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The purpose of this study was to examine current literacy instruction in
kindergarten classrooms and the relationship between these practices and kindergarten
student literacy outcomes. Quantitative measures of classroom practices and quantitative
child literacy outcomes were used to examine this relationship. Individual student
characteristics of gender, socioeconomic status, ethnicity, home language, and home
literacy environment were also considered in relationship to student literacy outcomes.

All of the kindergarten classrooms in one school district were included in the
study for a total of 18 kindergarten classrooms. Students were included in the study based
on written consent of the parents for a total of 204 kindergarten students. Multiple
Regression Analysis and Hierarchical Linear Modeling were used to consider whether or
not classroom practices and individual student characteristics were related to student
literacy outcomes.

Data analysis suggested that classroom instructional practices were not related to
student literacy outcomes. Student characteristics of socioeconomic status and home
literacy environment appeared to be the most significant predictors of student literacy
achievement.

LITERACY PRACTICES AND OUTCOMES IN

KINDERGARTEN CLASSROOMS

by

Sonia H. Michael

A Dissertation Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
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APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of

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CHAPTER I

INTRODUCTION

In the United States, kindergarten was originally conceptualized as a time for

children to develop literacy and social skills as well as to prepare for the transition to

formal schooling usually considered to begin with first grade (Morgan, 1999; Nelson,

2000; Sax, 2001).   Child centered activities were considered the norm with provisions

for play-based activities from which children could choose (Bracey, 2000; Sax, 2001).

Although these activities were not specifically related to literacy, they were expected to

promote literacy development, based on an emergent literacy perspective. More recently,

however, kindergarten has become much more skills-focused, utilizing seat-based

activities that employ paper and pencil tasks along with drill and practice exercises in

academic skill areas (Bracey, 2000; Morgan, 1999; Nelson, 2000; Nielsen, 1996; Plevyak

& Morris, 2002; Sax, 2001).

While the two approaches differ quite dramatically in method, there is no question

that children acquire literacy skills through each of the two approaches. The question is

whether one approach more efficiently accomplishes the goal of literacy development

than the other. For example, in a child-centered program an observer would see children

involved in choice activities such as reading a book to a stuffed animal, placing text in a

pocket chart which mirrors text from a book, and creating signs to describe and protect

their work in block center (Cunningham & Allington, 2003; McGee & Richgels, 2000). These types of activities are created by the children and tend to mirror the behaviors of literate adults, but are they more effective in creating literacy development in children than activities in a skills-focused program? In a skills-focused program, an observer would see children involved primarily in whole group, formal instruction that focuses on a set of skills. Worksheets are provided for children to copy words and circle beginning sounds, with all children completing the same tasks at the same time (Bracey, 2000; Bryant, Clifford, & Peisner, 1991; Morgan, 1999; Nelson, 2000; Nielsen, 1996; Plevyak & Morris, 2002; Sax, 2001). While these activities are undeniably literacy activities, do they create effective opportunities for children to develop into literate adults?

In contrast to the current skills-based focus, kindergarten was first conceptualized by Friedrich Froebel, and was truly considered a garden for children (Chung & Walsh, 2000). For Froebel, kindergarten was a place for children to learn and grow naturally through sensory experiences with tangible objects (Moore, 2002). Early childhood was considered a time of spiritual and character development, and as such a direct academic focus was considered inappropriate (Dombowski, 2001; Moore, 2002).

After it's beginning in the 1830's in Germany, kindergarten moved to the United States in the 1850's (Dombowski, 2001; Moore, 2002; Read, 2003). Kindergartens began to be housed in the public schools in the 1890's, and by the 1920's kindergarten classrooms were included in almost 10% of schools in the United States (Dombowski, 2001). Once kindergarten became established in the public schools, the child-centered focus so important in the Froebelian kindergartens of the 1800's began to receive

pressure to conform to the more academic curriculum typical of the primary grades in the public schools in the United States (Chung & Walsh, 2000; Dombkowski, 2001). This struggle between remaining true to the active learning approach first conceptualized for kindergarten and the more teacher directed approach characteristic of the primary grades has continued into the 21st century (Dombkowski, 2001).

In the skills-focused classroom, which is largely based on the behavioral view of how knowledge is gained, instructional methods are largely teacher directed with children spending large portions of time in whole group activities that consist of lecture, discussion, and board work (Bryant, Clifford, & Peisner, 1991; Charlesworth, 1998; Xue & Meisels, 2004). Workbooks and worksheet activities are the predominant form of student work with little emphasis on individualized instruction or child-chosen activities (Bryant, et al, 1991). Curricular areas are separate rather than integrated, and the emphasis is on keeping order through punishment for unacceptable behavior and extrinsic rewards for appropriate behavior (Charlesworth, 1998). Some presumed reasons for this teacher-directed trend in kindergarten include a belief that there are specific educational standards that children must achieve, as well as the push to prepare children for standardized testing which is presumed to measure whether or not children have indeed achieved these standards (Ediger, 1999; Plevyak & Morris, 2002). Although standardized tests are typically not administered until third grade, state and federal initiatives to have children ready to meet promotion guidelines, including acceptable standardized test scores, have pushed the urgency for high academic achievement into kindergarten (NC DPI, 2005). While standardized testing is required for accountability

purposes, it may not be an accurate method of promoting learning (Black, Harrison, Lee, Marshall, & William, 2004). Additionally, because of state and local mandates, many educators view assessment as a rigidly prescribed process that is externally imposed rather than as a complement to curriculum development (Niyogi, 1995).

As the push to achieve assessment-based academics continues, it is important to consider the effectiveness of such an approach on the development of young children. Does the focus on skill-based instruction increase the kindergarten-aged child's literacy knowledge and understanding? Is it necessary to use primarily teacher directed instruction in order to address literacy goals? It is the intent of this study to examine teaching practices in the in the two types of kindergarten classrooms to examine how these practices impact the literacy development of kindergarten students.

<div align="center">Rationale for the Study</div>

The rationale for this study is to determine which type of teaching practice in kindergarten has a more optimal effect on kindergarten children's literacy development. The development of literacy is a major focus in kindergarten with children in many kindergarten classrooms spending more time on literacy activities than other types of activities (Levine, 2002; Nolen, 2001). One explanation for this focus on literacy development in kindergarten is that this development has been determined to be an important prerequisite for school success (Vanderslice, 2004). Children who fall behind in reading ability tend to stay behind, with estimates that as many as 88% of children who are below grade level in reading at the end of first grade remain below grade level in reading through the end of the fourth grade (Bursuck, Munk, Nelson, & Curran, 2002).

Although many children come from homes that provide literacy experiences that prepare them for reading and writing, many others come to school without these experiences (Cunningham & Allington, 2003). For these children, kindergarten may be the place where they have their most significant experiences with literacy (Nolen, 2001), thus the way literacy is presented by the kindergarten teacher may have an enduring effect on its development (Thomas & Barksdale-Ladd, 1997). Children develop views of themselves as competent learners from adults and peers with whom they interact (Martello, 2004). One area that appears to be particularly related to self-esteem and positive attitudes toward school is literacy development. Thus, it is especially important for children to develop a productive outlook toward literacy early in their educational experience (Demoulin, 1996; Nolen, 2001; Sax, 2001). Literacy development has therefore been identified as a necessary concern in kindergarten (Burns, Griffin, & Snow, 1999; Cunningham & Allington, 2003).

Since the development of a positive attitude toward literacy is such an important part of kindergarten, appropriate literacy practices in kindergarten are a primary concern. Consequently, practices that encourage the optimal growth and development of young children in the area of literacy development must be considered. This study proposes to examine the practices being utilized in kindergarten classrooms and how these practices affect the literacy outcomes of kindergarten children.

Theoretical Framework for the Study

The development of literacy has been a point of interest since at least the beginning of the twentieth century (Razfar & Gutierrez, 2003). Two major views have

developed regarding literacy development: the reading readiness view and the emergent

literacy view (Clay, 1991; Gambrell & Mazzoni, 1999; Manning & Kamii, 2000;

Nielsen, 1996; Thomas & Barksdale-Ladd, 1997). The reading readiness view is largely

based in behaviorist psychology, predominant in the early twentieth century, while the

emergent literacy view has a basis in sociocultural theory, which gained recognition in

the mid-twentieth century (Gillen & Hall, 2003; Razfar & Gutierrez, 2003).

The reading readiness perspective is supported by the view that knowledge exists

outside the individual and can be transmitted to the individual by someone more

knowledgeable (Airasian & Walsh, 1997; Korat, 2001). This approach is largely based in

B.F. Skinner's behaviorist theory, which puts forth the idea that skills, including literacy

skills, can be broken down into small, manageable steps that can be taught in a scripted

and sequential manner and reinforced through a series of rewards and consequences

(Gillen & Hall, 2003). According to the behaviorist view, development is considered

sequential in nature and measurable by assessments that mirror the focus and format of

the instruction (Chung & Walsh, 2000).

Developmental psychology and the theory of Jean Piaget have also been

employed to support the reading readiness perspective. Piaget's theory suggests that

children move through stages of cognitive development as they act upon objects in their

environment (Ravanis & Bakakis, 1998). The child's mind becomes more complex and

capable as the child moves through the stages of development (Jacob, 1984; Ravanis &

Bakakis, 1998). While Piaget supported the notion that children construct their own

knowledge, which is in opposition to the behaviorist view of knowledge as something

that is transmitted from one person to another (Jacob, 1984; Williams, 1999), his theory may nonetheless be viewed as supportive of the assumption that children must achieve a specific stage of readiness before they can comprehend literacy tasks (Cairney, 2003; Razfar & Gutierrez, 2003).

The emergent literacy perspective, which began to gain prominence in the latter half of the twentieth century, developed out of socio-cultural theory (Razfar & Gutierrez, 2003). Socio-cultural theory is largely based on the work of Lev Vygotsky whose writings suggest that while learning is an active process, the social and cultural context of the learning opportunity influences the child's learning process (Fogarty, 1999; Lyle, 2000) with language being an important part of the construction of knowledge (Gillen, 2000; Lyle, 2000). Vygotsky emphasized the role of cultural symbol systems, such as language, in the development of higher psychological processes (Green & Gredler, 2002), and emphasized the role of the social environment in the child's development by stressing the context of interaction and the social and cultural meanings attached to the symbol systems utilized within a group (Tudge, 1990).

Teachers' beliefs regarding the development of literacy influence their literacy teaching practices, which in turn influences the way children perceive literacy (Nolen, 2001; Thomas & Barksdale-Ladd ,1997; Turner & Paris, 1995). A reading readiness perspective may result in more didactic instruction, while an emergent literacy perspective may lead to more interactive instruction, or co-construction between teacher and student (Larson, 1997; Nolen, 2001). This study will consider literacy development

within the framework of behaviorist, developmental, and socio-cultural theories and will attempt to examine the role each of these theories play in the development of literacy.

Statement of the Problem

This study will attempt to look at the effects of kindergarten teaching practices and classroom environments on the development of literacy in kindergarten children. Development occurs within the social and physical environment of the classroom and the school, thus it is important to consider how different aspects of the school literacy environment influence learning (Nielsen, 1996; Turner & Paris, 1995). This evaluation has been set up within certain parameters to address limitations of previous studies. 1) Previous studies regarding literacy outcomes in kindergarten aged children have tended to focus on two classrooms with widely differing literacy practices (Dahl & Scharer, 2000; Geist & Clanton, 2002; Manning & Kamii ,2000; Nielsen,1996; Nolen, 2001; Pressley, Wharton-McDonald, Allington, Block, Morrow, Tracey, Baker, Brooks, Cronin, Nelson, & Woo, 2001; Rankin-Erickson & Pressley, 2000; Sears, 1999; Thomas & Barksdale-Ladd ,1997; Turner & Paris, 1995). In other words, rather than looking at classroom practices along a continuum, previous studies have placed classrooms at one end of the spectrum or the other, i.e. the skills-based approach to literacy instruction or a developmental approach to literacy instruction. It is important to consider classrooms along a continuum, as it is unusual for a classroom to fulfill all of the criteria of one type of instruction or the other. Teachers are more likely to use a combination of approaches to instruction. Furthermore, previous studies have not used quantitative measures of classroom literacy practices, but have relied on teacher and/or administrator report to

determine classroom practices (Manning & Kamii, 2000; Nielsen, 1996; Nolen, 2001; Thomas & Barksdale-Ladd, 1997). This study will place classrooms on a continuum using quantitative assessments of classroom practices. Examining the classrooms on a continuum will provide a more realistic evaluation of instructional practices, while the use of a quantitative measure of classroom practices will diminish the possibility of subjectivity in determining instructional methods used in classrooms.

2) Previous studies have tended focus on only two classrooms within one school, rather than considering several classrooms and schools. This narrow focus seriously limits the generalizability of the results. This study will consider multiple kindergarten classrooms in several schools providing a wider range of classrooms. As a result, this study will have the potential to more accurately predict the instructional practices that are most effective in producing better literacy outcomes. In addition to incorporating multiple classrooms and multiple schools, this study will use hierarchical linear modeling to estimate the effects of kindergarten teaching practices on literacy development. Only one study examining kindergarten achievement has used hierarchical linear modeling, which more appropriately estimates the differences at the student and classroom levels. When considering students who are clustered in classrooms, it is important to consider the particular effects of the classroom environment. Ignoring the clustered nature of the sample may inflate the significance of the results (Zumbo & Lloyd, 2005). The use of hierarchical linear modeling will more accurately estimate the effects of classroom instruction on child literacy outcomes.

3) There are few existing studies that have examined child literacy outcomes according to individual child characteristics such as race, sex, home language, home literacy, and socioeconomic status. Only one study that has examined these variables has considered them in kindergarten. The others have looked at first, second and third grade achievement. This study will examine the effects of classroom practices in kindergarten across the individual child characteristics of race, home literacy, home language, and socioeconomic status, thus addressing variables that have not been adequately addressed in the literature at the kindergarten level.

Research Questions

The overall research question considered in this study is: Which types of kindergarten teaching practices and kindergarten environments lead to better literacy outcomes for kindergarten children? In particular the following specific questions are addressed: 1) Is there a relationship between kindergarten teaching practices and literacy development in kindergarten children? 2) Does literacy development differ according to the child's ethnicity, socio-economic status, home literacy environment, or home language, and if so, what is the relationship between these outcomes and classroom practices?

Definition of Terms

The following terms are used throughout the text of this study.

Skills-based approach. The skills-based approach is based on the belief that children are passive learners and receive knowledge as a result of direct teaching. Skills are taught in isolation, with skills in separate subject areas being taught at different times during the

day. The teaching of skills is decontextualized and somewhat abstract, relying on the introduction of symbols.

Child-centered approach. The child-centered approach is based on the belief that children are active learners and construct their own knowledge. Teachers facilitate children's involvement with concrete materials. Activities are integrated across multiple developmental areas and are relevant to the children's experiences.

Developmentally Appropriate Practices. Developmentally appropriate practices are based on what professionals know about child development and how this knowledge is used to provide learning experiences that promote the optimal development of each child. Three types of information about children guide developmentally appropriate practices: 1) knowledge of what may generally be expected of children at various ages, 2) knowledge of the individual strengths and needs of each child in a classroom, and 3) knowledge of the social and cultural backgrounds of the children in a classroom (Bredekamp & Copple, 1997).

Reading Readiness Perspective. Reading readiness assumes that a child must reach a certain level of mental maturity before he or she is ready to begin reading. A reading readiness perspective bases the beginning of reading instruction on a child's chronological and developmental age, and puts forth a specific set and sequence of instructional activities to achieve reading ability.

Emergent Literacy Perspective. Emergent literacy describes the natural reading and writing abilities of children that precede formal literacy instruction. An emergent literacy perspective is based on the belief that reading and writing abilities emerge as children are

exposed to, and interact with, literacy experiences in everyday activities with responsive

caregivers.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Appropriate literacy instruction for kindergarten children has been an ongoing debate between two basic views of literacy development: a skills-based or reading readiness perspective, and a child-centered or emergent literacy perspective (Clay, 1991; Gambrell & Mazzoni, 1999; Manning & Kamii, 2000; Nielsen, 1996; Thomas & Barksdale-Ladd, 1997). Since these two basic views on literacy development result in very different teaching practices, it is imperative to understand whether or not one approach is superior to the other. This question is difficult to answer because each approach primarily has used different outcome measures when evaluating its effectiveness.

