

THE EFFECTIVENESS OF PARENTAL INVOLVEMENT IN PRESCHOOL
EDUCATION PROGRAMS ON PARENT PERCEPTIONS OF THEIR CHILD'S
SCHOOL READINESS

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Judith Ann Konerza

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By

Judith Konerza

The Supervisory Committee certifies that this *disquisition* complies with North Dakota State University's regulations and meets the accepted standards for the degree of

DOCTOR OF PHILOSOPHY

SUPERVISORY COMMITTEE:

Dr. Myron A. Eighmy, Chair

Dr. Shelby Barrentine

Dr. Sean Brotherson

Dr. James Deal

Dr. Joel Hektner

Approved:

April 26, 2012

Date

Bill Martin

Department Chair

ABSTRACT

The purpose of this study was to determine if the Gearing Up for Kindergarten program created a significant impact on parent understanding of children's development and aspects of school readiness. Parent perceptions of their child's readiness to make the transition to school were also assessed.

The study also measured the Gearing Up for Kindergarten impact on children's scores on selected academic measures.

A selected sample of 75 parents were surveyed with pre, post, and post post program assessments using the Practical Parent Assessment of School Readiness survey. The survey used Likert scale measures to assess parent perceptions of readiness in the 5 domains of child development: Approaches to learning, Social and emotional development, Physical well-being and motor development, Language development, and Cognition and general knowledge. The survey found significant differences between the treatment and control group on selected measures of the social and emotional scales. The survey also measured parent perceptions of their child's readiness for the transition to school and found no significant difference between treatment and control groups.

The AIMS Web children's assessment measured children's academic knowledge with three one minute tests: letter identification, number identification, and oral counting. This assessment compared children's scores using an ANOVA and found no significant differences in children's scores between treatment and control groups.

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CHAPTER 1. INTRODUCTION

The increased emphasis on the importance of parental involvement in student education and school readiness is at the forefront of research efforts due to increased expectations of student knowledge and proficiency upon entrance into kindergarten. Before the start of kindergarten, children are most often under the care of parents and not part of a formal education system. Parental involvement and child-rearing practices can vary greatly from one family to the next based on parental beliefs and knowledge of child development. The Harvard Family Research Project (2006a) publication reinforces the importance of parents' involvement during children's early years and the benefits children derive from entering school ready to succeed.

Children who begin school with solid family relationships, age-appropriate social skills, an understanding of cooperation, and school-readiness skill sets are more likely to experience success and enjoyment in the learning experience (Klein, 2002).

There is no formal means to inform parents regarding school readiness in North Dakota; it is one of ten states with no state-funded preschool programming. Lack of a formal system to inform and educate parents does not provide significant opportunities for schools and agencies to share information, with parents, that could assist with early education for children. The early learning years provide important opportunities for parents; "Between birth and age five is the most leveraged opportunity for schools and parents to prevent children from falling behind in development and learning" (Fielding, Kerr, & Rosier, 2004, p. 205). This early window of development is a prime time to share best practices with young parents; "Parents can position their child for academic success long before the first day of kindergarten. A vibrant life of learning begins at birth"

(Fielding, 2009, p. 12) and the home is the child's first classroom with parents as the first teachers. Parents have the most significant role in children's lives and are considered to be their first teachers (North Dakota Department of Human Services, 2008a).

Literature Summary

Research supports the idea that appropriate home learning experiences and a quality home literacy environment positively affect young children's cognitive development, language, reading readiness, and later school success (Fielding, 2006; High/Scope Educational Research Foundation, 2006; Sprenger, 2008). Brain research reinforces that providing warm and loving emotional care to young children is critical to their social-emotional and cognitive development. Positive maternal nurturing impacts children's development, of pre-reading and pre-math readiness skills, and reinforces other aspects of early development which can in turn impact school readiness (Rhode Island KIDS COUNT, 2005; Sprenger, 2008).

