberosky, 1982; Goodman, 1980; Harste, Burke & Woodward, 1983; Holdaway, 1979). Descriptions of prior knowledge included reading environmental print and the application of written language structure to unconventional script. The present study found that handicapped children also demonstrated literacy knowledge prior to formal instruction.

Young children in this study read print from their environment. Examples of reading environmental print included reading labels of grocery items, commercial signs, prices on labels, and calendars. They applied knowledge from prior experiences to interpret the print they observed in their environment. They expected print to be meaningful and were confused when the print message didn't fit their interpretation of the environment.

Children in this study used unconventional script to communicate with written language prior to formal instruction. They observed the structure of written language in their environment and imitated that structure in writing events. They demonstrated knowledge of the structure of written language when they scribbled their names in the top right hand corner of their art papers, when they scribbled
stories, notes and letters, and when they attempted to draw letters.

There were no observed differences between handicapping conditions in the demonstrations of prior knowledge. In the early childhood classroom, the four children who participated in the greatest number of writing events included two mentally retarded children, one learning disabled child, and one visually handicapped child. Also in this study, chronological age differences did not appear to explain differences in the quantity or quality of literacy events demonstrated prior to instruction. The general language development of the children in this study was not measured, but it was demonstrated that those children who were talkative participated in more literacy events prior to instruction.

Transactions Between Language Systems

Recent research has demonstrated correlations between oral and written language systems (Chomsky, 1971; Dyson, 1983; Harste et al., 1984; Reid & Hresko, 1980; Smith, 1980; Snow, 1983; Teale, 1982; Vygotsky, 1962). Transactions between language systems both enrich and increase language production in each of the systems. As children grow and participate in their environment the quantity and quality of language transactions become increasingly complex. Children who demonstrate great proficiency in one language system are more likely to demonstrate greater proficiency in others.
The importance of language transactions was demonstrated by this study.

Demonstrations of language transactions varied among the students included in this study. Younger children demonstrated thinking behavior by using self-talk as they participated in literacy events and older children's thoughts were expressed as statements of their plans. Students in all three age groups used oral language to describe and give meaning to their drawings. Further they used oral language to call attention to their products. Kindergarten students used the oral language of song to help them recall alphabet sequence and some students used oral language to monitor their writing. Some of the students who dictated language experience stories monitored what the researcher typed into the computer by reading aloud as the researcher typed and made corrections and additions. Many students, however, did not demonstrate the use of language transactions to monitor their reading or writing. They did not attend to what they read, or to what they had written and they were not aware of errors as they made them.

The Social Context of Language

Language develops within a social context. Through social interactions with the environment children construct language knowledge. The language development process has been described as a continuous, and progressive interaction within the child's language environment (Halliday, 1975).
Language does not develop apart from the child's environment but through the child's social interactions with his environment (Harste et al., 1984).

The role of social context in the language development of the children in this study varied. In the early childhood classroom those children who interacted socially with the environment and with persons in the environment participated in a greater number of literacy events. Younger children were dependent upon the environment to interpret print in their environment, yet most of the children observed in the early childhood classroom were passive participants in their environment. Older children demonstrated confusion when the clues in the environment did not explain decontextualized print. Observations of kindergarten and primary children gave evidence that after formal instruction children's involvement in the process of becoming literate decreased. Overwhelmed by the complexity and the abstract features of print, children withdrew from events which offered opportunity for literacy knowledge development.

The social context of the school environment observed was decontextualized. The activities were teacher directed and were taken out of meaningful context. Children were drilled with manuscript letter writing, word naming and spelling. When print was presented in school context, its context was an unfamiliar one. Children responded to the school context by becoming passive learners.
Language experience tasks gave children an opportunity to read and write in a familiar context. When dictating language experience stories, students introduced their personal contexts into the writing event. The content of language experience stories reflected social contexts with which students were familiar. The quantity and quality of written language was greater in language experience stories which children dictated than in other teacher or student directed literacy events. The presence of a familiar social context enhanced language production.

**Differences Between Handicapped and Non-Handicapped**

As the results of this study were surveyed the researcher looked for evidence of likenesses and differences between handicapped learners and non-handicapped learners. At the present time handicapped learners are separated for specialized instruction in public schools. It is believed that their needs are greater as well as different from non-handicapped learners. Therefore, it is important that the type and quality of differences in literacy learning be examined.