Skills-based research tends to examine skills related outcomes such as alphabet recognition, letter-sound correspondence, and word decoding ability (Ehri, Nunes, Stahl, & Willows, 2001. The outcomes are most often derived from standardized tests, thus quantitative measures are most often used when examining the skills-based approach scores (Xue & Meisels, 2004). Research examining the skills-based approach tends to focus on children who are at-risk for developing reading difficulties, or who already demonstrate such difficulties (Lovett, Lacerenza, & Borden, 2000).

On the contrary, child-centered research tends to examine more affective outcomes such as motivation to participate in literacy activities, and the ability to participate in meaningful reading and writing behaviors within the context of play (Larson, 1997; Nielsen, 1996; Oldfather & Dahl, 1994; Thomas & Barksdale-Ladd, 1997). Children who participate in these studies are not typically targeted because of at-risk characteristics, but tend to mirror the population at large. This research tends to compare child-centered with skills-based classrooms (Manning & Kamii, 2000; Nielsen, 1996; Thomas & Barksdale-Ladd, 1997), and is most often qualitative in nature (Xue & Meisels, 2004).

<div align="center">Perspectives on Literacy Development</div>

Literacy learning was historically viewed as an individual activity that developed in isolation when a child reached the appropriate chronological and developmental age (Gillen & Hall, 2003; Razfar & Gutierrez, 2003). In the latter half of the twentieth century, however, the effects of social and cultural influences on early literacy began to be recognized and literacy came to be viewed in the context of early environments (Clark, 1992; Gillen & Hall, 2003; Razfar & Gutierrez, 2003). These two views of literacy development continue to exist and result in differing opinions of how literacy instruction should unfold (Nolen, 2001; Xue & Meisels, 2004). The following sections will a) provide a description of the reading readiness and emergent literacy perspectives on literacy development and describe teaching practices that align with each perspective, and b) consider research addressing the effectiveness of each approach.

Overview of the Two Perspectives

The reading readiness view is based on the belief that there are a certain set of skills that children can be taught that lead to success in literacy, and that these skills develop in children at about the same age (Clay, 1991; Gambrell & Mazzoni, 1999; Nielsen, 1996; Whitehurst & Lonigan, 1998). According to this view of literacy development, literacy instruction begins when a child enters primary school and success depends on the child's individual cognitive abilities (Clark, 1992; Nolen, 2001; Razfar & Guitierrez, 2003). Literacy is largely a visual skill that can be taught through explicit instruction and requires practice in the skill set in order to develop (Clark, 1992; Xue & Meisels, 2004). Furthermore, literacy development is hierarchical in nature with skills being taught in sequence and building on one another (Nielsen, 1996; Thomas & Barksdale-Ladd, 1997; Xue & Meisels, 2004). Literacy skills are taught at the same time and at the same pace to all of the children in a group (Clark, 1992; Xue & Meisels, 2004).

Teachers who adopt the reading readiness view of literacy development generally tend to utilize a skills-based approach to teaching literacy (Manning & Kamii, 2000; Nielsen, 1996; Thomas & Barksdale-Ladd, 1997). The skills-based approach is based on a behavioral model of instruction that views teaching as the transmission of knowledge, emphasizing the learning outcomes rather than the learning process (Xue & Meisels, 2004). Instructional approaches used in reading readiness classrooms tend to be more teacher directed and whole group oriented, and focus on the development of subsets of skills such as alphabet recognition and letter-sound correspondence (Nielsen, 1996; Thomas & Barksdale-Ladd, 1997). Instruction is usually based on pre-packaged basal

materials that specify learning objectives and the sequence in which skills must be taught (Clay, 1991; Nielsen, 1996; Thomas & Barksdale-Ladd, 1997). Reading readiness workbooks and phonics worksheets are utilized along with large group instruction in letter-sound correspondence (Manning & Kamii, 2000; Nielsen, 1996; Whitehurst, Zevenbergen, Crone, Schultz, Velting, & Fichel, 1999).

In comparison to the reading readiness perspective, the emergent literacy perspective supports the belief that literacy learning begins at birth and develops through the child's interactions with language and print (Clay, 1998; Nielsen, 1996). The emergent literacy perspective takes into account the social and cultural aspects of literacy learning, and the influence of the family and community on literacy development (Razfar & Gutierrez, 2004; Whitehurst & Lonigan, 1998; Xue & Meisels, 2004). Thus, the emergent literacy view considers literacy development as a process of constructing an understanding of literacy through meaningful reading and writing experiences as well as through language interactions with adults and more able peers (Clay, 1991; Gambrell & Mazzoni, 1999; Nielsen, 1996; Thomas & Barksdale-Ladd, 1997). The emergent literacy perspective is closely aligned with the principles of developmentally appropriate practices (Nielsen, 1996) and views children as being at different developmental levels, but all able to achieve literacy growth (Thomas & Barksdale-Ladd, 1997). Children proceed at their own pace in literacy development in an emergent literacy classroom, and instruction is generally based on the children's interests (Xue & Meisels, 2004).

Teachers adopting the emergent literacy view are more likely to utilize a child-centered approach to literacy learning (Clay, 1991; Manning & Kamii, 2000; Thomas &

Barksdale-Ladd, 1997). This approach to literacy instruction is based on the following

set of beliefs: a) children learn through social interaction, b) teachers facilitate learning

rather than directing it, c) phonics instruction should be integrated throughout the literacy

program, d) children construct their own meaning, and e) literacy learning takes place

within the context of meaningful literacy experiences that include reading, writing, and

sharing stories (Kostelnick, Black, & Taylor, 1998). Teachers utilizing the this approach

use writing demonstrations such as the daily news which is dictated by the students and

written by the teacher, authentic writing activities by the students such as journal and

letter writing, teachers reading aloud to students in groups as well as individually, and the

use of listening stations with books and audiotapes for children to use (Kostelnik, et al,

1998; Lesiak, 1997; Manning & Kamii, 2000; Thomas & Barksdale-Ladd, 1997). In the

child-centered classroom, the focus is on reading to gain information and understanding,

and writing to communicate (Gambrell & Mazzoni, 1999; Richgels, 2002; Thomas &

Barksdale-Ladd, 1997). The development of literacy skills is considered a natural

developmental progression, much like language development (Xue& Meisels, 2004).

In summary, the two basic views of literacy development lead to different

teaching approaches: the skills-based approach and the child-centered approach. Teachers

using the skills-based approach tend to use structured lessons to teach discrete skills,

usually in a specific sequence. Skills are usually taught as pencil and paper tasks through

the use of worksheets or workbooks. In comparison, teachers using the child-centered

approach tend to teach literacy within the context of other activities. Teachers draw

attention to words and letters by pointing to them as they read, and they help children

make letter-sound correspondence through rhymes and songs. While the ultimate goal of both approaches is the development of literacy, each approach works toward this goal using different methods.

Skills-Based Research

Research that has considered the skills based approach to literacy development has suggested that students exposed to an explicit and systematic phonics program appear to have better word recognition skills and score better on assessments that measure alphabetic knowledge and letter-sound knowledge (Ehri & Stahl, 2001; Juel & Minden-Cupp, 1999-2000). Additionally, a systematic phonics approach appears to be more effective in promoting word decoding and word recognition skills in students at risk for reading failure, as well as for kindergarten and first grade students who enter school without having developed beginning reading skills (Ehri & Stahl, 2001). Systematic phonics instruction also appears to be more effective when introduced prior to second grade (Ehri, et al., 2001), and when it is implemented intensively over a period of several years (Blachman, Tangel, Ball, Black, & McGraw, 1999; Torgesen, Wagner, Rashotte, Lindamood, Rose, Conway, & Garvan, 1999). Skills-based research tends to focus on supporting the literacy development of the most at-risk children (Blachman, et al, 1999; Lovett, et al, 2000; Torgesen et al, 1999; Whitehurst, et al, 1999). Furthermore, skills-based research tends to utilize an experimental design, which incorporates control groups, and quantitative assessment methods (Blachman, et al, 1999; Lovett, et al, 2000; Torgesen et al, 1999; Whitehurst, et al, 1999; Xue & Meisels, 2004).

Only one skills-based study reviewed specifically documented teaching practices in order to compare the effects of differential instructional practices with child outcomes. In an effort to determine effective literacy teaching practices, Juel and Minden-Cupp (1999-2000) observed literacy instruction in four first grade classrooms and took detailed notes regarding instructional practices, thereby determining the type of literacy instruction utilized in each classroom. Students in the four classrooms were assessed at three intervals throughout the year in the areas of alphabet recognition, word recognition, and letter-sound knowledge. Reading levels and comprehension were also measured at the end of the school year.

Students with the lowest abilities at the beginning of the study who were in classrooms utilizing a structured phonics approach showed the most progress on measures of alphabet recognition, word recognition and letter-sound knowledge. Students who had developed at least rudimentary reading skills prior to first grade, however, appeared to benefit more from a holistic approach to literacy instruction including shared reading and discussion of texts. Thus children who had already developed the measured skills of alphabetic knowledge, word recognition, and letter-sound knowledge benefited from a more contextualized approach to literacy instruction that included discussion about what was read, and language experience activities such as shared writing.

At least two studies have compared a skills-based approach to control groups utilizing an approach considered representative of typical literacy instruction in early childhood programs, although no data was collected regarding actual control group instructional practices (Stuart, 1999; Whitehurst, et al, 1999). Whitehurst, et al. (1999)

examined whether the effectiveness of a phonemic awareness curriculum introduced in preschool would lead to an increase in reading skills in first and second grade. Head Start classrooms were assigned to an intervention group or a control group. Intervention groups introduced a phonemic awareness curriculum called Sound Foundations, which used a structured approach to teaching letter-sound associations including daily whole group instruction as well as worksheets, which were introduced weekly. Control group instruction consisted of the regular Head Start curriculum. While the children in the intervention group had greater emergent literacy skills at the end of their preschool and kindergarten years as evidenced by children's ability to name letters and identify letter sounds, these skills did not translate into increased readings scores at the end of the first and second grades. Explanations for the apparent ineffectiveness of the intervention over time included the differing types of instruction used by kindergarten, first, and second grade teachers as well as the reluctance of some Head Start teachers to use the didactic materials (i.e. worksheets) that were a part of the Sound Foundations curriculum.

A second study that included a comparison approach examined the effects of a systematic and prescribed phonics program called the Jolly Phonics program on the reading development, including word reading ability, spelling, and reading comprehension, of at-risk kindergarten children (Stuart, 1999). This study focused on English Language Learners (ELL) in particular. Children in three classrooms were divided into two groups. One group received instruction in the Jolly Phonics program, which incorporated training in word segmentation, sound blending, and letter-sound correspondence. The other group received Big Book instruction, which was described as

more holistic in nature with no other data to describe actual instruction in these classrooms. Both groups received literacy instruction for 12 weeks.

Outcome measures at the end of the intervention showed that the Jolly Phonics group had better decoding skills and were able to write more words than children in the Big Book group. A follow-up study one year later indicated that the phonics group continued to outperform the Big Book group in decoding and spelling, but not in reading comprehension. One explanation for the lack of expected growth in reading comprehension within the Jolly Phonics group is that, as English Language Learners, the children may have lacked the necessary prerequisite knowledge of English language rules. Although a thorough description of control group instruction was not included in the study, big book instruction might be expected to include a fair amount of reading aloud to children and discussion of books. These elements of instruction would likely have an effect on children's language development and understanding of written language, both of which might effect the development of reading comprehension (Purcell-Gates, McIntyre, & Freppon, 1995).

Other studies that have examined the effects of explicit phoneme awareness training incorporated into classroom instruction for at-risk children have included control groups that were less well defined than the previous studies (Blachman, et al, 1999; Fuchs, Fuchs, Thompson & Otaiba, 2002). Blachman et al. (1999) targeted low SES, inner-city students. The intervention began in kindergarten and continued through second grade, and consisted of explicit instruction carried out by the classroom teacher. Children in the treatment group received instruction in phoneme segmentation and letter

and sound awareness during kindergarten. Explicit, systematic instruction continued in first grade and consisted of phoneme analysis, instruction in reading phonetically regular words and high-frequency sight words, and reading from phonetically controlled readers. Treatment group children were homogeneously grouped according to scores on the kindergarten posttest so that the instruction could be focused on the needs of each group. Only the children who continued to struggle received additional intervention in second grade, while the remainder of the children received the regular classroom instruction. Reading instruction for the control group consisted of a basal reading program that incorporated phonics workbooks that the children completed independently, which might be considered an element of skills-based instruction. Spelling instruction was the same in first and second grades for both the treatment and control groups and consisted of a phonetically based spelling program.

At the end of the second grade, children in the treatment group had significantly higher levels of phoneme awareness including letter-name and letter-sound awareness, and scored significantly higher on measures of word reading ability. Children in the treatment group were also less likely to be recommended for remedial reading programs than control group children. On a measure of spelling, however, there were no significant differences between the treatment group and the control group, most likely due to the consistent spelling instruction across groups. The significantly higher scores for the treatment group on phoneme awareness outcomes seems reasonable considering the more specific instruction in the treatment groups.

Fuchs, et al. (2002), also explored the effectiveness of specific phoneme awareness training implemented by classroom teachers in kindergarten classrooms. This study specifically targeted inclusive kindergarten classrooms in which teachers provided instruction to children with and without disabilities simultaneously. Two treatment groups and a control group were compared. The first treatment group received instruction in phonological awareness training, while the second treatment group received instruction in phonological awareness plus beginning word decoding instruction. Treatment group teachers were trained to provide instruction consistent with the focus of the treatment. The control group received the regular literacy instruction provided in the district. This instruction was described as incorporating a variety of instructional practices with a majority of control group teachers utilizing alphabet-naming activities.

Results of the study indicated that students in the phonological awareness plus group statistically outperformed students in the other two groups on measures of rapid letter sounds and word attack, although there were no significant differences between performance of the control group and the phonological awareness group on either measure. One noteworthy finding in this study is that children with disabilities in the phonological awareness plus group showed greater growth on word attack skills than children in the other groups, suggesting that the enriched phonological training is an effective method of supporting literacy development for children with disabilities.

While children in the treatment groups in both studies made some significant gains over control group children, it appears that it is not a question of what skills are taught, but how. In the Blachman et al. study, children in the control group received

skills-based instruction that included reading lessons using a basal reader and workbooks. New vocabulary was introduced through the use of word cards, and children used a phonics workbook once each day. The children in these classes were heterogeneously grouped and did not receive instruction focused on their specific needs. This is also true of the children in the Fuchs, et al. study. On the other hand, children in the treatment groups in both studies received systematic, focused intervention. In addition, children in the Blachman, et al. study received instruction specifically based on the specific needs of each homogenously organized treatment group according to measured outcomes. Furthermore, treatment group teachers in both studies received a significant amount of training regarding how children develop literacy skills, and about the importance of phonological processes in the development of reading ability. It is probable that the combination of the teachers' increased understanding of literacy development, coupled with instruction focused on each group's specific abilities, played a significant role in the treatment groups' higher levels of phoneme awareness and word decoding abilities.

Several studies that consider the skills-based approach focus on children with the most severe deficits in early literacy skills (Ehri, et al, 2001). One such study conducted by Torgesen, et al. (1999), examined the effects of three instructional approaches with kindergarten children determined to be the most at-risk in their schools as identified through a screening process. The children chosen for the study were scored in the lowest 30% on tests of letter naming ability and phonological awareness. The children were assigned either to one of three treatment groups or to a control group. Children in the treatment groups all received 20 minutes of one-to-one instruction four times each week

beginning in kindergarten and continuing through second grade. The treatment groups were identified as providing 1) explicit instruction in phonological awareness and synthetic phonics with focused practice on skills, 2) a more balanced, embedded phonics approach that included using context clues, and 3) a regular classroom support approach that provided individual tutoring in the skills introduced in the regular classroom instructional program.

At the end of the second grade, all three of the treatment groups showed significant growth in phonetic decoding and word identification. All children involved in the study, including the control group, showed increased growth in reading comprehension. The synthetic phonics group scored better on phonemic decoding skills that did the other groups. On a measure of word reading ability, there was no significant difference between the outcomes for the synthetic phonics group and the balanced group, but these two groups scored significantly higher than the regular classroom support group and the control group. On measures of reading comprehension, there was no significant difference in the outcomes between any of the groups, including the non-treatment control group.