Brain development occurs most rapidly during the first three years of life, and it is important for children to be held, cuddled, and talked to during this time (Dickinson & McCabe, 2001; Fielding et al., 2004; Sprenger, 2008). A child's brain continues to develop rapidly until age eight or ten when it slows down, suggesting children's first years are crucial for shaping their capacity to learn (Hinkle, 2000; Sprenger 2008).

Our nation's early childhood education has strong roots in the Head Start program, but the program is limited in the population it serves. In 1989, then President H. W. Bush, together with the nation's governors, worked to form a set of national educational goals for all children, "Goals 2000" (Kagan & Rigby, 2003, p. 2). These goals emphasized the importance of education and growth in early childhood. The first goal stated, "By the year

2000, all children in America will start school ready to learn” (U.S. Department of Education, 1995, p. 1). This report emphasized the link connecting early education to later school achievement.

In 1990, the U.S. Department of Education set a goal for increased parental participation in education: “By the year 2000, every school will promote partnerships that will increase parental involvement in promoting the social, emotional, and academic growth of children” (National Education Goals Panel [NEGP], 1995, p. 13).

The panel proposed that state and local education agencies work together to develop partnership programs that would meet the varying needs of bilingual, disabled, or disadvantaged children and their parents. Programs would support the academic work of children at home, promote shared decision making at school, and hold schools and teachers accountable for high standards of achievement. In the years since the panel called for greater collaboration between schools and families, more attention has been placed on the importance of parent involvement . . . (Patrikakou, Weissberg, Redding, & Walberg, 2005b, p. 4)

Patrikakou, Redding, & Walberg, (2005b) continued to explain how the No Child Left Behind [NCLB] Act of 2001 (NCLB, 2002) has played a central role in our nation’s education policy. “NCLB acknowledges that parents play an integral role in their children’s learning, and that they should be given the opportunity to act as full partners in their children’s education” (p. 4).

School-family partnerships have continued to be the focus of research, policy, and practice efforts in recent years, and Henderson and Mapp (2002) found children benefit when schools and families work cooperatively. Furthermore, effective parents participate in

their children's education by partnering with teachers in working toward the core educational objectives of socialization, emotional growth, and academic learning (Henderson & Mapp, 2002; Patrikakou et al., 2005b). The benefits of such partnerships include higher grades and test scores, better attendance, improved behavior at home and school, better interpersonal skills, and more responsible decision making (Henderson & Mapp, 2002; Patrikakou et al., 2005b).

Statement of the Problem

Schools today face great challenges as they grapple with instructing children at multiple levels of readiness and skills. Children who enter school behind in their development and academic knowledge tend to stay behind as they move into the next grade (Fielding, 2009).

The National Center for Education Statistics [NCES] study of children who entered kindergarten in 1998 found that cognitive and social skills are strongly correlated with income at school entry. Although children in poverty are the furthest behind, children from middle-income families are as far behind children from higher income families as poor children are behind middle class. Most American children are not achieving their potential prior to school entry, and those who start behind tend to stay behind. (National Institute for Early Education Research [NIEER], 2004, p. 2)

While research has demonstrated parental involvement is a vital component to kindergarten readiness, up to 42% of the nation's children begin kindergarten behind (Espinosa, Thornburg, & Mathews, 1997).

In a 1995 survey of 3,500 kindergarten teachers from across the country, many teachers reported that large proportions of their students lacked important school readiness skills. For example 46% of the kindergarten teachers reported that at least half of the students in their classroom had difficulty following directions, 36% reported that at least half of their class lacked academic skills they needed, and 34% reported that at least half of their class had difficulty working independently. In Maryland, only 52% of children who entered kindergarten in 2002 were considered “fully ready.” In a 2001 statewide survey, Colorado kindergarten and first-grade teachers reported that four out of 10 children were not academically prepared for school and that about one-third were not socially and emotionally prepared.