The observations in this study indicated that younger students demonstrated literacy knowledge that was more like that of non-handicapped learners than different. Prior to formal instruction, these students demonstrated the same types of literacy knowledge which have been described in studies of non-handicapped learners. The primary difference
observed before instruction was the quantity and quality of oral language transactions in literacy events. Those handicapped students who demonstrated more instances of oral language interactions participated in more literacy events.

After formal instruction handicapped students demonstrated greater differences among themselves and the quality of their participation in literacy events decreased. Based on the results of this study, the conclusion was drawn that differences between the handicapped students in this study and non-handicapped learners occurs at the point when decontextualized print is introduced. Students begin the evolving process of defining the finer features of print as they encounter it in a social context, but after formal instruction they are expected to interpret and produce print out of context. When familiar contexts are removed from print, the process of literacy development is interrupted. Students are forced to focus on abstract parts of print rather than meaningful wholes. While this method seems to work for many non-handicapped learners, observations in this study indicated that these children did not effectively interpret and reproduce print out of context.

Limitations of this Study

The conclusions drawn in this study are limited to the settings and subjects observed. Ethnographic research describes an intact culture and does not seek to generalize across cultures. The culture described in the present study
was the language and literacy behaviors of mildly handicapped students in three specific classroom settings. While many of the observations may be generalizable, further research would be needed to define the generalizations.

The results of this study were further limited in that language and literacy development of these children was not observed in other settings (such as home) and that other than language experience tasks and structured interviews the literacy events observed were those that occurred naturally in the classroom environment. The limits of literacy knowledge among the children studied were not tested.

Additionally the implications of this study are limited by the research design. Establishing the reliability of ethnographic design is complicated by the nature of the research process which is personalistic and reflects the impressions of the researcher (Bogdan & Bilkin, 1982; LeCompte & Goetz, 1982). Reliability can be increased however, by the inclusion of explicit descriptions of the procedures used by the researcher to collect and analyze data. This study has described in detail the procedures employed and the role of the researcher as participant observer. The validity of ethnographic research also is increased by the inclusion of explicit descriptions and a variety of information sources (LeCompte & Goetz, 1984). The results of this study included explicit narrative descriptions and illustrations taken from multiple sources of data.
The view presented in this study is the view of the researcher, and although the data was checked across several sources, implications which were drawn from the data are those of the researcher. While ethnographic research cannot be exactly replicated in its entirety, the methods can be replicated at different sites and increase the generalizations of findings across cultures.

Implications from this Study

This study provides descriptions of literacy behaviors observed in an undisturbed classroom setting. The environment was not manipulated for the purposes of research. Rather, the classroom setting and the kinds of events which naturally occur there contributed to the interpretation of student behaviors. The application of qualitative methods have not been common for research in the field of special education. However, this study has shown that qualitative descriptions of the learning behaviors of handicapped children are valuable. The results of this study provide descriptions which are relevant to the development of constructs which may broaden current theories of literacy learning among handicapped and non-handicapped children. It provides implications for assessment and instruction of young educationally handicapped children. Also there are implications for future research.
Implications for Assessment and Instruction of Young Educationally Handicapped Students.

The results of this study indicate that young educationally handicapped students know more about literacy than educators have traditionally assumed. Several implications are listed below that address how educators might assess the extent of literacy knowledge and through appropriate instruction expand handicapped children's applications of written language.

(a) Teachers of young children must develop diagnostic teaching strategies which provide continuing assessments of how children approach learning tasks. The strategies which children use and how they develop them is more important than correct answers. Educators need to know how children go about learning.

(b) Diagnostic assessments must be based on observations of children's behaviors in a variety of settings. The student may demonstrate literacy in one setting and not in another.

(c) Teachers of young children must bring the child's world into the classroom. This study, as well as others conducted with non-handicapped children, has demonstrated that children find the task of reading and writing easier if it occurs in a familiar context.

(d) Beginning reading and writing experiences must be student directed. This study demonstrated that children
remain active learners as long as they have control over the content of their experiences. Teacher's may initiate appropriate experiences, but student's must control the content.

(e) Oral and written language transactions must be encouraged if children are to become readers and writers. Children need oral vocabularies to describe what they are doing when they read and write.

**Implications for Further Research**

Major findings of this study were: (a) The children studied demonstrated prior literacy knowledge, but were limited by inadequate oral language development, (b) Demonstrations of language transactions were varied and instances of language transactions decreased after formal instruction, and (c) the presence or absence of a familiar social context influenced the quantity and quality of written language produced. These findings are important because they relate current research in literacy to the literacy development of handicapped learners.