Although the majority of children in the treatment groups fell within the average range on reading measures at the end of the second grade, approximately 20 % of the children remained 1 SD below average. In an effort to determine individual child characteristics that related to lower achievement after intensive intervention, several variables were examined including phonological abilities, cognitive abilities, home background, reading experience, type of instruction received in the regular classroom,

and child's behavior rating as determined by the kindergarten teacher. For word reading skill, the most significant predictors of ability were rapid naming, home background, and classroom behavior ratings. For reading comprehension, the most significant predictors were rapid naming, behavior ratings, general verbal ability, and SES. It appears that instructional modifications may be necessary to increase the effectiveness of the intervention for children whose behavior, home background, and SES create particular concerns in regards to academic achievement.

Other research that has targeted children with severe reading disabilities is that of Lovett, et al. (2000). Interventions were utilized with seriously disabled readers between the ages of 7 and 13 who were referred to laboratory classrooms for reading instruction. Two interventions were used with the children: the Phonological Analysis and Blending/Direct Instruction Program (PHAB/DI) and the Word Identification Strategy Training Program (WIST). The PHAB/DI program consisted of phonological analysis, phonological bending, and letter-sound association skills. The WIST program provided children with skills regarding the application and monitoring of decoding strategies.

Studies with these interventions indicate that seriously disabled readers benefited most from a combination of the two training programs as the combination provided the children not only with decoding strategies, but also with skills to monitor the manner in which they applied decoding strategies. Lovett et al. (2000) conclude that direct phonics instruction must be combined with instruction in the use of multiple decoding strategies and planning processes in order to achieve increased reading skills in children with severe reading disabilities.

Overall, research related to a skills-based approach to teaching literacy suggests that such an approach results in an increased ability to identify letters, make letter-sound associations, and decode words, especially among children without beginning literacy skills (Stuart, 1999; Torgesen, et al., 1999; Whitehurst, 1999). A skills-based approach that provides intensive intervention is also associated with improved literacy outcomes in students with severe reading disabilities (Lovett, et al. 2000; Torgesen, et al, 1999). Furthermore, focused instruction that targets the needs of individual students appears most effective in remediating reading disabilities (Blachman, et al., 1999).

While the skills-based approach shows increased outcomes in some areas of literacy skill development, there are some potential disadvantages to this approach. One possible disadvantage is that students taught with the skills-based approach do not appear to make gains in the development of reading comprehension (Ehri & Wilce, 1987; Stuart, 1999; Torgesen, et al., 1999; Whitehurst, 1999). It is likely that the growth in decoding skills did not transfer to reading comprehension because it is not a direct focus of the intervention. It also appears that the skills-based approach does not produce long-term effects in terms of reading outcomes unless the intervention is continued into the later primary grades (Stuart, 1999; Torgesen, et al., 1999; Whitehurst, 1999).

A limitation of the skills-based research is that the control groups receive various types of instruction with little attention paid to what type of instruction is taking place in these groups. It would be a more effective measure of the skills-based approach to use observation and assessment of the instructional environments compared in the studies. The use of an instructional assessment would provide a consistent standard by which to

measure the type of instruction carried out in each classroom. Once there were specific standards of measurement, comparing the effectiveness of the instruction could provide a more compelling argument to support one type of instruction over another.

<div align="center">Child-Centered Research</div>

While skills-based research uses a variety of instructional approaches in control groups, child-centered research tends to compare the child-centered approach with the skills-based approach. Research that has compared the skills based approach and the child-centered approach to literacy instruction has generally suggested that kindergarten children enrolled in child-centered programs tend to be more motivated to complete literacy tasks, and construct a more complete understanding of how the alphabetic principle works and of how literacy is used on a day to day basis (Manning & Kamii, 2000; Nielsen, 1996; Nolen, 2001; Thomas & Barksdale-Ladd, 1997). Child-centered research also suggests that children in kindergarten classrooms utilizing a more contextualized approach to literacy development tend to view themselves as successful readers and writers (Nolen, 2001; Thomas & Barksdale-Ladd, 1997), and to maintain their initial interest in reading and writing activities (Nolen, 2001). Students in classrooms that integrate literacy activities in child-centered interest areas appear to recognize that literacy is a way to communicate information, while students in skills-based classrooms see reading and writing as school tasks not necessarily related to their real world experiences (Dahl & Freppon, 1995; Nolen, 2001; Turner & Paris, 1995).

Several studies have made comparisons between the skills-based approach and the child-centered approach using two classrooms within the same school or school

district (Manning & Kamii, 2000; Nielsen, 1996; Thomas & Barksdale-Ladd, 1997). These studies all combined qualitative and quantitative methodologies, and all used teacher interviews to determine teaching practices. Some quantitative child outcomes were examined in all of these studies, but observations and interviews were also used to examine children's approaches to and interactions with literacy.

One of these studies focused on the manner in which children construct understanding of how the alphabetic system represents written language (Manning & Kamii, 2000). The authors hypothesized that as children develop an understanding of the way sounds of speech are represented; they represent longer words with more letters, even though the letters may not be phonetically correct. As children begin to understand how written words convey information, they also begin to figure out where certain words might be in a sentence based on how the sentence is read orally.

There were only two kindergarten classrooms in the school where this study was conducted and both were included in the study. The literacy teaching practices in the two kindergarten classrooms were distinctly different as determined by teacher interview. One teacher reported the use of worksheets, whole group instruction such as repeated reading of words written on the chalkboard, and drill and practice activities such as practicing sight words from flash cards. All of these practices have been identified as consistent with a skills-based approach. The other teacher reported the use of shared reading and writing, writing demonstrations by the teacher, incidental writing throughout the day such as writing notes to a sick classmate, and singing songs and acting out

favorite stories. These practices are consistent with a child-centered approach to literacy instruction.

Literacy outcomes were measured five times throughout the year and consisted of writing eight words and reading two to four sentences. The writing samples were assigned a score along a continuum of six levels with the lowest level being pictures or scribbles, and the highest level being invented spelling using vowels and consonants. The reading task was videotaped and transcribed, and consisted of an interviewer reading four different sentences to the child. The child was then asked to point to certain words in the sentence. The reading tasks were scored on a scale of 1 to 4. At level 1 the child only recognized that content words such as nouns and verbs were written, and at level 4 the child used an understanding of letter-sound correspondences to identify written words.

Results indicated that children in the classroom utilizing the child-centered approach developed a more complete understanding of the way sounds are represented in speech and writing than did children in a skills-based classroom as evidenced by their progression to consistently higher developmental levels throughout the course of the year. On the writing task, 48% of the children in the skills-based classroom were at Level 2 or below at the end of the year, while only 21% of the child-centered group remained at Level 2 or below. On the reading task, more children in the child-centered group (65%) had achieved a Level 4 than children in the skills-based group (47%). Using a Piagetian approach, the authors hypothesize that the differences between the outcomes of the child-centered and skills-based groups occurred largely because the child-centered group developed a more cohesive theory of how written language works, while the skills-based

group gained pieces of information, but were not able to fit the information into a theory of written language. In other words, the children in the child-centered classroom were able to incorporate the contextualized literacy information into their existing understanding of how reading and writing work, while the children in the skills-based classroom had a more difficult time organizing the literacy information received into a framework that they could understand.

In a study that was structured in a very similar manner to the Manning & Kamii (2000) study, Nielsen (1996) compared the literacy development of kindergarten children by comparing children from two classrooms with teachers who had differing views on literacy instruction. The two teachers in this study were also interviewed to determine their literacy instructional practices. One teacher reported using a teacher directed approach consisting of whole group instruction and a focus on the development of discrete skills such as letter names, and letter sounds. This approach is consistent with the skills-based approach. The other teacher reported using an integrated approach to literacy instruction that included the use of a variety of texts, the use of language and print in a variety of contexts throughout the day, modeled writing by the teachers, and the opportunity for the children to make choices in their literacy activities. This approach is consistent with a child-centered approach to literacy instruction. In addition to having different instructional practices, the teachers in this study also had children who were developmentally different from one another according to the instructional plan in the school district. The children in the child-centered classroom were chronologically and/or

developmentally younger and were considered by the school district to be unready for the regular kindergarten curriculum provided in the skills-based classroom.

Child outcomes consisted of both quantitative and qualitative information. Quantitative information collected in October and again in May, included measures of children's concepts of print, alphabet knowledge, word reading, story retelling, and word writing. Qualitative information was gathered through observations of the types of literacy activities in which children in each classroom participated and how the children interacted with one another throughout the school day.

Qualitative information indicated that the child-centered teacher spent more cumulative time on literacy tasks than the skills-based teacher. Instructional time in the child-centered classroom consisted of read-aloud and story activities, coaching and modeling reading and writing, whereas the skills-based teacher spent more time on procedures, giving directions, and monitoring children. Consequently, the children in the skills-based classroom were observed spending only 19% of their time on literacy activities, while children in the child-centered classroom spent 46% of their time on literacy activities. On quantitative outcomes, the only significant difference between the two groups of children was in the area of story retelling, with the children in the child-centered classroom scoring significantly higher than children in the skills-based classroom. It is important to note, however, that children in both classrooms had very similar outcomes, even though the children in the child-centered classroom began the year at a disadvantage as evidenced by their designation as unready for kindergarten. This may be a result of the stronger emphasis on contextualized literacy activities in the

child-centered classroom, which resulted in a larger amount of total time devoted to literacy activities.

In another very similar study, Thomas & Barksdale-Ladd (1997) examined the association between children's literacy understandings and their teachers' instructional methods. As in the two previous studies, two kindergarten teachers with differing literacy instructional methods were sought for the study. Teaching practices were again determined through interviews with the teaching methods described as skills-based in one classroom and whole language in the other classroom. The teaching strategies in the whole language classroom are consistent with the descriptions of child-centered practices described in this review. Student outcomes included student interviews as well as four quantitative measures of literacy development.

Unlike the previous study, quantitative measures applied at the end of the kindergarten year showed significant differences between children in the two classrooms. Children in the skills-based classroom scored significantly higher on measures of phonemic-segmentation and sight word reading than children in the child-centered classroom. The skills-based teacher, however, spent a great deal of time working on these specific skills, thus such outcomes might be expected. There were no significant differences between children in the two classrooms on a measure of concepts of print, but children in the whole language classroom scored significantly higher on a writing measure than children in the skills-based classroom. Furthermore, several children (23%) from the skills-based classroom opted out of the writing measure and made comments to the effect that they did not know how to write.

Qualitative data, consisting of interviews with students from both classrooms, indicated that children in the skills-based classroom considered literacy activities to be academic tasks or something you do in school, while children in the whole language class described literacy as a way to find something out and a way to communicate with others. Children's responses to interviews in this study suggest that child-centered literacy practices promote the development of positive attitudes regarding writing. In fact, it is quite possible that the instructional practices in the two classrooms provide children with differing views of literacy because of the differences in the teachers' instructional approach.

The focus on children's attitudes and motivation regarding literacy tasks apparent in the previous studies tend to play a major role in child-centered research (Dahl & Freppon, 1995; Freppon & McIntyre, 1999; Larson, 1997; Nolen, 2001; Oldfather& Dahl, 1994; Turner & Paris, 1995). Oldfather & Dahl (1994) and Larson (1997) have described the positive effects of talk and interaction during literacy activities, with both studies focusing on the social construction of literacy understanding and children's motivation for participation in literacy tasks. Student interviews and classroom observations were conducted to examine student perceptions of literacy tasks in classrooms in which teachers encourage interaction during literacy instruction. Children in kindergarten, first grade, fifth and sixth grades were included in these studies. The authors described literacy practices in these classrooms as involving discussion about reading and writing activities as well as student decision-making regarding literacy activities. Because of the interactive nature of the literacy activities, teachers are able to

support each child individually, insuring success. Student interviews indicated that children were motivated to participate in reading and writing activities because they were involved in the decision-making process, were successful in completing the activities, and felt a part of a collaborative group that included the teacher. Similar to Thomas and Barksdale-Ladd (1997), children's responses also indicated that they considered literacy as a means to gather information, and as a mechanism through which they could communicate.

Other studies that have focused on the development of positive attitudes regarding literacy have compared literacy instruction and literacy outcomes in skills-based and child-centered classrooms (Dahl & Freppon, 1995; Freppon & McIntyre, 1999; Nolen, 2001; Turner & Paris, 1995). These studies focused on kindergarten and first grade students' persistence and engagement with literacy activities, and motivation for participation in literacy tasks as well as student literacy outcomes on several quantitative measures. Based on observation data of participation in reading and writing tasks, child-centered classrooms appear to yield greater motivation and task persistence in students than classrooms using a skills-based approach (Dahl & Freppon, 1995; Freppon & McIntyre, 1999; Nolen, 2001; Turner & Paris, 1995). When confronted with challenging reading tasks, children from child-centered classrooms persist longer and try a wider variety of strategies than children in skills-based classrooms (Freppon & McIntyre, 1999; Turner & Paris, 1995). Children from child-centered classrooms also describe writing activities as fun, and reading as a way to gather information (Nolen, 2001; Turner & Paris, 1999). Child-centered classroom instruction encourages peer interaction and

sharing of information around literacy tasks, student choice in literacy activities (i.e.

choice of books to read and choice of journal topics), and encourages children to use

books to gain information, all probable reasons for the children's increased motivation

and persistence in literacy tasks (Dahl & Freppon, 1995; Freppon & McIntyre, 1999;

Nolen, 2001; Turner & Paris, 1995).

While the quantitative data in most of these studies supports the qualitative

findings, quantitative outcomes in one of the studies was inconsistent with qualitative

results. Freppon & McIntyre (1999) found that a quantitative assessment of the

alphabetic principle showed significantly higher scores for children in skills-based

classrooms even though children from child-centered classrooms more consistently

applied letter-sound knowledge in daily writing tasks as documented by qualitative

analysis of writing samples. Furthermore, while quantitative analyses of writing samples

showed no significant difference in the quality of writing produced by children in each of

the types of classroom, observations of children in child-centered classrooms indicated

that these children wrote for longer periods of time than children in skills-based

classrooms. This finding is most likely a function of the children's persistence and

motivation, which is consistent across studies. Children from child-centered classrooms

tended to persist longer on reading and writing tasks even when those tasks were

somewhat challenging (Dahl & Freppon, 1995; Freppon & McIntyre, 1999; Turner &

Paris, 1995).

Phonological awareness embedded within child-centered and contexualized

instruction has also been a subject of child-centered research (Craig, 2003; Hadley,

Simmerman, Long, and Luna, 2000; Greenwood, Tapia, Abbott, & Walton, 2003; Xue & Meisels, 2004). Craig (2003) compared the effects of contextualized instruction on children's development of phonological awareness and early reading development to a synthetic approach that focused on sequenced task instruction with kindergarten children. The children were assigned to one of two treatment groups: an interactive writing-plus group or a metalinguistic games-plus group. The interactive writing-plus group utilized naturalistic literacy experiences such as big book reading and interactive writing such as group stories in response to the readings. Children were encouraged to use inventive spelling in the construction of text, and teachers planned specific letter-sound instruction around the children's spellings. The metalinguistic games-plus group used a synthetic phonemic awareness approach based on a predetermined curriculum that focused on the development of listening and rhyming skills, as well as phonological synthesis and analysis.

At the end of the intervention period, measures of phonological awareness, spelling, word reading, word identification and reading comprehension were administered to the children in both groups. Analyses of the two interventions showed that while there were no significant differences between the two groups on measures of phonological awareness and spelling, the interactive writing-plus group had significantly higher scores on measures of word identification, reading comprehension, and word reading. Thus, it appears that the contextualized approach not only enhances children's word reading skills, but also enhances their reading comprehension.

Hadley, Simmerman, Long, and Luna (2000) also examined the effects of a phonological awareness program for kindergarten children with limited language skills. Four kindergarten classrooms were included in this study, with two classrooms implementing the modifications and two classrooms acting as a control. This model focused on collaboration between the kindergarten teachers and the speech language pathologist in one elementary school to address concerns that teachers had with kindergarten children's delayed spoken language abilities. The kindergarten teachers in the treatment group were responsible for embedding language learning opportunities into the classroom curriculum, and the speech language pathologist was responsible for modifying and enhancing the language input in the classrooms, and for helping the classroom teachers modify their own language input so that the language activities in the classroom were more focused on the needs of the children.