(NIEER, 2004 p. 2)

Espinosa et al. (1997) conducted a Carnegie Foundation for the Advancement of Teaching research study of over 7,000 kindergarten teachers’ perceptions of student readiness revealed more than a third of students entering kindergarten were not ready. Kindergarten teachers from across the country shared their varied views of school readiness; and their perceptions of readiness spanned multiple domains of development and included physical and emotional maturity, language development, general cognition, and a sense of right and wrong. Percentages of readiness “ranged from Hawaii teachers reporting 47% of students were not ready for school to North Carolina teachers reporting that 23% of their incoming students were not ready to participate successfully in kindergarten” (Espinosa, Thornburg, & Matthews, 1997, p. 121). Language proficiency was cited most frequently as teachers’ biggest area of concern. Other areas identified as moderately concerning included social awareness and confidence, moral awareness, and overall

knowledge. “*Parent education* was most frequently suggested as a way to improve children's readiness for school” (Espinosa et al., 1997, p. 121).

Espinosa et al. (1997) also asked teachers in this study to identify the school readiness of their most recent class. Forty-two percent of the respondents said that fewer students were ready at the time of the study than five years previously; 33% said students were comparably prepared; and only 25% said entering kindergarten students were more prepared than in previous years.

The importance of parents in children’s developmental and academic achievement is widely known and understood (Fielding, 2009; Fielding et al., 2004; High/Scope Educational Research Foundation, 2006; NIEER, 2004). A consistent and positive relationship between parent and child is the foundation for children’s future success:

It is through consistent relationships that children develop “. . . self-awareness, social competence, conscience, emotional growth and emotion regulation, learning and cognitive growth” as well as other developmental accomplishments (NRC, 2000, p. 265). Parents are more important to the development of a child’s readiness for school than childcare and schools (Child Trends, 2003). (High/Scope Educational Research Foundation, 2006, p. 78)

Existing studies validated the importance of parents’ involvement, even calling parental involvement vital in children’s educational process and outcomes (Henderson & Mapp, 2002). Children’s success in both school and life depends upon multiple factors of support for development and growth (Browning et al., 2006; Fielding, 2009; Fielding et al., 2004; Hanson, 2008). Research supported the critical nature of parental support and nourishment, from birth through age five, for kindergarten readiness and later educational

achievement (Fielding, 2009; Fielding et al., 2004; Weiss, Caspe, & Lopez, 2006).

Knowledgeable parents can positively impact the educational achievement of children, especially when parental involvement begins at birth (Fielding, 2009).

If parents do not understand kindergarten readiness, they may believe education begins with formal schooling. This misconception can contribute to academic deficiencies in children (Espinosa et al., 1997; Fielding, 2009; Hanson, 2008; High/Scope Educational Research Foundation, 2006; Weiss et al., 2006). The expectations of kindergarten readiness have changed over time, but especially in recent years; hence, parents may lack a clear understanding of current educational expectations for their kindergartners (Espinosa et al., 1997; Fielding, 2009; Fielding et al., 2004; Hanson, 2008). Research indicates preschool and family education programs with a parent-child component can teach parents in a non-threatening atmosphere about daily learning opportunities and can give parents knowledge of child development that does not require advanced degrees (Rockwell, Andre, & Hawley, 1996). Knowledge of child-rearing practices can empower parents in their parenting practices (Epstein, 1995; Rockwell et al., 1996).

Epstein (1995) and Rockwell et al. (1996) reported that many parents, especially those of minority cultures or those who are themselves uneducated, may feel overwhelmed by the challenges of taking an active role in their child's education. Because some cultures assign the responsibility of formal education to teachers alone, parents from those cultures are not familiar with a parental role in early childhood education and parental involvement when their children are in school. Partnering with schools in their children's education is a foreign concept to some parents (Rockwell et al., 1996).

South Carolina's *First Steps* school-readiness program recognized the importance of the relationship between parents' and children's school readiness and focused on improving parenting practices and increasing school readiness through these core objectives:

- Increase family literacy and parent education levels.
- Improve parental employability and employment.
- Increase the effectiveness of parenting related to child nurturance, learning, and interaction, language, health and safety.
- Increase successful parenting and family literacy programs targeting, service integration, and results documentation.
- Increase parent involvement in preK–12 education settings. (High/Scope Educational Research Foundation, 2006, p. 78)

In a 2004 poll conducted by the National Institute for Early Education Research (NIEER), the following result was noted:

[A] large majority [of] kindergarten teachers believe that their students would be better prepared for school if they participated in prekindergarten. In the poll (2004), 66% of kindergarten teachers rated children who attended prekindergarten as 'substantially better prepared' to start school ready to succeed compared to one percent of teachers who said prekindergarten kids were "less prepared." The vast majority of the teachers, ranging from 78 to 93 percent, said children who had attended quality prekindergarten programs were more likely to get along with others and be sensitive to their feelings, count, have problem-solving skills, know

letters of the alphabet, and follow directions better, and were less likely to disrupt class. (NIEER, 2004, p. 2)

Children who attend high-quality pre-kindergarten programs scored significantly higher on mathematics, reading, and language arts upon entry into kindergarten (Ackerman & Barnett, 2005). Children who began kindergarten with fewer readiness skills than their peers fell further behind as they proceeded through their K-12 school years. Research by Kamerman and Gatenio-Gabel (2007) linked “high-quality preschool education” with school success and reduced crime rates. In addition, as adults those students showed greater levels of employment as well as reduced rates of smoking and risky behaviors. Economically speaking, children who attend a high-quality preschool can save society “up to \$17” for every \$1 spent on preschool (Kamerman & Gatenio-Gabel, 2007, p. 24).

Consistent research findings showed young children are capable learners and their linguistic, mathematical, and other readiness skills are influenced and improved by their educational and developmental experiences during the early years (Fielding et al., 2004). A number of studies identified participation in quality early childhood programs has been consistently associated with increased levels of cognitive development, school achievement, and motivation as well as lower rates of grade retention and special education placement (Barnett & Hustedt, 2005; Peisner-Feinberg & Schaaf, 2007).

Dr. Joyce Epstein’s (1987a) original work on parents’ roles and involvement in their children’s education established evidence that parental involvement in children’s development and education affects children’s academic growth and achievement, attitudes, and aspirations. Students gain in personal and academic development if their families emphasize education (Epstein, 1987a).

This study will examine parental perceptions of school readiness through participation in the Gearing Up for Kindergarten school-readiness program. North Dakota is 1 of 10 states with no formal early childhood funding for education, and many children are underserved due to a lack of program availability and funding (Barnett, Epstein, Friedman, Boyd, & Hustedt, 2008). This study will research parent perceptions and student growth through participation in the Gearing Up for Kindergarten program. Parents are assessed for perceptions of their child's school readiness at three points in time: pre-program, post-program, and a post post-program assessment when their child begins kindergarten. Children are assessed on selected academic measures at the same time parents complete their assessments. The Gearing Up for Kindergarten program provides a unique focus in children's school readiness by combining two facets of education, parent involvement and school readiness. Many preschool programs focus on preparing children for school. This program works with parents and children to prepare for their joint journey in education (Brotherson, Query, & Saxena, 2009).

Purpose of the Study

The first purpose of this study is to determine if the Gearing Up for Kindergarten school-readiness program played a significant role in teaching parents developmental skills and practices to help children begin school ready to learn, at kindergarten levels of readiness. The second purpose of this study is to determine if children's readiness for school, on selected academic measures, is significantly impacted through participation in the Gearing Up for Kindergarten program.

Research Questions

This quasi-experimental study will examine the following research questions:

1. Is the change over time in the Practical Parent Assessment of School Readiness (PPASR) scores for the treatment group parents different from the change over time for the control group parents for the 5 domains of child development?
2. Is the change over time in PPASR scores for the treatment group parents different from the change over time for the control group parents for the transition-to-school knowledge and familiarity construct?
3. Are there differences in change over time between treatment and control group in children's knowledge of letter identification, number identification, and oral counting as measured by AIMS Web scores?
4. Is there a difference between treatment and control group in the strength of the relationship between the parent PPASR scores and child AIMS Web scores?

Significance of the Study

The academic outcomes possible through parental involvement range from gains in early childhood to adolescence and beyond. Early childhood programs with family participation as an integral part of programming show that children from those programs have fewer delinquency problems and experience greater success with employment and relationships in adult life (Patrikakou et al., 2005b).