Further research is needed to define the extent and limits of prior literacy knowledge. Studies of non-handicapped learners have shown that more literacy events are generated by the home environment than by school environments (Schickedanz & Sullivan, 1984), and it has also been shown that the quality of parent-child interactions influence literacy growth (Snow, 1982). Research of prior literacy knowledge is needed in a variety of settings where
young handicapped children might interact with the environment and persons in the environment in different ways.

The role of oral language interactions in the initiation of and participation in language and literacy events needs further description. The children in this study were limited by inadequate language development. Other sites and subjects need to be observed to determine the importance of oral language in the development of literacy.

The differences among children in the quantity and quality of language transactions was not fully explained in this study. The researcher speculated that the lack of language transactions was due to inadequate or delayed oral language development, to the cognitive deficits of the children studied, or to the nature of school contexts. The data did not fully support any of these explanations. Further study is needed to define the role of language development, cognitive abilities and school contexts in the demonstration of language transactions. Language transactions need to be examined in a variety of settings to define the variables which demonstrate the presence or absence of transactions.

The role of social context offers possibilities for enhancing children's participation in literacy events. Research in a variety of settings is needed to describe the quantity and quality of interactions demonstrated by handicapped children with their environment. Further studies
are needed to describe when and how children become passive in the learning process.

Descriptions of the literacy behaviors of handicapped children need to be qualitatively, as well as quantitatively, compared with descriptions of non-handicapped children's literacy behaviors. Also qualitative descriptions of children with various handicapping conditions need to be compared. The resulting comparisons from such studies would help professionals define the likenesses and differences among children and to plan appropriately to meet the needs of special populations.

Finally this study has demonstrated the need for further qualitative studies of handicapped children. Descriptive studies are needed to generate theories and hypotheses. Before further assumptions are made about how children with various handicapping conditions learn and become literate, qualitative research is needed to provide explicit descriptions of the learning behaviors of large numbers of handicapped children in a variety of settings.
Appendix A

Definitions

**Context.** In this study context refers to those factors which make up and surround the setting in which an observed event occurs.

**Contextualized print.** Print which reflects the context in which it occurs is contextualized print.

**Decontextualized print.** Print which has been removed from a context or print that does not reflect any particular context.

**Early Childhood Classroom for the Handicapped.** School districts in Texas are required to serve students between the ages of three and twenty-one years who meet the eligibility requirements for a handicapping condition. Early childhood classrooms serve those children who are between the ages of five and eight in a self contained setting.

**Emotionally Disturbed.** A student who has been evaluated by a licensed or certified psychologist or psychiatrist, or by a psychological associate under the supervision of a licensed or certified psychologist, and determined to be seriously emotionally disturbed, as defined in federal regulations and state law may receive special education services.
Federal law (P. L. 94-142) defines seriously emotionally disturbed as a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree, which adversely affects educational performance: (a) an inability to learn which cannot be explained by intellectual, sensory, or health factors; (b) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers; (c) inappropriate types of behavior or feelings under normal circumstances; (d) a general pervasive mood of unhappiness or depression; or (e) a tendency to develop physical symptoms or fears associated with personal or school problems. The term includes children who are schizophrenic. The term does not include children who are socially maladjusted, unless it is determined that they are seriously emotionally disturbed (Texas Education Agency, 1984).

**Language transaction.** The result of interactions between the language systems of reading, writing, talking, and thinking is a language transaction. The exchange of interactions between the systems impact upon each of the systems and the resulting transaction is an enhancement of the original interaction.

**Learning Disability.** Federal Law (P. L. 94-142) defines learning disabilities as a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write,
spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, or mental retardation, or emotional disturbance, or of environmental, cultural, or economic disadvantage.

In Texas, the condition is determined by a multidisciplinary assessment team who determines whether a severe discrepancy between achievement and intellectual ability exists (Texas Education Agency, 1984).

**Mentally Retarded.** A student who has been determined by a licensed or certified psychologist, a psychological associate, or an educational diagnostician to be functioning two or more standard deviations below the mean on individually administered scales of verbal ability, performance or nonverbal ability, existing concurrently with deficits in adaptive behavior (Texas Education Agency, 1984).