Specific curriculum enhancements included weaving language-enhanced activities and phonological awareness instruction throughout the curriculum, focusing on the children's interests, and expanding on the children's language attempts. For example, in student choice activity centers, teachers interacted with children and modeled and expanded the children's language use in activities that the children initiated. Phonological awareness was enhanced through group time rhyming activities, and through incidental teaching of letter-sound correspondence throughout the day as well as through explicit teaching of letter sounds (Hadley, et al, 2000). A pre and post-test design was used to measure the effects of the interventions. Children in the treatment groups scored significantly higher on two measures of language development than children in the

control group. Treatment group children also scored significantly higher on measures of beginning sound awareness in words and in letter-sound association than control group children.

Consistent with skills-based research that supports phonological awareness training as a positive intervention for young children at risk for developing learning difficulties, these two studies provide additional support for the provision of phonological awareness training (Blachman, et al, 1999; Fuchs, et al., 2002). Unlike the skills-based research, however, these studies describe methods for incorporating phonological awareness activities within child-centered instruction focusing on the interests of the children.

In general, children in child-centered classrooms develop skill in letter naming and letter-sound correspondence, as well as book and print awareness and reading comprehension (Freppon & McIntyre, 1999; Manning & Kamii, 2001; Nielsen, 1996). Furthermore, children in classrooms utilizing a child-centered approach to literacy instruction tend to view literacy activities as fun and enjoyable (Freppon & McIntyre, 1999; Oldfather & Dahl, 1994; Thomas & Barksdale-Ladd, 1997), and tend to persist at literacy tasks longer than children in skills-based classrooms (Freppon & McIntyre, 1999; Nolen, 2001; Turner & Paris, 1996). Children receiving literacy instruction in child-centered classrooms also tend to describe literacy activities as a means to acquire information and to communicate information, while children in skills-based classrooms appear to consider literacy activities as work to be done in school (Nolen, 2001; Thomas & Barksdale-Ladd, 1997).

While child-centered classrooms apparently lead to increased affective outcomes regarding literacy as well as increased skill-development and reading comprehension, some disagreement in the data exists regarding the development of skills (Dahl & Freppon, 1995; Thomas & Barksdale-Ladd, 1997). It is unclear whether the child-centered approach leads to the same level of word-decoding ability, letter-sound correspondence, and letter naming ability as the skills-based approach.

A limitation of child-centered research is the restricted number of classrooms included in the studies. Results from the research would be more easily generalized if larger numbers of students and classrooms were included in the studies. The research would also be more conclusive if qualitative and quantitative findings in the studies were more consistent.

Summary

Some questions have been raised regarding the most appropriate literacy approaches for children from various ethnic groups and have suggested that more teacher directed approaches are more appropriate for some children (Delpit, 1995; Knapp & Shields, 1992). Others have suggested that child-centered approaches that focus on the developmental strengths of individuals are appropriate for all children (Kostelnick, Black, & Taylor, 1998; Lesiak, 1997; Manning & Kamii, 2000; Nielsen, 1996; Thomas & Barksdale-Ladd, 1997). Existing research has examined both skills-based and child-centered practices, but questions regarding appropriate instruction remain.

Existing studies in kindergarten classrooms have by and large utilized teacher and administrator reports of effective practices, have sought to obtain classrooms with vastly

different practices rather than considering classroom instruction along a continuum, or have implemented interventions while using control groups in which instructional practices were not examined (Craig, 2003; Lesiak, 1997; Manning & Kamii 2000; Nielsen, 1996; Stuart, 1999; Thomas & Barksdale-Ladd, 1997; Turner & Paris, 1995; Whitehurst, et al, 1999). Furthermore, existing skills-based research and child-centered research tend to focus on different outcomes, making it difficult to compare the two approaches. While skills-based research tends to examine measurable skills such as alphabet knowledge and decoding ability, child-centered research tends to deal more closely with affective outcomes such as persistence and motivation related to literacy tasks. Skills-based research has largely considered instruction that has the greatest impact on the lowest performing children, while child-centered research tends to investigate the impact of literacy practices on a typical group of children. Finally, aside from the focus on low performing children and children with disabilities in skills-based research, little is known about how different instructional practices impact children from different ethnic or socioeconomic groups, or children who are English Language Learners.

This study will use a measure that identifies effective early language and literacy practices in classrooms and assesses the developmental appropriateness of the literacy environment (Early Language and Literacy Classroom Observation), as well as a measure designed to assess the general developmental appropriateness of instructional activities and environment (Assessment of Practices in Early Elementary Classrooms). The use of quantitative measures of classroom environment and instructional practices will allow the

consideration of practices along a continuum and will provide a new perspective to the existing literature on literacy instruction that has not been evident in existing research.

Although many studies focusing on skills-based instruction have utilized quantitative measures of child outcomes (Blachman, et al., 1999; Ehri et al., 2001; Juel and Minden-Cupp, 1999-2000; Lovett, et al, 2000; Stuart, 1999; Torgesen et al., 1999; Whitehurst, et al., 1999), studies that have considered child-centered instruction have tended to utilize qualitative methodologies (Dahl & Scharer, 2000; Freppon & Mcintyre, 1999; Larsen, 1997; Nolen, 2001; Oldfather & Dahl, 1994; Thomas & Barksdale-Ladd, 1997). This study will provide an additional dimension to the existing literature through the use of quantitative comparisons between classroom environments and reading and writing outcomes.

Finally, few studies have provided complete information regarding the most appropriate practices for children from different ethnic, socioeconomic, and home language groups. Some research has considered children from low socioeconomic groups and children at-risk but did not consider ethnicity or home language (Blachman, et al., 1999; Fuchs et al., 2002; Hadley, et al., 2000; Whitehurst, et al., 1999). Stuart (1999) examined the literacy development of English Language Learners and children from low socioeconomic backgrounds, but also did not consider ethnicity. Several other studies have included diverse populations, but have not focused on literacy outcomes by individual child characteristics (Dahl & Freppon, 1995; Freppon & Mcintyre, 1999; Nolen, 2001). This study will consider individual child characteristics such as ethnicity,

home language, and socioeconomic status, and will examine the effects of literacy environment on child outcomes, thus providing additional depth to the existing research.

Purpose of the Study

The purpose of this study is to contribute to the literature by addressing components not thoroughly examined in previous studies. First, in previous research, where classroom instruction has been a consideration, teacher or administrator interviews and observations by the researcher have been used to classify instruction, usually as being at one end of the spectrum or the other. This study will use quantitative measures of classroom practices to place classroom instruction along a continuum, which is a more natural and objective comparison than previously utilized.

Secondly, previous studies comparing different instructional approaches have not been consistent in measuring the same outcomes. Child-centered research has tended to look at affective outcomes, while skills-based research has tended to measure the development of discrete skills. This study will compare the same outcomes for all children using the K-2 Literacy Portfolio designed to measure literacy growth over the course of the kindergarten year.

Finally, previous research has not emphasized the development of literacy according to individual child characteristics such as socioeconomic status, home language, home literacy activities, gender and ethnicity. Previous studies have tended to consider some of these variables, but have not incorporated all variables while considering the instructional context. This study will consider each child's individual characteristics along with the instructional context of the classroom in an effort to

examine whether child characteristics affect literacy outcomes, and whether specific

instructional environments and practices impact those outcomes.

CHAPTER III

METHODS

Setting

This study was conducted in kindergarten classrooms within a school system where a diverse population exists in terms of race and socioeconomic status. A diverse population is important, as this provides an opportunity to examine the effects of differing styles of instruction on diverse populations. Each classroom has 1 teacher and 1 teaching assistant with between 18 and 25 students in each class. In terms of physical environment, the classrooms range from somewhat structured arrangements with tables and chairs and few center-type furnishings to those with learning center based arrangements.

The school system chosen for this study is a small school system in the southeastern United States. The school system operates five elementary schools, all of which have diverse populations in terms of race and socioeconomic status, and all of them were invited to participate. The diversity represented in the student population is essential as it provides an opportunity to examine the effects of differing instructional strategies on the development of children from diverse backgrounds.

All 18 of the kindergarten classrooms from the 5 elementary schools in the school district were invited to participate in this study. Variability between scores on classroom measures was observed between classrooms and between schools. Variability between

scores is important in order to examine the impact of differences between classroom environment and instructional practices. Because kindergarten teachers vary in their use of curriculum and instructional models, and different instructional models are emphasized across schools, it was anticipated that variability would be observed. It was expected that some teachers would use more whole group instruction and rely on the use of pencil and paper tasks, while other teachers would use more small group instruction and incorporate hands on learning opportunities that encourage exploration.

<div align="center">Subjects</div>

Three groups of subjects served as participants in this study. The groups consisted of kindergarten teachers; kindergarten children from each teacher's classroom, and parents of the children included the study. All of the kindergarten teachers in the school district (n=18) agreed to participate in the study, and participants signed a letter of agreement to participate. Each teacher was asked to complete a data sheet in order to collect demographic information including degree, area of licensure, and years of teaching experience (see Appendix A). A degree in Elementary Education with K-6 licensure was the most prevalent degree and license with 78 % (14 out of 18) of the teachers having this degree and license. Of the remaining 4 teachers, 3 had degrees in Early Childhood Education with Birth-Kindergarten licensure, and 1 teacher had a degree in Deaf Education with a Birth-Kindergarten add-on license. Overall, the teachers in this study had a great deal of teaching experience with 50% (9 out of 18) of the teachers having greater than 20 years of teaching experience. Of the remaining 9 teachers, 2 had

between 16 and 20 years of experience, 3 had between 5 and 15 years of experience, and

4 had less than 5 years of experience (See Table 1).

Table 1
Teacher Demographic Information

Variables	Number of Teachers
Degree	Elementary Education = 14 Early Childhood = 3 Education of the Deaf = 1
Licensure	K-6 = 14 Birth-Kindergarten (B-K) = 3 Hearing Impaired with B-K add-on = 1
Experience	20 or more years = 9 16-20 years = 2 5-15 years = 3 Less than 5 years = 4

Kindergarten children in the 18 classrooms were included in the study to provide

information about child literacy outcomes. Permission was sought from the parents for

children to participate. Only the children whose parents gave permission were included

in the study (n=204). This accounted for 61% of the total kindergarten population in the

school district. Demographic information was also collected on each child. Demographic

information consists of each child's gender, race, socioeconomic status, and home

language. Demographic information was obtained from the Student Information

Management System (SIMS) reports for each classroom. Student demographic

information is maintained through the SIMS program in each school and is available as a computer generated report. Of the 204 students, 106 (54%) were white, 26 (12.7 %) were African American, and 66 (32.4%) were Hispanic/Latino. The remaining 6 students were identified as other and were either Asian or Middle Eastern. The students were also diverse economically with 101 (49.5%) receiving free or reduced lunch. Additionally, 109 (53.4%) of the students were male and 95 (46.6%) were female, and 63 (30.9%) were English Language Learners (see Table 2).

Table 2

Student Demographics

Variable		Number of Students	Percentage
Ethnicity	White	106	54
	African-American	26	12.7
	Hispanic/Latino	66	32.4
	Other	6	< 1
Socioeconomic Status	Free/Reduced Lunch	101	49.5
	Full pay status	103	50.5
Gender	Male	109	53.4
	Female	95	46.6
Home Language	English	141	69.1
	Not English	63	30.9

Parents of the children participating in the study were also surveyed to determine characteristics of the home environment that may contribute to child literacy outcomes (see Appendix B). Parents were provided with a letter explaining the study and asking them to participate and to allow their child to participate. Surveys were sent to the parents via their child, and were provided in both English and Spanish. Where possible, follow-up phone calls by the lead researcher were made to individual parents as necessary to ensure the return of the surveys. The researcher explained the importance of the survey, and conducted telephone surveys where necessary. In the case of parents who did not speak English, the researcher used a translator to facilitate the completion of the survey. Although multiple steps were taken to obtain the information contained in the Home Literacy survey, only 159 (78%) of the surveys were returned. Of the surveys returned, 90 of the families were white, 19 were African American, 44 were Hispanic/Latino, and 6 were other. Additionally, 73 of the surveys returned were from families whose children received free or reduced lunch, and 118 were from families for whom English was the primary language (see Table 3).

Table 3

Demographics of Families Who Returned Surveys

Variables		Number of Families	Percentage
Ethnicity	White	90	56.6
	African American	19	11.9
	Hispanic/Latino	44	27.7
	Other	6	3.8
Socioeconomic Status	Free/Reduced Lunch	73	46
	Full pay status	86	54
Home Language	English	118	74
	Not English	41	26

<div align="center">Confidentiality</div>

To protect the identity of students, teachers, and parents, specific considerations were utilized. First, student information was gathered using Student Information Management System (SIMS) numbers, which are used to identify student information for the school system. All student data is organized through this system. By using the SIMS information system, an identification number for each child in the study was provided to ensure confidentiality of personal information. Student data including demographic information and performance data is associated with the student's SIMS number and not the student's name, thereby maintaining a level of confidentiality for the student. Demographic information was obtained from the SIMS report for each classroom. In

order to insure that information was obtained only for students whose parents gave consent, classroom teachers were asked to verify students participating in the study on the SIMS report and provide the list to the researcher with SIMS numbers, but with no student names.   Second, parent survey responses were also associated with the child's SIMS number.   Parent surveys were conducted to determine whether elements of the home environment significantly effect child literacy outcomes. Follow-up phone calls were made to parents to encourage the completion of the survey.   If follow-up phone calls were necessary, teachers were asked to provide the parent names associated with the SIMS numbers in question. Names were discarded once the phone calls had been made. Third, teacher interview information and any other information obtained about the classroom, including scores gathered using the measures, were identified by a two-digit number given to each classroom. Written consent was obtained from the kindergarten teachers as well as from parents of children whose literacy outcomes were used in the study (see Appendix C for a copy of the letters).

<div align="center">Research Design</div>

A mixed methods approach was used for this study, as both qualitative and quantitative measures were used. A mixed methods approach is one method of triangulation as it reduces the possibility of the researcher relying too heavily on one method or data source (Patton, 1990).   Mixed measures also allows the researcher to utilize the strengths of both quantitative and qualitative approaches by comparing information gained through the two methods allowing a richer understanding of the data (Paterson, Henry, O'Quin, Ceprano, & Blue, 2003).

Quantitative information in this study includes information gathered through the use of standardized measures in classroom observations with a focus on literacy instruction, student literacy outcomes, reports of the home environment that supports the child's cognitive development, a survey of teaching practices, and demographic information about the participants. The quantitative data is multilevel with students nested within classrooms and classrooms nested within schools, thus quantitative analysis involves hierarchical linear models, which allow for the estimation of student level and classroom level variables simultaneously (Raudenbush & Bryk, 2002). Qualitative information consists of teacher interviews intended to further explore literacy practices. Interviews were combined with classroom observations to deepen the researcher's understanding of the significance each teacher attaches to their instructional practices (Marshall & Rossman, 1999). A standardized open-ended format was used for this study to reduce the amount of time required of teachers, as well as to facilitate data analysis (Patton, 1990).

Data Sources

The data sources for this study include classroom measures designed to evaluate instructional strategies and classroom environment (the ELLCO and the APEEC), teacher interviews and a teaching questionnaire to gather additional information about teaching practices, child literacy measures from each child's literacy portfolio, and a home literacy survey completed by parents of the kindergarten children. Each data source is discussed in greater detail below beginning with classroom measures, the teaching practices

questionnaire and teacher interviews, then moving to child literacy measures, and finally the home literacy survey.

Classroom Measures

In order to determine literacy practices and environmental support for literacy development in each classroom, two quantitative measures were used: a) The Early Language and Literacy Classroom Observation (ELLCO) Toolkit (Smith, Dickinson, & Sangeorge, 2002) to examine literacy practices in each classroom, and b) the Assessment of Practices in Early Elementary Classrooms (APEEC) (Hemmeter, Maxwell, Ault, & Schuster, 2001) to examine instructional strategies and the physical environment in each classroom. Data was gathered using these measures within the context of classroom observations.

The first quantitative measure is the Early Language and Literacy Classroom Observation (ELLCO) Toolkit developed by Smith, Dickinson, and Sangeorge (2002), a measure designed to identify practices and environmental supports for literacy in preschool through third grade classrooms. This measure is grounded in the emergent literacy perspective that supports the belief that children's literacy development begins long before formal schooling begins, and that it is influenced by the nature and number of literacy experiences that children have. The ELLCO Toolkit consists of a literacy environment checklist (24 items), a classroom observation that includes a teacher interview component (14 items), and a literacy activities rating scale (9 items). The three components are completed by an outside observer and are scored separately. Smith, Dickinson, and Sangeorge (2002) report interrater reliability of 90% for the ELLCO.