Research evidence on home-school relations and academic achievement has indicated that children whose parents are involved with early childhood programs such as Head Start score higher on cognitive development scales, use a richer vocabulary, and speak in more complex sentences than do children whose families

are not part of such programs (Mathematica Policy Research and the Center for Children and Families at Teachers College, Columbia University, 2001). Also, participants in early childhood programs that had a family collaboration and support component are more likely to score at or above national norms on scholastic readiness tests at school entry. Most importantly, these gains continue to be prominent in later educational performance, with fewer grade retentions and increased high school completion rates (Henderson & Mapp, 2002). (Patrikakou et al., 2005b, p. 7)

The significance of this study is its contribution to a growing body of knowledge through examination of children's learning, in a unique classroom setting that involves parent participation alongside child learning. The learning outcomes are measured to determine if program involvement significantly impacts children's academic scores and parent perceptions of child development and school readiness.

Research Study Design

This quasi-experimental research study has two main components, a student assessment, on selected academic measures, and a parent perception assessment for understanding of child development and school readiness. The study is designed to assess the effectiveness of the treatment by comparing the scores of students and parents in the treatment and control groups.

This study compares two groups of children on selected academic readiness skills in math and language. One group, the treatment group, participated in the Gearing Up for Kindergarten, a 16-week, interactive, parent/child school-readiness program. The second group, the control group, did not participate in the Gearing Up for Kindergarten program

but participated in the same assessments given to the treatment group. Each student group was assessed at equal intervals, pre-program, post-program and post post-program, with the quantitative academic measuring tool, AIMS Web, to determine the students' knowledge of letter identification, number identification, and oral counting.

The assessment was given to both groups prior to the beginning of the Gearing Up for Kindergarten program in the fall of 2010, and at the conclusion of the Gearing Up for Kindergarten program in the spring of 2011. Students were tested a third time, at the beginning of their kindergarten year.

This study is also designed to compare the effectiveness of the Gearing Up for Kindergarten program on parental perceptions of child development and perceptions of their child's feelings on the transition to school. The assessment instrument for parents is the Practical Parent Assessment for School Readiness (PPASR). This assessment was given to parents of children in both the treatment and control groups. The assessments were administered, pre-program, post-program, and post post-program.

Results will be shared with administrative personnel in the school district; with North Dakota State University (NDSU) Extension administration; and with NDSU researchers who are writing, editing, and researching the Gearing Up for Kindergarten curriculum in partnership with the Parent Education Network in North Dakota.

This study underscores the importance of a program promoting a shared responsibility between families and educators. The Gearing Up for Kindergarten program is designed to facilitate parent understanding regarding the importance of their dual role as parents and educators. A culture of success for children can be created when schools and

parents share goals, contribute cooperatively in student learning, and accept joint accountability for students' success in school (Fantuzzo, Tighe, & Childs, 2000).

Kindergarten readiness is a complex and multidimensional construct influenced by many early childhood experiences. For this study, school readiness is defined using the guidelines developed by the National Education Goals Panel (Kagan, Moore, & Bredekamp, 1995). These goals are the current standards generally accepted by the early childhood community. The NEGP identified five dimensions of children's development and learning that are important for school success:

- Physical well-being and motor development
- Social and emotional development
- Approaches toward learning
- Language development
- Cognition and general knowledge

These five dimensions are interrelated and dependent upon each other; development in one area will affect development in others. In this perspective, there is no single or uniform standard of readiness. Children's development is variable at age five; thus, no child will demonstrate all necessary skills in every area. No one dimension is more important than another, and the goal is for children to develop competencies across all five domains.

Definition of Terms

The following terms and definitions will be used in this study.

AIMS Web Children's Assessment: AIMS Web is a benchmark and progress monitoring system based on direct, frequent, and continuous student assessment. The

results are reported to students, parents, teachers, and administrators via a web-based data-management and reporting system to determine response to intervention (AIMS Web, 2011). The children's assessments in this study include: letter identification, number identification, and oral counting.