**Meta-linguistic knowledge.** The conscious reflection upon and analysis of the structure of oral and written language.

**Orthopedically Handicapped.** Orthopedically handicapped students are physically handicapped students who have been determined by a licensed physician to have a severe orthopedic impairment (Texas Education Agency, 1984).
Resource Classroom. A resource classroom provides special education instruction to children who meet the eligibility requirements for handicapping conditions. The resource classroom serves children for part of the school day to meet individual needs of students as determined by the local Admission, Review and Dismissal committee.

Self-Contained Classroom. A self-contained classroom provides special education instruction to students who meet the eligibility requirements for handicapping conditions. Students placed in the self-contained classroom may remain there all day or be mainstreamed into other settings for short periods during the day. The admission, review and dismissal committee determines the placement of handicapped students.

Speech Handicapped. A student who has been determined by a certified speech and hearing therapist to have a communication disorder such as stuttering, impaired articulation, a language impairment, or a voice impairment (Texas Education Agency, 1984).

Social context. The social interactions which occur within a setting make up the social context of that setting.

Visually Handicapped. A student who has been determined by a licensed ophthalmologist or optometrist to have no vision or to have a serious visual loss after correction (Texas Education Agency, 1984).
Appendix B

Structured Interviews

Early Childhood Teacher

1. Which of the children are able to identify all the names of their classmates?

2. Which of the children can write at least three letters in their names?

3. Which of the children recognize and can name any of the letters of the alphabet?

4. Which of the children can recognize and name at least five numbers?

5. Which children have demonstrated that they know the difference between numbers and letters?

6. How often do you observe the children interacting with each other socially?

7. How often do you observe children initiating a social language interactions with you or an aide?

8. Do the children ask adults to print for them?

9. Do the children ask for favorite stories to be read repeatedly?

10. Which children have memorized nursery rhymes?
Kindergarten Resource Classroom Teacher

1. How often do you observe students initiating a reading or writing event?

2. How often do students ask how to read or spell particular words?

3. How many of your students recognize, but can't write, letters of the alphabet?

4. How many of your students copy letters but cannot write them from memory?

5. How many of your students recognize the names of at least ten other people in their classrooms?

6. How often do your students choose games or toys that require knowledge of or matching of letters, words or numbers?

7. How often do students ask you to read a favorite story?

Primary Resource Classroom Teacher

1. Do your students have a more difficult time with reading or writing?

2. What do you believe is the greatest problem presented by the oral reading task?

3. What do you believe is the greatest problem presented by the writing task?
4. What strategies do you observe children trying when they need to read an unknown word?

5. What strategies do they use to spell unknown words?

6. Do your students read for enjoyment?

Student Structured Interview

1. Write your name.

2. Identify numbers, print, and cursive writing.

3. Write the alphabet.

4. Write a note to your mother.

5. Write five words that you know.

6. What is a word?

7. What is a sentence?

8. Why do people make lists?

9. Why do people write letters?

10. How many paragraphs are on this page? (They were shown a page of print from their reader.)
Appendix C

Category Codes for Field Notes

ADD  Student does not attend to order of task at hand
AR   Uses or seeks to use adult as a resource
AW   Student avoids writing
CC   Use of context clues to decode or comprehend
CLN  Student confuses letters and numbers
CP   Contextualized print is used
DCP  Use of decontextualized print
D/W  Student indicates that drawing communicates as does writing
EC   Use of environmental clues
EM   Student expects to mess up when writing
EP   Student reads or writes environmental print
INS  Student is insecure about using print
LL   Student's use of language is limited
LP   Student plays around with language
LR   Letter recognition (or lack of letter recognition)
MA   Meaningless activities
M/L  Student demonstrates motor/language transactions
MS   Mechanical skills interfere with writing of text.
MSS  Student attempts to make sense out of sense
MT   Student models teacher's use of language
OL   Oral language is used to define drawing or writing
Appendix C—Continued

P    Student plans before beginning written task
PH   Use or misuse of phonetic spelling to decode or encode words.
PR   Practice of known words/letters/other skills
RI   Researcher initiated event
SA   Student seeks adult approval
SDC  Student demonstrates spatial direction confusion for print
SI   Student initiated event
T    Evidence of transactions between language systems
TI   Teacher initiated event
VA   Visual attention to print
VM   Student visually miscalls words with no phonics application
WLS  Written language structure is focus of activity
WR   Word recognition activity
References