The classroom observation component of the ELLCO consists of two subscales, General

Classroom Environment (6 items) and Language Literacy and Curriculum (8 items).

Subscale scores are added together to achieve a total score on this component of the

measure. Reliability analysis shows internal consistency with Cronbach's alpha of .90

for all items combined. The subscales' internal consistency consists of Cronbach's alpha

of .83 for the General Classroom Environment subscale, and .86 for the Language,

Literacy, and Curriculum subscale.

The second quantitative measure is the Assessment of Practices in Early

Elementary Classrooms (APEEC) (Hemmeter et al, 2001). This measure is designed to

evaluate the use of developmentally appropriate practices in the early elementary

classroom (K-3), and is organized under the following categories: a) physical

environment (room arrangement, display of child products, classroom accessibility,

health and safety), b) instructional context (use of materials and computers, monitoring

child progress, teacher-child language, instructional methods, integration and breadth of

subjects), and c) social context (children's role in decision-making, participation of

children with disabilities, social skills, diversity, transitions between activities, and

family involvement). An outside observer completes observations, and each item is

scored separately, and then averaged for an overall score on the instrument. Based on

professional reviews, field tests, and comparisons to other measures of developmentally

appropriate practices, the APEEC appears to be a valid reliable tool for measuring

appropriate instructional practices in kindergarten through third grade classrooms

(Hemmeter, et al, 2001). Additionally, interrater reliability has been established at .86,

suggesting that a high level of interrater reliability can be established with the measure. Because instructional strategies that are appropriate to each child's age and developmental level are considered effective for the development of positive attitudes toward learning (Pool, 1997; Ryan & Deci, 2000), this measure will be helpful in identifying research based practices used in the kindergarten classrooms involved in the study.

In order to gather demographic information from teachers, each teacher was asked to complete a data sheet. The sheet asks for the teacher's degree area, licensure area, and years of experience. The two-digit number used to identify each classroom was associated with this data sheet for ease of identification.

Teachers were also asked to complete the Instructional Activities Scale (IAS), a subscale of The Teacher Questionnaire (Charlesworth, Hart, Burts, & Hernandez, 1991), a questionnaire designed to provide information about individual teaching practices and beliefs (see Appendix D). The IAS has been found to be a reliable and valid measure of both appropriate and inappropriate teaching practices (Charlesworth, et al, 1991). Factor analysis of the IAS supports the reliability of the scale (six factors containing Eigenvalues from 1.05 to 4.71 accounting for 65% of the item variance) (Charlesworth, et al., 1991). Moderate levels of internal consistency were obtained for the IAS as measured by Cronbach's alpha (.60 to .75) (Charlesworth, et al., 1991). The IAS allowed the researcher to compare teacher's evaluations of their own practices to reported practices gathered through interviews as well as observed practices documented on the ELLCO and APEEC.

The qualitative component of the study consists of interviews with the classroom teachers regarding their literacy practices (see Appendix E). Interviews are one component of the ELLCO Toolkit. The interview protocol contained in this instrument was utilized for the interview portion of the study. However, the interview questions from the ELLCO were expanded and additional ones added to obtain supplementary information about teaching practices. It was necessary to obtain additional information from teachers using an interview component, as it was difficult to observe some aspects of the teaching environment. For example, while some information about parent involvement may be gained through observation, it was necessary to ask additional questions to insure that the researcher clearly understood the teachers' methods.

The interview questions were based on a standardized open-ended format. The standardized format increases the credibility of the interview data by ensuring that the same amount and type of data are obtained from each respondent (Patton, 1990). The questions are open-ended in nature to encourage the respondents to provide information from their own frame of reference (Bogden & Biklen, 1992). Teachers were encouraged to provide in depth information about their literacy practices to clarify and expand upon the information gathered through the use of the quantitative measures.

Including an interview component provides a method for triangulating the data collected from classroom observations. Triangulation is a recommended method of increasing the credibility of findings by using more than one data source (Patton, 1990). An interview component was chosen for this project because the interview is an interaction between individuals that is an active process of constructing knowledge, and

provides a basis for understanding the respondent's motivations and beliefs (Fontana & Frey, 2000).

<div align="center">Child Literacy Measures</div>

To assess children's literacy development, information from each child's K-2 Literacy portfolio and the Home Literacy Questionnaire (Frijters, Barron, & Brunello, 2000) were used. The K-2 Literacy Portfolio consists of each child's alphabet recognition, writing development, recognition of high frequency words, and knowledge of concepts of print. A standardized data collection system has been developed for the K-2 Literacy Portfolio. Classroom teachers collect literacy information from each child using a standardized approach that has been developed by the school system, thus the information included in the portfolio is consistent across classrooms and schools. All of this information was gathered at various times throughout the year according to a system wide schedule that is described in greater detail below, thus it was possible to assess each child's literacy growth as measured by these variables. Parents of children participating in the study were asked to complete the HLQ (Frijters, et al, 2000) in order to explore out of school experiences that contribute to each child's literacy development. Demographic information on each child was gathered in order to compare literacy outcomes according to student demographic variables.

To measure student growth in literacy, information was collected from each child's K-2 Literacy Portfolio. The K-2 Literacy Portfolio contains information about each child's literacy development including alphabet recognition, writing development, recognition of high frequency words, and knowledge of concepts of print, and is

supported by the North Carolina Department of Public Instruction as a reliable measure of child literacy outcomes during the kindergarten year. The school system has developed a standardized procedure for collecting data on each child, thus the Literacy Portfolio should prove an accurate measure of child literacy outcomes across classrooms and schools. This assessment was chosen largely because it is a standardized assessment procedure that is currently in place thus resulting in minimal disruption of instructional time.

As mentioned previously, a system wide schedule is in place that dictates when teachers collect data on each child. Children are assessed individually in each area included in the portfolio. Alphabet recognition and a writing sample are collected in September and October; concepts of print data are collected in November. Alphabet recognition and a writing sample are collected again in January and February. Data concerning each child's recognition of high frequency words is also collected in January and February. Data from each of these areas is collected again in April and May to determine the level of literacy development achieved over the course of the school year. For the purposes of this study, baseline information consists of the alphabet recognition and writing sample collected in September and October, the concepts of print data collected in November, and the knowledge of high frequency words data collected in January and February. Data collected from each of these areas in April and May were compared to the previously described data to determine literacy growth during the study (see Table 4 for data collection protocol).

Table 4

K-2 Literacy Portfolio Collection Protocol

Item	First collection	Second collection	Third collection
Writing	Sept./Oct.	Jan./Feb.	April/May
Alphabet	Sept./Oct.	Jan./Feb.	April/May
Concepts of Print	November	April/May	N/A
High Frequency Words	Jan./Feb.	April/May	N/A
Reading	Jan./Feb.	April/May	N/A

Each of the components of the literacy portfolio is based on research that supports them as accurate indicators of early reading ability (Burns, et al., 1999; Clay, 1991; Speece, Mills, Ritchey, & Hillman, 2003). For example, the high-frequency word recognition task is based on the research of Marie Clay (1991). Clay (1991) has found that when children can easily recognize the words that occur most frequently in text, they become more competent readers because they can place more emphasis on decoding the less frequent words. Speece et al (2003) have determined that letter recognition is a valid indicator of early reading ability, while Snow et al. (1999) and Clay (1993) have described the importance of concepts of print to early reading development. Thus, the components of the literacy portfolio should reflect the early literacy development of the children included in the study.

Children were assessed individually in each area included in the portfolio. Baseline information consists of each child's alphabet recognition score and a writing sample collected in September and October, each child's knowledge of high frequency words collected in January and February, and concepts of print data collected in November. Data was collected from each of these areas again in April and May to determine each child's literacy growth over the course of the school year.

Parents of children participating in the study were asked to complete a Home Literacy Questionnaire (HLQ) that consists of five items regarding children's literacy experiences in the home. The items are multiple choice so that parents choose from five alternatives for each question so that scores may range from 5 to 25. Questions relate to the frequency of literacy activities in the home, the availability of literacy materials in the home, and the age of the child when literacy activities were begun. The five items on the HLQ has a Spearman-Brown split-half reliability of .77 (Frijters, et al, 2000).

Demographic Data

Demographic information was obtained for both the kindergarten teachers and the students whose literacy outcomes are included in the study. Demographic information from teachers consists of years of experience, class size, degree area, and area of licensure. Teacher demographic data was obtained through the completion of a demographic data sheet. Demographic information for students consists of gender, race, home language, and socioeconomic status. Child demographic variables of gender and race were obtained from the school SIMS report, which routinely reports this information. A Home Language Survey was administered to the parents of each child

enrolled in school, thus information from this survey was used to obtain each child's home language. Socioeconomic status was based on free and reduced lunch status of the children included in the study.

<div align="center">Data Collection Procedures</div>

Classroom measures

Data was collected using the two standardized classroom measures described above (ELLCO and APEEC), as well as through the use of standardized open-ended interviews and the completion of teacher self-reports on the IAS and the demographic data sheet. Classroom observations were conducted in each classroom in order to administer the measures. Observations were completed primarily by the lead researcher, with observations being conducted simultaneously by both the lead researcher and the assistant researcher as described below to maintain reliability. Each observation lasted approximately two to three hours, and involved observations of teacher-child interactions, observations of instructional methods employed in the classroom, and a thorough inspection of classroom materials and environment.

Interviews with each teacher were scheduled at a time that was convenient to the teacher (i.e. after school, during a designated break, etc.) in order not to disrupt instructional time. Each interview lasted approximately one hour and was audio taped in order to insure an accurate representation of each teacher's responses. Audiotapes were transcribed to facilitate analysis. Following the interview, each teacher was given both the demographic data sheet and the Instructional Activities Scale, and asked to complete and return both items to the researcher by mail (self-addressed stamped envelopes were

provided to the teachers). The researcher followed-up with teachers as needed to ensure the return of the items.

Child literacy measures

The lead researcher collected student data from each child's Literacy Portfolio. Collection times were coordinated with classroom teachers to occur at a time that did not conflict with times that the portfolios were needed by the teacher. Classroom teachers sent parent surveys to the parents of each child participating in the study when classroom observations began. Follow-up phone calls were conducted as needed to encourage parents to return the survey. When necessary, surveys were conducted by the lead researcher either in person or by phone.

Interrater reliability

Interrater reliability was established on both the ELLCO toolkit and the APEEC prior to beginning data collection.   The lead researcher trained the assistant researcher on the use of both the ELLCO and the APEEC. Training consisted of discussion regarding appropriate scoring procedures followed by the use of both instruments in early childhood classrooms. The lead researcher and assistant researcher then discussed the scores obtained to ensure appropriate scoring. Interrater reliability was established by using the ELLCO and the APEEC in classroom environments similar to those in which data collection took place until agreement of 85% over three consecutive sessions was obtained. To establish interrater reliability, both the lead researcher and the assistant researcher conducted observations simultaneously for the specific time limit of each instrument, then compared and calculated the results. Interrater reliability was calculated

by determining the correlation between the scores obtained by the lead researcher and the scores obtained by the assistant researcher. Once interrater reliability was established, the lead researcher conducted the majority of the observations independently with the exception that on approximately every fourth observation (25% of the observations), the assessment was completed in pairs to insure continued interrater reliability in the use of the instruments.

<div align="center">Data Analysis Methods</div>

Classroom scores as measured with the ELLCO Toolkit and the APEEC were used to examine the classroom characteristics associated with child literacy outcomes as measured by individual child scores on the K-2 Literacy Portfolios. Because of the multi-level nature of the data, Hierarchical Linear Modeling was used. Hierarchical Linear Modeling is more appropriate than regression analysis when working with multi-level data because it allows for analysis of several levels of data at the same time (Arnold, 1992; Young, Reynolds, & Walberg, 1996). Thus more accurate predictions of child outcomes are possible with this method of analysis.

Because of the large number of variables involved, multiple regression analysis was used in the preliminary stages of data analysis to determine the variables to be included in the final analysis involving HLM. More specifically, the independent variables of students' race, gender, home language, home literacy environment, and socioeconomic status (as determined through participation in the free and reduced lunch program) were used to predict student literacy outcomes as measured by each child's literacy portfolio. Classroom scores on the APEEC and the ELLCO, as well as teacher's

scores on the IAS were also used to predict child literacy outcomes. Independent variables found not to be significant through the use of multiple regression analysis were eliminated in the final HLM analysis.

A two-level HLM was used to examine the effects of student and classroom variables on the literacy development of kindergarten students. The first level of analysis considered the effects of student variables on student literacy outcomes. The second level of analysis considered the effects of classroom variables on student literacy outcomes. Variables found to be significant in the preliminary analysis were included in this final analysis.

For the qualitative component of the study, individual interviews were audio taped and transcribed to facilitate analysis and identification of practices that are either consistent with, or that differ from, those identified through the use of the quantitative measures. Grounded theory suggests that the researcher interacts with the data throughout the collection and analysis process to identify emergent categories (Charmaz, 2000). Following grounded theory, the data in this project was analyzed throughout the interview process and categorized into emergent themes. Notes taken during classroom observations were used to further refine the themes. These themes were then compared to data collected with the standardized classroom observation tools to insure the accuracy of the observation data.

Lincoln and Guba (1985) suggest several methods for confirming the trustworthiness or reliability of qualitative data. To address concerns of reliability, member checks were performed by providing each respondent a copy of her transcribed

interview to verify the accuracy and to provide the respondent with an opportunity to correct any information that may have been cited incorrectly. To further address issues of reliability, an external reviewer was be asked to independently examine the data and identify emergent themes. The themes identified by the external reviewer and the researcher were compared, and inconsistencies were discussed between the reviewer and the researcher until consensus was reached.

CHAPTER IV

RESULTS

This research was conducted in an effort to determine whether various types of

kindergarten teaching practices made a difference in literacy outcomes for kindergarten

children. The specific research questions examined were: 1) Is there a relationship

between kindergarten teaching practices and literacy development in kindergarten

children?, and 2) Does literacy development differ according to the student's ethnicity,

socio-economic status, home literacy environment, or home language, and if so, what is

the relationship between these outcomes and classroom practices? The results are

reported according to the research question addressed.

Teaching Practices and Literacy Development

In order to examine the relationship between kindergarten teaching practices and

literacy development in kindergarten children, several variables at the classroom level

were examined along with the student level variable of literacy development. Variables

examined at the classroom level were teachers' years of experience, teachers' degree and

licensure areas, and quantitative measures of teaching practices, two of which were

observation measures by the researcher, the APEEC and the ELLCO, and one of which

was a self-report measure completed by the teachers (the IAS). The IAS includes

practices considered appropriate and inappropriate. The scale is thus broken into two

scores for each teacher, an IAS appropriate practices score, and an IAS inappropriate practices score.

Student literacy development was determined by using information from each student's Literacy Portfolio. The K-2 Literacy Portfolio includes several different literacy measures, with all of the measures resulting in a summary score of literacy development. The literacy measures used in the K-2 Literacy Portfolio are alphabet recognition, writing development, recognition of high frequency words, and knowledge of concepts of print. Each literacy measure is assessed at the beginning and end of the kindergarten year with a beginning and an end summary score assigned to each student.

The amount of growth (or difference between pre and post-test scores) demonstrated by students was considered the dependent variable in looking at the relationship between kindergarten teaching practices and literacy development. Specifically, the difference between the beginning summary score and the end summary score was used as the dependent variable. Overall growth was used as an indicator since use of the post-test score would provide less information about student achievement due to the ceiling effect that would be caused by the higher beginning scores of some students. The amount of growth demonstrated by the 204 students included in the study as determined by pre and posttest summary scores ranged from 4 points to 90 points (M=44.79, SD=23.12), thus there was quite a bit of variability between scores. The distribution of scores was fairly normal, however the distribution was somewhat bimodal with a spike of scores at 20 points, and another spike at 70 points. There were no outliers in the data.

The classroom data included scores on the standardized measures, years of experience, and teaching license/degree area. In general, scores on the standardized measures tended to fall mostly around the center of the scale without a great deal of variation (see Table 1 for descriptive statistics) with the exception of the IAS appropriate scores. In examining a histogram of the IAS appropriate scores, it is evident that the scores fall in a bimodal pattern, with more scores falling at the bottom and top of the scale with a dip in the middle. Teacher's years of experience and degree area were entered as dummy variables.