Early Childhood Education Programs: Educational programs are available for children prior to the age of formal school entry, including preschool and kindergarten programs (Hanson, 2008).

Early Learning Guidelines: State standards are specific about the education of preschool children. These guidelines cover all the readiness areas identified by the National Education Goals Panel, including physical well-being, motor development, social-emotional development, approaches toward learning, language development, cognition, and general knowledge (NEGP, 1995).

Gearing Up for Kindergarten: Since the fall of 2006, the North Dakota State University Extension Service has worked to develop a school failure prevention-focused parent and family education program designed to facilitate child development and school readiness for families in North Dakota. With funding from the United Way of Cass-Clay and the Parent Information Resource Center, the Gearing Up for Kindergarten educational program is offered to parents and children at local schools or child care centers. In the 2007-08 school year, the program operated at 15 sites across North Dakota with 234 families participating. The 16-week program is offered in two 8-week sessions in the fall and the spring of the year before a child enters kindergarten. The program combines parent-child learning activities, parent education, and school-readiness skills for children (Brotherson, Query, & Saxena, 2008).

Parent Involvement: Christenson and Sheridan (2001) referred to parent involvement as a parent's role in educating their children at home and in school. Jordan, Orozco, and Averett (2001) identified factors that influence levels and aspects of parental involvement. Family (e.g., education level, family structure, family size, parent gender, and work outside the home) and child (e.g., age, gender, grade level, and academic performance) characteristics are of particular relevance in determining parental involvement. Research has shown that undereducated and single parents are less involved in certain activities (Jordan et al., 2001).

Because no universally accepted definition or framework exists to describe a comprehensive parental involvement program, it is difficult to develop such a program (Patrikakou et al., 2005b). "The lack of a common framework or definition lies primarily in the *multidimensional* [emphasis in original] nature of parent and teacher influences on children, as well as the complexity of home-school connections" (Patrikakou et al., 2005b, p. 2). Studies indicate that a number of factors influence parenting today. These factors include multiple cultural perspectives, differing "*beliefs and expectations* [emphasis in original] held by all," varying levels of knowledge regarding child development, and distinct differences in role expectations throughout the country (Patrikakou et al., 2005b, p. 2).

Dr. Joyce Epstein (1987a), a leading researcher in parental education and involvement, established a common framework for parents' involvement with children's education. Early work established clear evidence that

Parental encouragement, activities, and interest at home and participation in schools and classrooms affect children's achievement, attitudes, and aspirations . . . students

gain in personal and academic development if their families emphasize schooling, let the children know they do, and do so continually over the school years. (Epstein, 1987a, p. 120)

Parent Response Form: This family information form gathers demographic information from parents who participate in the Gearing Up for Kindergarten education program assessments. Parents answer questions regarding income, education, marital status, employment, ethnicity, and child information. This form is only completed at the first assessment.

Practical Parent Assessment for School Readiness (PPASR): The PPASR is an assessment tool parents use to rate their perception of their child's development and readiness (in selected areas) for entering school. The PPASR is intended as both a learning tool and an assessment tool to increase parents' awareness of their child's practical and developmental skills and abilities (Brotherson, 2007). Parents completed this assessment three times throughout the study. The use of this instrument can help parents see their child's development over a period of time.

Limitations

The study is limited to children in one school district and the use of one student assessment tool, the AIMS Web assessment. Thus, this study will not be generalizable to other populations and other children's assessment tools.

The population of Gearing Up students was taken from a mailing to all elementary families in an urban Midwest school district in the fall of 2010. This mailing asked families to identify incoming kindergarten students for the school district in the fall of 2011 and explained that children were eligible to participate in the Gearing Up for Kindergarten

study. Elementary families receiving the letter could also pass the letter on to other families with 4-year olds who would be attending kindergarten in the same school district during the fall of 2011. Participation in the Gearing Up program and the control group study was voluntary, and the population sample may not represent the true pre-kindergarten population.

Parent education and income levels may vary significantly and, thereby, influence parenting practices with their children. Because not all recipients of the recruitment letter responded, participants in this study may not represent an equal proportion of income levels for the studied city. Due to the length of the study, a significant number of participants available at the start of the Gearing Up program may have been unavailable or unwilling to participate in the final stage of assessment.