Table 5

Descriptive Statistics for Classroom Variables

Variable	Items	Minimum	Maximum	M	SD
ELLCO	14	40	63	52.22	5.558
APEEC	16	2.93	5.94	4.433	.755
IAS app.	19	3.63	4.63	4.147	.350
IAS inapp.	15	1.73	4.47	3.270	.713

As a first step, a standard multiple regression analysis was performed to examine whether or not classroom variables of teacher experience, teacher's area of professional training, classroom scores on the APEEC and ELLCO, and self report scores on the IAS. Multiple regression analysis was used as a preliminary analysis to determine whether or not classroom variables were helpful in predicting student literacy achievement before

performing HLM analysis. This initial step was helpful in determining which variables were making a difference in student outcomes, thus allowing the elimination of nonessential variables.

The results of the multiple regression indicate that the model did not significantly predict child literacy outcomes, $F(6,417.578)=.776$. R^2 for the model was .023, and the adjusted R^2 was -.007. The unstandardized regression coefficients (B), and standardized regression coefficients (β) are summarized for each variable in Table 5.

Regarding individual relationships between the independent variables and difference between student's pre and post-test scores, ELLCO ($t=.-076$, $p=.940$), APEEC ($t=.227$, $p=.820$), degree($t=.-012$, $p=.990$, experience ($t=-.972$, $p=.332$), IAS appropriate ($t=-.329$, $p=.743$), and IAS inappropriate ($t=1.315$, $p=.190$), none were able to significantly predict student's difference in pre and post-test scores (see Table 5 for means and standard deviations). While none of the predictors were significant in predicting student difference, the teacher reported IAS inappropriate score was the most significant predictor.

Table 6

Summary of Multiple Regression Analysis for Classroom Variables Predicting Difference

in Student Literacy Achievement

Variable	B	SE B	β
ELLCO	-.078	1.033	-.017
APEEC	2.058	9.049	.065
Degree	-.058	4.808	-.002
Experience	-1.422	1.463	-.97
IAS App.	-2.736	8.320	-.038
IAS Inapp.	6.082	4.626	.197

The individual components of student literacy achievement were then used as dependent variables to test whether or not classroom variables were able to predict the individual components of literacy achievement since they were not significant predictors of the overall achievement scores. A standard multiple regression was performed with each of the individual components (alphabet knowledge, concepts of print, high frequency word recognition, and writing) as dependent variables with classroom independent variables used to predict these individual components.

The regression analysis indicated that only one component of student literacy achievement was predicted by classroom variables. The ELLCO (*t*=-3.170, *p*=.002) and APEEC (*t*=2.581, *p*=.011) significantly predicted kindergarten students' development of

high frequency word recognition, $F(6,134.444)=6.258$, $p=.000$. R^2 for the model was

.160, and the adjusted R^2 was .135. The classroom variables of experience ($t=-1.132$,

$p=.259$), teacher degree area ($t=1.927$, $p=.055$), and teacher's self-report scores on the

IAS ($t=-.230$, $p=.818$ for IAS appropriate, and $t=2.023$, $p=.044$ for IAS inappropriate) did

not significantly affect students' development of concepts of print. The unstandardized

regression coefficients (B), and standardized regression coefficients (β) are summarized

for each variable in Table 6.

Table 7

Summary of Multiple Regression Analysis for Classroom Variables Predicting Student

High Frequency Word Recognition

Variable	B	SE B	β
ELLCO**	-654	.206	-.669
APEEC*	4.666	1.808	.680
Experience	-.331	.292	-.105
Degree	1.851	.961	.224
IAS app.	-.382	1.662	-.024
IAS inapp.	1.870	.924	.280

* p<.05   **p<.01

In examining the regression analysis for the other three literacy components, none of the classroom variables were successful in predicting students' writing achievement, $F(6,2.789)=1.827$, $p=.096$; alphabet knowledge, $F(6,585.585)=1.569$, $p=.158$; or concepts of print, $F(6,9.194)=.449$, $p=.845$. For writing, R^2 for the model was.053 and adjusted R^2 was .024; for alphabet knowledge R^2 for the model was .046 and adjusted R^2 was .00; and for concepts of print R^2 for the model was .013 and adjusted R^2 was .00.

To examine the consistency between the scores obtained by observers on the standardized measures (APEEC and ELLCO) and those obtained through the teachers' self-reported practices (IAS), a standard multiple regression was performed to verify whether or not the self-report instrument, the IAS, predicted the observed scores the classrooms received on the ELLCO and APEEC. To examine this relationship, the IAS appropriate and inappropriate practices scales were divided so that teachers received and two separate scores on the IAS, an IAS inappropriate practices score and an IAS appropriate practices score. The IAS appropriate practices and the IAS inappropriate practices scores were then used to predict first the ELLCO, and then the APEEC.

Teachers' scores on the inappropriate practices scales of the IAS significantly predicted their scores on the APEEC, $F(2, 30.283)=131.059$, $p=.000$. R^2 for the model was .562. When the relationships between the independent variables and the ELLCO scores were examined, IAS appropriate practices ($t=3.728$, $p=.000$) and IAS inappropriate practices ($t=-16.184$, $p=.000$) both significantly predicted classroom scores on the APEEC.

There was a very weak correlation (.020) between the self-reported appropriate activities and the APEEC, which seems to indicate a discrepancy between the researcher's observations and the teachers' perceptions of classroom instruction. There was, however, a strong negative correlation between the IAS inappropriate practices scores and scores on the APEEC (-.732). Thus, higher scores on the APEEC were correlated with lower scores on the inappropriate practices scales of the IAS, which indicates that teacher self-reports regarding inappropriate practices are in line with the researcher's observations. The lack of correlation between the appropriate practices IAS scales and the APEEC is thus somewhat puzzling.

The IAS also significantly predicted the ELLCO, $F(2,751.444)=40.029$, $p=.000$. R2 for the model was .278. Although the model was significant, the IAS did not predict the ELLCO as well as it predicted the APEEC. This is to be expected, however, as the APEEC is a more general measure of classroom activities, thus is better aligned with the IAS than the ELLCO, which is a more specific measure of literacy practices. The relationship between the independent variables and the ELLCO scores indicate that IAS appropriate practices scores ($t=5.135$, $p=.000$) and the IAS inappropriate practices scores ($t=-8.399$, $p=.000$) were both significant predictors of classroom ELLCO scores. As with the APEEC, the correlation between the IAS appropriate practices scores and the ELLCO was somewhat weaker (.184) than the correlation between the IAS inappropriate practices scores and the ELLCO (-.437).

Overall, it appears that the researchers and classroom teachers had a fairly high rate of agreement regarding classroom practices. This is a promising finding, since it

indicates reliability across measures as well as between observers and teachers. It is interesting, however, that the teachers' scores on the IAS inappropriate practices scales were a much stronger predictor of their scores on both the APEEC and the ELLCO than were their IAS appropriate practices scores. Although none of the classroom variables were found to significantly predict overall student achievement, the IAS inappropriate practices scale appeared to be a stronger predictor than the other variables. Perhaps teachers' understanding of what not to do increases their ability to enhance student achievement.

A comparison of teacher interview data to teacher responses on the IAS showed a fair amount of consistency between the two data sources. Kindergarten teachers reliably provided the same information about their practices in a variety of ways. In addition to the high rate of consistency between the IAS and the interview data, four themes recurred throughout the interviews: concern for the individual needs of students, the use of assessment to determine what to teach, sharing information with families, and integrating instruction across curriculum areas. It is possible that each teacher's deep concern for, and attention to, each child's individual needs resulted in the increased literacy achievement of the children.

For example, teachers described the importance of using each child's developmental level to plan for daily instruction, the importance of considering individual differences, and the importance of working with children individually to build on their strengths.

Based on their developmental level, if I have a child that comes in at the beginning of the year and they're already reading then I'm going to base their language and literacy on the level that their working in. If I have a child that's still having trouble speaking, still having trouble with fine motor skills, doesn't understand what a letter or sound or anything, then he's going to be on that level.

So it's not this thing that you have to know this every week, it's progress, making progress. If they learn one more letter or one more sound, and it depends on the child, too, because some children can't make as much progress as others, so it's not quite fair to say you have to know all ten of these words.

I conference with each child every day. I pull one or two aside and just kind of work with them so they aren't just trying to put something down and give me a string of letters. I get the kids to expand sentences and use some descriptors. I do the conferences every day.

It is evident in the teachers' descriptions that they are aware of children's developmental needs and focus on these needs throughout the year to help each child make as much growth as they can. The teachers' concern for building on each child's current abilities may play a role in each child's development.

In regard to assessment, teachers all reported using assessment to determine when they needed to re-teach a concept. Assessment was consistently described as an ongoing process in classrooms.

Well we look at those (the assessments) and we know who needs extra help and we pull for tutoring. If they haven't gotten that concept yet that helps me go back and re-teach math concepts to somebody who hasn't quite mastered that yet.

And then for those who do not know I keep a list of who needs to work on things. I try to know so we can keep it ongoing so we can keep trying to review. Then I try to pull a small group of those who need it and re-teach it during center time.

It was interesting to note that some teachers described using one-on-one approaches to assessment while others tended to use a more observation based approach to assessment. In general, teachers who used one-on-one assessment procedures tended to use a more skills-based approach to instruction while teachers who used observation based measures tended to use a more child-centered approach. Additionally, in classrooms where one-on-one assessment procedures were described, the assessment tended to become a type of direct teaching.

> My assistant makes alphabet cards and number cards, and she assesses every child every day. I think that's probably the biggest of all the assessments is her working with every child every day because they're getting one on one five times a week.

> In the mornings when they come in I try to go over things with them every day, like if somebody doesn't know the letters, we'll try to ask them every day. Or their words, or counting, or whatever it is they need to work on.

In these instances, it is possible that by showing the children words, letters, or numbers, the teachers were actually reinforcing children's memorization and learning through the process of assessing. Because teachers described using these assessment measures daily, children had a great deal of exposure to the material.

Another theme throughout the interviews was sharing information with families. In describing the ways they communicate with families, the teachers expressed the importance of helping families remain informed about their child's progress as well as a concern for encouraging families to feel welcome in the classroom.

I tell parents they're free to come to the classroom whenever they want to. They're free to come eat with their children. They're free to come sit and watch a lesson if they want to. I just try to make it any time that they want to come, just come I don't need to invite you. Just come on in.

And we have conferences that we invite the parents to attend. And they're always welcome to set up conferences with us any time to call or come by and talk to us, and they come for lunch.

Since we have such a diverse community now, it's important to make them feel that they are welcome, that it's not a burden to us, don't be scared about coming in and things like that.

Teachers obviously felt that having open communication with families was important and they tended to go to a lot of effort to ensure that they were communicating effectively. Weekly newsletters, notes, and phone calls were all methods that teachers used as a means of ongoing communication with families.

When asked about curriculum planning and activity planning, teachers described methods of integrating instruction across curricular areas. It was interesting to note, however, that while all teachers described an integrated approach to instruction, the planning method varied. For example, some teachers started out with objectives from the standard course of study or pacing guide, while others described planning based on an activity center approach, planning based on the needs and abilities of the children, or planning based on the children's interests.

I use the Standard Course of Study and then there would be sorting activities or there would be writing activities. But then I tie that in with whatever literature I'm using, or what we're doing in social studies, or what we're doing in science. I integrate it all.

> We have all different levels, and I plan and base my instruction and my group work and my guided reading just based on the child's developmental level.

> I do everything around centers. I have basic learning centers like puzzles and math My social studies and science are integrated in my centers, and my social studies is integrated through prop boxes in my housekeeping center. And we do different units to integrate social studies and science, like I'll do a unit on families in the fall and I'll do a unit on butterflies in the spring.

> I use the children's interests to plan activities around the curriculum. I judge by the way children enjoy activities and go from there.

Thus, while all of the teachers tended to plan integrated instruction, their methods differed. Teachers who used a more skills-based approach tended to use the pacing guide or standard course of study as a starting point for planning, while teachers who used a more child-centered approach started with the interests and developmental needs of the children and addressed the standard course of study through the planned activities.

Student Characteristics and Literacy Outcomes

To consider the second research question, student variables of ethnicity, socio-economic status, home literacy environment, and home language were used to predict student literacy outcomes. As with the classroom variables, student growth, or the difference between student pre and post-test scores on literacy tasks, was used as the outcome measure. Ethnicity, socio-economic status, and home language were all entered as dummy variables. The mean for Home Literacy was 14.04, and the standard deviation was 4.240. The scores were fairly normally distributed for this variable and there were no outliers.

A stepwise multiple regression was used to examine whether or not independent student variables made a difference in student literacy outcomes. The analysis revealed no significant relationship between student literacy outcomes and gender, ethnicity, or home language. However, the stepwise regression did reveal a significant relationship between home literacy and student literacy outcomes, F (1,8723.781)=18.085, p = .000. R^2 for this model was .013, and adjusted R^2 was.098. Socioeconomic status entered the regression as a significant predictor in the second model, F(2,5287.825)=11.165, p=.000. R^2 for the second model was .125, and adjusted R^2 was .114. The unstandardized regression coefficients (B), and standardized regression coefficients (β) are summarized for each model in Table 8.

Table 8

Summary of Multiple Regression Analysis for Student Variables Predicting

Difference in Student Literacy Achievement

Model	Variable	B	SE B	β
1	Home Literacy**	-1.752	.412	-.321
2	Home Literacy**	-1.488	.430	-.273
	Socioeconomic*	-7.187	3.635	-.156

- p=.05, ** p<.01

In examining the relationship between the independent variables and student literacy achievement, both home literacy (t=-3.463, p=.001) and socioeconomic status

(t=1.997, p=.05) significantly predicted student literacy achievement as measured by

students' overall growth scores. None of the other independent variables, home language

(t=1.28, p=.202), ethnicity (t=1.253, p=.212), and gender (t=-.156, p=.876) significantly

predicted overall student literacy achievement (see Table 8 for means and standard

deviations). Most notable in this analysis was that home literacy was the most significant

predictor, accounting for 10% of the variability.

The independent student variables were then used in a series of multiple

regression analyses to determine whether or not they similarly predicted the individual

elements of student literacy development. Alphabet recognition and concepts of print

were both significantly predicted by student's home literacy environment. The model for

concepts of print was the most significant, F(5,119.018)=7.032, p=.000. Home literacy

environment was the only significant predictor in the model (t=-3.829, p=.000). R^2 for the

model was.187 and adjusted R^2 was .160. The model for alphabet recognition was also

significant, F(5,1388.461)=4.007, p=.002. R^2 for this model was .116 and adjusted R^2

was .087. As in the previous model, home literacy environment was the only significant

predictor (t=-2.285, p=.024). Although not as significant as the previous two models, the

model for high frequency word recognition was also significant, F(5, 58.339)=2.459,

p=.036. R^2 for the model was .074 and adjusted R^2 was .044. The only significant

predictor of high frequency word recognition was socioeconomic status (t= -1.768,

p=.079). Finally, none of the student independent variables were significant predictors of

writing. The model was insignificant, F(5,1.948)=1.255, p=.286, with R^2 for the model

.039 and adjusted R^2 .008. The unstandardized regression coefficients (B), and

standardized regression coefficients (β) are summarized for each model in Table 9.

Table 9

Summary of Multiple Regression Analyses for Individual Student Literacy Outcome

Variables

Dependent Variable	Predictor Variable	B	SE B	β
Writing	Ethnicity	.368	.179	.286
	Home Language	-.328	.380	-.121
	Home Literacy	.021	.031	.073
	Socioeconomic	.388	.235	.155
	Gender	.173	.200	.069
High Freq. Words	Ethnicity	.007	.702	.001
	Home Language	.585	1.486	.054
	Home Literacy	-.086	.122	-.073
	Socioeconomic	-1.627	.920	-.164
	Gender	-1.321	.782	-.133
Alphabet Knowledge	Ethnicity	-.520	2.681	-.026
	Home Language	3.231	5.679	.077
	Home Literacy	-1.064	.466	-.232
	Socioeconomic	-5.186	3.516	-.133

	Gender	.289	2.987	.007
Concepts of Print	Ethnicity	.530	.593	.115
	Home Language	-.993	1.255	-.102
	Home Literacy	-.394	.103	-.372
	Socioeconomic	-.993	.777	-.111
	Gender	.242	.660	.027

Due to the nested nature of the data, students within classrooms, multilevel linear modeling was employed as a next step to ensure that the predictor variables home literacy and socioeconomic status were in fact statistically significant. Multiple linear regression assumes that the sample is random, which may result in the inflation of the significance (Raudenbush & Bryk, 2002). Thus, Hierarchical Linear Modeling (HLM) was used to test the significance of home literacy and socioeconomic status on the child literacy outcomes, given that these two variables were the only two found to significantly impact student achievement when multiple regression was employed.

Before entering independent variables into the equation, a null model was applied to determine how much of the total variance in scores was accounted for by students and how much was accounted for by classrooms. Because none of the classroom variables were found to significantly predict student scores in the multiple regression analysis, it was assumed that most of the variability would be at the student level. The estimated values for the student and classroom level variance components were as follows:

Student-level variance (σ^2) = 527.525

Classroom-level variance (ι_{oo}) = 7.488

Total variance = 535.013

Proportion at student level = .99

The results show that almost all of the variance is at the student level, which supports the results of the previous multiple regression analyses. None of the classroom level variables significantly predicted overall student literacy achievement. This level of HLM analysis confirms that student level variables account for almost all of the variation in overall literacy achievement.

The next step in the HLM analysis was to examine whether or not student socioeconomic status (SES) had a significant effect on overall literacy achievement as suggested by the multiple regression analysis. A random-coefficient model was used in which SES was group-mean centered. The results of this model indicate that the effects of student SES significantly effect overall literacy achievement (see Table 10). As student SES continued to be significant in the HLM analysis, another random-coefficient HLM model was employed that included both SES and Home Literacy Scores. The results of this model indicated that both SES and Home Literacy significantly effect overall student literacy achievement (see Table 10).

Table 10

Parameter Estimates for Multilevel Literacy Achievement Models

Model	Fixed Effects	Coefficient	SE	T-ratio	DF	p-value
Null	Intercept	44.901	1.689	26.587	17	0.000
Random- Coefficient Model w/SES	Intercept SES	44.939 -10.017	1.693 3.540	26.542 -2.829	17 17	0.000 0.012
Random- Coefficient Model w/ SES & Home Lit. Intercept	Intercept Home Lit. SES	42.817 -1.240 -10.353	1.724 0.553 3.857	24.835 -2.242 -2.684	17 156 17	0.000 0.026 0.016

Student Characteristics and Classroom Practices

The final question to be answered is what relationship exists between student literacy outcomes as influenced by student variables and classroom practices. The analysis has supported only two independent variables as significant predictors of student literacy achievement. Is there a relationship between these two variables and classroom practices?

As discussed previously, none of the classroom variables examined predicted student achievement. The relationship between student achievement as influenced by student level variables, however, needed to be examined in greater depth to consider whether or not classroom practices were making a difference in student outcomes. Both of the student variables that significantly predicted student literacy achievement,

socioeconomic status (r=-.241) and home literacy environment (r=-.321) were negatively

correlated with student achievement. This negative correlation led the researcher to

speculate that students with lower home literacy scores and those from lower

socioeconomic backgrounds were actually making greater gains in kindergarten than

children with higher home literacy scores and those from higher socioeconomic

backgrounds.

This theory was supported by a standard multiple regression in which home

literacy scores and socioeconomic status were used to predict students' literacy scores at

the beginning of the year. The two predictors explained a considerable amount of

variance, adjusted R^2=.187, $F(2,12645.950)$=19.1666, p=.000. Both home literacy

(t=4.203, p=.000) and socioeconomic status (t=3.012, p=.003) were significant

predictors. Furthermore, both home literacy (r=.388) and socioeconomic status (r=.326)

were positively correlated with students' beginning literacy scores. It appears that

children from homes that provide more literacy support and that have better means to

provide financial support enter school with higher literacy abilities, while children from

homes that provide less literacy support and with fewer financial resources enter school

with lower literacy abilities, but make greater gains. Furthermore, these gains appear to

occur regardless of classroom practices.

In looking back at the interview data with teachers, it is possible that teachers'

attention to sharing information with families had some impact on the gains demonstrated

by children from lower SES backgrounds. When describing their communication

approaches with families, teachers tended to talk about sending home books, taking

children to the public library, and sending home newsletters in English and Spanish that provided parents with information regarding activities they might participate in at home with their child. This continuous focus on providing parents with strategies may have made the difference in children's growth during the kindergarten year.

Summary

In summary, when considering the first question, is there a relationship between kindergarten teaching practices and literacy development in kindergarten children, the results suggest that teaching practices used in kindergarten classrooms do not directly influence literacy development. The multiple regression analyses used to predict overall literacy achievement from the classroom variables resulted in no significant predictors of overall literacy achievement. This outcome was further demonstrated by the HLM analysis that confirmed that only about 1% of the variability in overall student literacy achievement was at the classroom level. The rest of the variability was at the student level, as originally indicated by the multiple regression analysis.

The second question, does literacy development differ according to the student's ethnicity, socio-economic status, home literacy environment, or home language, and if so, what is the relationship between these outcomes and classroom practices uncovered some variables that do appear to influence student literacy development. Multiple regression analysis indicated that student socioeconomic status and student home literacy environment both significantly predict overall student literacy achievement. This was further supported by HLM analysis, which confirmed the significance of socioeconomic

status and home literacy environments in the overall literacy achievement of kindergarten students.

An examination of the correlation between student independent variables and overall student literacy achievement further indicated that students from lower socioeconomic backgrounds, as well as students from homes with lower literacy scores, made more growth during the kindergarten year than children from more affluent environments. The data analyses used in this study were not able to account for classroom practices that contributed to this growth. Something that happened in the classrooms was making a difference, but the specific practices contributing to growth remain undetermined, however, the qualitative data provides some information that may help address this question. Teachers described a concern for each child's needs and abilities, ongoing assessment throughout the year, methods of sharing information with families that included strategies to help their children learn, and the application of an integrated approach to teaching.

CHAPTER V

DISCUSSION

Literacy development is often considered one of the primary indicators of later

school success (Bursuck, Munk, Nelson, & Curran, 2002; Vanderslice, 2004; Xue &

Meisels, 2004). However, despite the current focus on literacy development, many

children continue to experience difficulty in learning to read (Center for the Improvement

of Early Reading Achievement, 2001). One issue that comes to the forefront in literacy

instruction is the theoretical orientation that drives instruction. Over the years,

researchers and practitioners have pondered the most appropriate approach to literacy

instruction with two major theoretical orientations at the forefront of the discussion: the

skills-based approach and the child-centered approach (Clay, 1991; Gambrell &

Mazzoni, 1999; Manning & Kamii, 2000; Nielsen, 1996; Thomas & Barksdale-Ladd,

1997; Xue & Meisels, 2004). The intent of this study was to examine classroom

characteristics and student characteristics that contribute to the development of literacy

during the kindergarten year and to attempt to address this ongoing debate regarding

appropriate literacy instruction.

The first question addressed in regards to kindergarten literacy achievement was

whether or not there is a relationship between kindergarten teaching practices and

literacy development in kindergarten children. The purpose of this question was to

examine

elements of literacy instruction not carefully examined in previous studies. Previous studies have not used quantitative measures of classroom practices, nor have they consistently measured the same outcomes. This first question, therefore, was designed to examine literacy practices in kindergarten classrooms using quantitative classroom measures and quantitative literacy outcomes from each students K-2 Literacy Portfolio to examine the relationship between literacy outcomes and kindergarten literacy achievement.

The quantitative measures of classroom practices, the Early Language and Literacy Classroom Observation (ELLCO) and the Assessment of Practices in Early Elementary Classrooms (APEEC), were used to predict student literacy outcomes. The quantitative data analysis, however, did not identify any association between classroom practices and kindergarten students' overall literacy achievement. Apparently, the classroom variables examined in the study were not useful in identifying what makes a difference in student literacy achievement.

In examining the individual components that comprised the overall student literacy score, children's high frequency word recognition was significantly predicted by the classroom scores on the ELLCO and the APEEC. It is unclear why only one component of the five used to determine overall literacy achievement appeared to be influenced by the classroom variables included in this study. Perhaps the strategies used to facilitate word recognition were more prevalent in the elements of the ELLCO and APEEC. Cunningham (1995) supports the use of certain strategies for teaching high frequency words. These strategies include helping children learn to associate meaning

with the words, encouraging practice of the words in a variety of contexts, and teaching

words that are similar in spelling or appearance one at a time to avoid confusion. Word

walls are also used to provide a written example of the words for the students. These

elements are evident in both the ELLCO and APEEC. For example, the ELLCO

encourages the use of writing displays, writing materials, and teacher modeled writing for

students. Similarly, the APEEC encourages the use of materials that facilitate

understanding and relevance for children, as well the importance of adapting instruction

to meet the needs of each child. It is quite possible that these classroom strategies were

influential in the development of high frequency word recognition.

In examining the data, it was important to compare the observers' data to the self-

reported practices of the teachers. This step was included in the data analysis to ensure

that the researcher's observations of classroom practices were consistent with the

teachers' descriptions of their own practices. A large amount of deviation between the

researcher's observations and the teachers' self-reported practices might indicate a flaw

in the conclusions gained from this analysis. In order to compare the researcher's

observations with the teachers' self-reported practices, the self-report instrument, the

Instructional Activities Scale (IAS) was used to predict the teachers' scores on the

ELLCO and the APEEC. The IAS is broken into two separate scales that measure

activities considered appropriate for kindergarten students and those considered

inappropriate for kindergarten students.

The correlation between the IAS appropriate practices scale and the ELLCO and

APEEC was positive, while the correlation between the IAS inappropriate practice scale

and the ELLCO and APPEC was negative. This finding was encouraging as it indicated consistency between the observers' scores on the APEEC and ELLCO and the teachers' self-reported practices on the IAS. The APEEC and the ELLCO are both observation-based measures of appropriate instructional practices for kindergarten and early elementary classrooms. In order to show consistency between teachers and researchers, it would be expected that teachers with higher scores on the ELLCO and APEEC would also have higher scores on the IAS appropriate practices scale and lower scores on the IAS inappropriate practices scale. The results indicate, therefore, that the teachers are reporting practices consistent with those observed by the researcher.

Interestingly, the teachers' self-reported appropriate practices on the IAS had a lower correlation with both the ELLCO and the APEEC than the self reported inappropriate practices on the IAS. It is possible that the practices considered inappropriate in the IAS were more obviously examples of instructional strategies that teachers found to be incompatible with student success. This is most likely a result of teachers' tendencies to use practices from both theoretical orientations rather than remaining true to one particular set of practices. While teachers do not rigidly prescribe to one theoretical orientation or the other, they are most likely aware of practices that are more conducive to the development of student growth. Thus the practices the teachers use are more closely tied to their experience with students than with a specific set of practices.

One final method that was used to evaluate the consistency between the observation based measures and the teachers' self-reported practices was to compare the

interview data to the other measures used in the classrooms. Interview data was consistent with both the IAS and the ELLCO and APEEC. Teachers consistently described the need for providing instruction for students based on a variety of student needs and abilities. It was clear that no matter what approach was used in the classroom, whether it was a more teacher-directed approach or a more child-centered approach, the most important goal of instruction was to meet the individual needs of each student. The focus on individual student needs in spite of overall instructional practices is further evidence that teachers do not fall into strictly delineated categories of instruction. Instead, they tend to use instructional strategies from both theoretical orientations, a condition that may create problems with the quantitative data. Because teachers do not subscribe to a pure theoretical concept, it may be harder to determine which practices have the most impact on student achievement.

Teachers also described using assessments to determine the levels of students and working from the assessments to help every child progress. It seems likely that this focus on the needs and abilities of the children, along with the regular use of assessment to determine each child's progress, was at least partially responsible for the children's academic growth. Assessment provides teachers with a means to plan instruction and adapt curriculum, as well as providing a method for communicating each child's progress to parents (Shepard, 1994). Using performance based assessment procedures connects student learning with assessment and allows for curriculum modifications based on student needs (Bowman, et al, 2001; Meisels, et al, 2001; Shepard, 1994). However, while the teachers' attention to assessment and individual needs was quite possibly an

underlying source of student growth, student SES continues to play a part in each student's development.

Another theme that was consistent in the teacher interviews was the integration of instruction across the curriculum. It has been suggested that kindergarten children learn best through an integrated curriculum that is child-focused, promotes active learning, and allows a choice among materials and activities (Bryant, et al, 1991; Bredekamp & Copple, 1997). It has also been suggested that integrated curriculum facilitates learning because the brain organizes information by searching for patterns or characteristics when presented with new information (D'Arcangelo, 1998; Kovalik & Olsen, 1998). An integrated curriculum facilitates the organization of information by encouraging connections between the information that is presented.

Although all teachers described integrating their curriculum, not all teachers used child-centered activities. For example, some teachers described providing sand and water for measuring during center based activities. Other teachers described activities such as measuring dirt, which is a hands-on activity, but the activity was conducted as a whole group and was teacher directed. Thus, while teachers were integrating activities across the curriculum, they tended to use methods that were more closely aligned with their theoretical orientation. However, the teachers' recognition that the integration of curriculum areas is an important instructional practice is another indication that they do not strictly adhere to one set of practices over another.

The second research question addressed in this study was whether or not literacy development differs according to the student's ethnicity, socio-economic status, home

literacy environment, or home language. The quantitative data analysis used to examine this question indicated that children's socio-economic status and home literacy environment both impact student literacy development. In fact, students from lower socioeconomic conditions and students from homes reporting fewer literacy resources entered school with lower literacy abilities, but made more growth during the kindergarten year. This finding is a logical one, since it would seem appropriate that children having lower abilities at the beginning of the year would achieve more growth. Nevertheless, children who entered kindergarten with higher scores also maintained higher scores throughout kindergarten and completed the kindergarten year more advanced than their peers from lower socioeconomic status. It is also a promising finding, as it shows that schools are making a difference, even though it is unclear what specific methods are most effective in achieving this growth.

While the quantitative data analysis did not identify any specific practices that were making the difference in student outcomes, the qualitative data provided some indication that teachers' practices of sending home literacy materials with children may have impacted the growth and development of children who came from homes with fewer resources. For example, teachers described sending home books with children regularly, and encouraging parents to read to their children. Teachers also described providing parents with songs and games in which the children participated at school so that the parents might follow up on this instruction at home. The provision of additional resources to parents may be the extra boost that is needed for the children's literacy development.

An HLM analysis was conducted as a follow-up measure of the student level variables, to insure that the results were not inflated considering the nested nature of the data (Raudenbush & Bryk, 2002). The HLM analysis confirmed that the student variables of socioeconomic status and home literacy environment were significant predictors of overall student literacy achievement. HLM analysis also verified that almost all of the variability in student literacy achievement was at the student level, not at the classroom level. This finding confirms the initial analysis suggesting that quantitative classroom variables did not play a part in overall student literacy achievement.

Implications

Practical Implications

Results of this study suggest that student SES and student home literacy environment are the most significant predictors of kindergarten student literacy achievement. It seems advisable, therefore, that teachers work with parents to increase parents' literacy interactions with their children and to increase children's access to literacy materials. Teachers should encourage parents to access the public library to increase their children's exposure to books and literacy opportunities. The importance of reading to children early and often should be promoted with parents, as should the importance of speaking with children to increase vocabulary development. Another way that teachers can help influence the home environment is to provide literacy materials for children to use at home such as crayons, pencils, and paper. Teachers might also send home books for the children to share with their parents.

Since both the APEEC and the ELLCO significantly predicted one component of literacy development, high frequency word recognition, teachers should use components of these measures to enhance literacy instruction, especially as it relates to word recognition. Some suggestions that are conducive to word learning include providing children with word cards with familiar words, incorporating interactive charts and big books into learning activities, and using shared reading and writing activities.

Policy Implications

This study provides support for the importance of parent education and parent support regarding the importance of early literacy interactions and enhanced home literacy environments. Parent education programs can increase parents' understanding of the importance of providing literacy materials such as books, crayons, and paper for their children at an early age. Support is also needed for community agencies, such as public libraries, so that these agencies can provide materials to low-income families.

Public school administrators can use this research to support the addition of parent education programs in their schools. Such education programs may be developed to promote the increased literacy development of parents so that they will be better equipped to provide their children with experiences conducive to school success. This research also supports the expansion of lending libraries of literacy activities and materials that parents can use at home with their children.

Research Implications

This study focused on one school district, resulting in a fairly small sample size. It would be helpful to replicate the study in another school district. A possibility might be

to choose a district with a larger number of kindergarten students, thus increasing the sample size. It might also be helpful to choose a school district in a different geographic location in order to compare the results in different areas of the United States.

Another consideration for future research involves identifying classroom level variables that make a difference in student literacy achievement. Because this study was unable to determine exactly which classroom variables were making a difference in student literacy achievement, this remains an important question. It appears that student level variables account for almost all of the variation in student literacy achievement, but student growth is taking place. It remains to be determined; therefore, what classroom strategies are responsible for this growth. Perhaps the use of different classroom measures, or a more in-depth analysis of qualitative variables would shed more light of the question of kindergarten instructional practices that make a difference in student achievement. It might also be helpful to target other literacy outcomes such as invented spelling, or children's ability to retell a story that has been read to them. Both of these outcomes are quantifiable, and make a difference in children's literacy development (Manning & Kamii, 2000; McGee & Richgels, 2000), but neither was measured in this study.

Finally, it would be interesting to follow up with the students originally included in this study to determine how they have progressed in literacy development. This would help to clarify whether or not the literacy growth begun during the kindergarten year continued, and whether or not children from homes with less means were able to continue their path toward literacy success.

Limitations of the Study

This research study was limited to one school district in the southeastern United States. Although every kindergarten classroom in the school district was included in the study and the sample was quite diverse in nature, it is difficult to generalize the findings from one school district to the larger population. Also, participation in the study was limited to children whose parents provided signed consent. Thus only 61% of the total kindergarten population of the school district was represented in the study. One other limitation regarding the sample was that only 159 of the 204 students participating in the study returned Home Literacy Questionnaires. Although this represents 78% of the participants and is a fairly large representation of the total sample, it represents a further limitation of the study.

Conclusions

The results of this study suggest that student level variables are primarily responsible for overall student literacy achievement during the kindergarten year. Specifically, the student variables of socioeconomic status and home literacy environment were found to be the most significant predictors of literacy achievement. Thus, it remains to be determined exactly what type or instructional practices make the most difference in student literacy achievement during the kindergarten year.

Previous research regarding literacy instruction has suggested that the skills-based approach tends to be effective in increasing the prerequisite skills of letter, identification and letter-sound associations for children considered at risk for developing a reading disability, including children from homes with fewer resources (Stuart, 1999; Torgeson,

et al., 1999; Whitehurst, 1999). The teachers in this study tended to use strategies from both the skills-based and the child-centered theoretical orientations. However, some teachers tended to fall closer to the skills-based end of the spectrum, while others tended to fall closer to the child-centered end of the spectrum. It is important to note that children in the classrooms more closely aligned with the skills-based orientation did not make more progress than children in the more child-centered classrooms. Both instructional practices appear to have had a similar impact on the children's literacy achievement.

Previous research related to children's literacy development in kindergarten also suggests that while children form child-centered classrooms may not necessarily outperform children from skills-based classrooms on measures of prerequisite skills such as letter recognition and letter-sound associations (Dahl & Freppon, 1995; Thomas & Barksdale-Ladd, 1997), children from child-centered classrooms tend to have a more positive attitude toward literacy than children from skills-based classrooms (Freppon & McIntyre, 1999; Nolen, 2001; Oldfather & Dahl, 1994; Thomas & Barksdale-Ladd, 1997; Turner & Paris, 1996). This study did not examine affective outcomes. Nevertheless, results of this study indicate that children in child-centered classrooms made as much progress in literacy achievement as children from skills-based classrooms. It is possible that the growth in literacy achievement combined with the development of positive attitudes toward literacy activities that have been demonstrated by previous research in child-centered classrooms will make an enormous impact on the future academic growth

of the children from the classrooms more closely aligned with the child-centered orientation.

As discussed previously, although the quantitative analysis did not uncover any significant practices regarding overall literacy achievement, the interview data from the teachers produced examples of instructional practices that may be making a difference in the literacy development of children. The teachers consistently described the use of assessment to guide individualized instruction, a concern for the individual needs of students, the use of integrated curriculum approaches, and the importance of communicating with families.

Many of these practices are consistent with theories that explain children's growth and development. For example, the use of assessment to guide instruction is supported by Piaget's cognitive development theory that describes the development of knowledge as a relationship between the child's current cognitive developmental level and the task or problem that the child encounters in the environment (De Lisi, 2002). In order for a child to benefit from interactions with objects and experiences, the experience must be appropriate to the child's developmental level. In other words, the child must have some existing knowledge, or schema, that will allow the child to assimilate or accommodate the new information (Jacob, 1984; Williams, 1999). Recent research in the area of brain development also suggests that in order for children to make sense of new information, and remember information, the new information must be linked to existing knowledge (Kovalik & Olsen, 1998; Lowerey, 1998; Sylwester, 1994). The use of

ongoing assessment to determine children's current level of performance thus allows the teacher to match instruction to each child's needs.

Vygotsky is another notable theorist who provides support for the use of ongoing assessment, attention to individual needs and abilities, and integrated curriculum. Vygotsky described the teacher's role as one of helping the child to develop the ability to use these processes independently by modeling and explaining (Green & Gredler, 2002). Often attributed to Vygotsky is the idea of a "zone of proximal development" which is described as the distance between the child's current developmental ability and the potential developmental level that could be achieved through adult or peer guidance (Gillen, 2000; Tudge, 1990). The significance of attending to each child's current level of development, and providing the instruction necessary to help the child reach the next level of development is thus inherent in Vygotsky's theory as well.

In further considering the results of this study, it is important to pay attention to the noticeable importance of the home literacy environment. Parent responses to the Home Literacy Questionnaire provided information that suggests that children with more literacy experiences in the home prior to kindergarten entry have higher levels of literacy development at the beginning of the kindergarten year. This is consistent with the findings of Frijters et. al. (2000) who found that children with higher scores on the Home Literacy Questionnaire had higher levels of letter-name and letter-sound knowledge. Thus, it is possible that encouraging literacy activities at home may have a significant impact on children's literacy achievement as they enter school, as well as while they progress through school.

Perhaps the teachers' reported practice of communicating with parents influenced the use of additional literacy strategies in the homes, which may account for the children's increased literacy development. Since children with lower home literacy scores achieved more growth, it is possible that the communication between home and school influenced this growth. The teachers discussed using techniques such as weekly newsletters to share information about classroom practices, making phone calls to parents, and sending books home with children to share with their parents. The additional focus on home-school communication inherent in the practices of these teachers may have impacted the overall literacy achievement of the children in their classrooms.

This study set out to find an answer to the question regarding whether skills-based instruction or child-centered instruction makes the biggest difference in literacy achievement for kindergarten students. Although no clear answer has been determined, results of this study suggest that perhaps what is really most important is teachers' commitment to determining the individual needs of students and working from that point to increase student growth and development. Perhaps previous research regarding the skills-based approach is, in reality, focusing on this same phenomenon as instruction in skills-based research has tended to focus on the individual needs of students (Blachman, et al., 1999; Fuchs, et al., 2002; Lovett, et al., 2000; Stuart, 1999; Torgesen, et al., 1999; Whitehurst, 1999). Furthermore, while this study did not include affective outcomes as did previous child-centered research (Freppon & McIntyre, 1999; Nolen, 2001; Oldfather & Dahl, 1994; Thomas & Barksdale-Ladd, 1997; Turner & Paris, 1996), children in this study who were in classrooms more closely aligned with the child-centered approach

made as much progress in skill development as children in classrooms more closely

aligned with the skills-based approach.

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APPENDIX A

Teacher Demographic Information Sheet

<u>Demographic Information Sheet</u>   Identification #_____

What is your degree area?

What is your licensure area?

How long have you been teaching?

How many children are in your classroom?

Are there any children with special needs in your classroom?

APPENDIX B

Home Literacy Questionnaire

THE UNIVERSITY OF NORTH CAROLINA

GREENSBORO

School of Education
Department of Specialized Education Services

Dear Parent or Guardian,

I recently sent a letter home with your child describing a study that I am conducting in your child's school about the way children learn to read and write. As a part of this study, I am interested in knowing what kinds of things you do at home related to reading and writing. Please answer the following questions and return this form to your child's teacher. I truly appreciate your help. Please call me at (336) 256-0497 if you have any questions or concerns about this study. Once again, I appreciate your help.

Sincerely,

Sonia Michael

Please circle the answer that best describes what you do at home:

1) How old was your child when you first began to read to him or her?
   a) 3 years or older
   b) 2 years
   c) 18 months
   d) 1 year
   e) 6 months

2) How many times a week do *you* read to your child?
   a) not at all
   b) 1-3 times
   c) 4-6 times per week
   d) 7-9 times per week
   e) more than 10 times per week

3) How many times in a week does another caregiver besides yourself (for example your spouse, an older sibling, a baby sitter) read to your child?
   a) not at all
   b) 1-3 times per week
   c) 4-6 times per week
   d) 7-9 times per week
   e) more than 10 times per week

4) Approximately how many children's books does your child have?
   a) 1-10
   b) 11-20
   c) 21-30
   d) 31-50
   e) more than 50

5) How often does your child visit the public library?
   a) not at all
   b) 1 time per month
   c) 2-4 times per month
   d) 5-10 times per month
   e) more than 10 times per month

APPENDIX C

Teacher and Parent Permission Letters

THE UNIVERSITY OF NORTH CAROLINA

GREENSBORO

CONSENT TO ACT AS A HUMAN PARTICIPANT: SHORT FORM WITH ORAL PRESENTATION

Project Title: Literacy Practices and Outcomes in Kindergarten Classrooms

Project Director: Sonia Michael

Participant's Name:

Sonia Michael has explained in the preceding oral presentation the procedures involved in this research project including the purpose and what will be required of you. Any benefits and risks were also described. Sonia Michael has answered all of your current questions regarding your participation in this project. You are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice; your participation is entirely voluntary. Your privacy will be protected because you will not be identified by name as a participant in this project.

The research and this consent form have been approved by the University of North Carolina at Greensboro Institutional Review Board, which insures that research involving people follows federal regulations. Questions regarding your rights as a participant in this project can be answered by calling Dr. Beverly Maddox-Britt at (336) 334-5878. Questions regarding the research itself will be answered by Sonia Michael by calling 336-256-0497. Any new information that develops during the project will be provided to you if the information might affect your willingness to continue participation in the project.

By signing this form, you are agreeing to participate in the project described to you by Sonia Michael.

_____   _____
Participant's Signature   Date

_____
Witness* to Oral Presentation and Participant's
Signature

*Investigators and data collectors may not serve as witness. Subjects, family members, and persons unaffiliated with the study may serve as witness.

THE UNIVERSITY OF NORTH CAROLINA

GREENSBORO

School of Education
Department of Specialized Education Services

Dear Parent or Guardian,

My name is Sonia Michael, and I am conducting a study in your child's school called Literacy Practices and Outcomes in Kindergarten Classrooms. Your child's school is not conducting or sponsoring this project. I am interested in understanding how children learn to read, and what kinds of things teachers do to help. In order to do this, I will be observing the kinds of things your child's teacher does to encourage reading throughout the school year. I will also be looking at the information in your child's literacy portfolio, which is a record of your child's progress in reading development. Your child's information will not be identified with his or her name. Instead the information will be given a number to protect your child's privacy.

Because learning to read is one of the most important things your child will do in school, this study will show us the best ways to help children read. There are no risks to your child if he or she participates in this study, and you can refuse to allow your child to participate at any time. If you have any questions about this study, please call Sonia Michael at (336) 256-0497. Thank you for your help, and for allowing me to learn more about how children learn to read.

Sincerely,

Sonia Michael

CONSENT:
By signing this consent form, you agree that you understand the procedures and any risks and benefits involved in this research. You are free to refuse to allow your child to participate or to withdraw your consent for your child's participation in this research at any time without penalty or prejudice; participation is entirely voluntary. Your child's privacy will be protected because he or she will not be identified by name as a participant in this project. The research and this consent form have been approved by the University of North Carolina at Greensboro Institutional Review Board, which insures that research involving people follows federal regulations. Questions regarding your rights as a participant in this project can be answered by calling Dr. Beverly Maddox-Britt at (336) 334-5878.

By signing this form, you are agreeing to allow your child to participate in the project described to you by Sonia Michael.

_____   _____

Child's Name   Child's Age

_____   _____

Custodial Parent(s)/Guardian Signature(s)   Date

APPENDIX D

Instructional Activities Scale

Revised by Craig Hart, Diane Burts, Rosalind Charlesworth, Pam Fleege, Mark Ickes, and Maryann Durland, Louisiana State University. January, 1990

INSTRUCTIONAL ACTIVITIES SCALE

Please respond to the following items by circling the number that most nearly represents how often your children participate in the following activities, on the average.

1		2	3		4		5
Almost	Rarely		Sometimes		Regularly		Very Often
Never							
(less		(monthly)	(weekly)		(2-4/week)		(daily)
than							
monthly)							

	1	2	3	4	5
1. building with blocks	1	2	3	4	5
2. children selecting centers (home, book, math, science, writing, etc.)	1	2	3	4	5
3. participating in dramatic play	1	2	3	4	5
4. listening to records and / or tapes	1	2	3	4	5
5. doing creative writing (combining symbols/invented spelling and drawing)	1	2	3	4	5
6. playing with games and puzzles	1	2	3	4	5
7. exploring animals, plants, and /or wheels and gears	1	2	3	4	5
8. singing and / or listening to music	1	2	3	4	5
9. creative movement	1	2	3	4	5
10. cutting their own shapes from paper	1	2	3	4	5
11. playing with manipulatives such as pegboards, puzzles, and/or legos	1	2	3	4	5

Page 2
INSTRUCTIONAL ACTIVITIES SCALE

1	2	3	4	5
Almost Rarely Never	Sometimes		Regularly	Very Often
(less than monthly)	(monthly)	(weekly)	(2-4/week)	(daily)

12. coloring and / or cutting teacher or commercial predrawn forms	1	2	3	4	5
13. children reading in ability/age level groups	1	2	3	4	5
14. circling, underlining, and / or marking items on worksheets	1	2	3	4	5
15. using flashcards / charts with sight words and / or math facts ABC's	1	2	3	4	5
16. rote counting	1	2	3	4	5
17. practicing handwriting on lines	1	2	3	4	5
18. reciting the alphabet	1	2	3	4	5
19. copying from the chalkboard	1	2	3	4	5
20. sitting for longer than 15 minutes	1	2	3	4	5
21. waiting for longer than 5 minutes between activities	1	2	3	4	5
22. large group teacher directed instruction	1	2	3	4	5
23. children coordinating their own activities in centers	1	2	3	4	5
24. tangible rewards for appropriate behavior and / or performance	1	2	3	4	5

Page 3
INSTRUCTIONAL ACTIVITIES SCALE

1	2	3	4	5
Almost Rarely	Sometimes		Regularly	Very Often
Never				
(less	(monthly)	(weekly)	(2-4/week)	(daily)
than				
monthly)				

25. losing special privileges (trips, recess, free time, parties, etc.) for misbehavior	1	2	3	4	5
26. social reinforcement (verbal praise, approval, attention, etc.) for appropriate behavior and / or performance	1	2	3	4	5
27. using isolation (standing in the corner or outside of the room) to obtain child compliance	1	2	3	4	5
28. games/activities directed by or made by parents	1	2	3	4	5
29. specifically planned outdoor activities	1	2	3	4	5
30. multicultural and nonsexist activities	1	2	3	4	5
31. competitive math activities to learn math facts	1	2	3	4	5
32. health and safety activities	1	2	3	4	5
33. drawing, painting, working with playdough, and other art media	1	2	3	4	5
34. math incorporated with other subject areas	1	2	3	4	5

APPENDIX E

Teacher Interview Questions

Interview Questions

1. Please describe your approach to curriculum planning. For example, how do you plan your instruction and activities?

2. Do you cover fine arts in your classroom? How often do you cover math? Language arts? Social studies? Science? What do you do when the weather is bad and you can't go outside?

3. How often do you change displays of children's work? How do you decide what to display?

4. How do you plan for language and literacy development (particular programs, reading groups, independent reading time, etc.)?

5. Please describe how you use technology in your classroom. How often do the children use computers? Do they use the internet? What kinds of things do children do with computers? With tape players?

6. How do you address diversity in your classroom? How do you incorporate diversity into your instruction?

7. How do you communicate with families? How do families contact you? How are families involved in your classroom? Can they visit? How often do you have conferences? Have you met all of the parents?

8. How do you evaluate children's learning? What kinds of assessments do you use? How do you use results in your teaching?