Delimitations

There was an unusually short time between receiving the names of elementary families in the school district and the beginning of the Gearing Up for Kindergarten program. Therefore, participants were chosen by convenience sample and not random assignment.

This study was conducted in only one school district. Therefore, the results may not be generalizable for all incoming kindergarten populations.

Organization of the Study

Chapter 1 provides an overview of child development and the importance of parental involvement in children's school readiness, the Statement of the Problem, Purpose of the Study, and the Significance of the Study. The Definition of Terms, in relation to early childhood education, parent role, and assessment tools used in the study, is addressed along

with the Limitations of the study. An outline is provided for the organization of the study. Chapter 2 examines the literature related to this study in the area school readiness and the parent's role in contributing to a child's readiness skill set. The core areas of literature include

- Theories of development, transition, and environmental influence
- Early childhood education and development
- Expected school readiness skill sets
- Parental involvement in children's education and development
- School connection with parents who foster relationship and involvement in education
- Increased school readiness expectations for students
- A parent child program model

Chapter 3 presents the research methods used in the study and describes the pilot study, researcher's role, participants, assessment instruments, limitations, validity and reliability, study design, ethical consideration, and data collection. Chapter 4 presents the quantitative findings of the study. Chapter 5 presents a summary of the findings and recommendations for future research and implementation of the Gearing Up for Kindergarten program.

CHAPTER 2. LITERATURE REVIEW

Introduction

Kindergarten readiness is a complex issue comprised of many factors. The strength of each factor helps to determine the degree of a child's readiness for kindergarten. The literature reviewed in this chapter examines five connected components and factors related to school readiness. Presented first are theoretical foundations for child development; a new theory, transition-to-school; and parent involvement. The research provides a framework for understanding the multiple facets of early childhood development, education, school readiness, transition-to-school, and parent involvement. This research includes a varied number of educational and multi-modal activities that can be integrated into daily life.

The literature presents an expected readiness skill set upon entry into kindergarten in the state of North Dakota. Skills are reviewed along with the impact that readiness has on later school achievement. This research investigates the need for high-quality, parent-child education in the years prior to kindergarten. The research examines the types of parent involvement and how schools can support meaningful parent involvement in their children's education. This section reinforces the importance of the school connection with parents and suggests avenues to increase parental involvement. The impact for the increased expectations of developmental readiness, upon entry into kindergarten, is noted and addressed to better understand the gap in educator expectations and parental understanding of school readiness. Finally, a parent/child program is examined for its connectedness to the parent involvement and support research.

Social Constructivist Theory of Child Development

The understanding of children's development in school readiness is a key focus of the Gearing Up for Kindergarten program. Vygotsky's (1978) theory on social constructivism established a framework for appropriate developmental instruction and an understanding of children's development. His research emphasized a developmental approach that focuses on children as active participants in their learning and development. At each stage of development, children are acquiring tools as they make sense of, gain understanding of, and interact with their environment. Through interaction with people and objects, they create meaning and make sense of their world. He posits:

The course of child development is characterized by a radical alteration in the very structure of behavior; at each new stage the child changes not only her response but carries out that response in new ways, drawing on new "instruments" of behavior and replacing one psychological function by another. Psychological operations that were achieved through direct forms of adaptation at early stages are later accomplished through indirect means. The growing complexity of children's behavior is reflected in the changed means they use to fulfill new tasks and the corresponding reconstruction of their psychological processes. (Vygotsky, 1978, pp. 72-73)

Child development is a process that deems education cannot be delivered in a one size fits all manner. Children develop at varying rates and abilities. Vygotsky described children's visible operating level versus the potential level with support and guidance from an adult as the zone of proximal development. The actual development level is the mental level at which a child functions. "The zone of proximal development described those

functions that have not yet matured but are in the process of maturation, functions that will mature tomorrow, but are currently in an embryonic state” (Vygotsky, 1978, p. 86). A child’s actions provide more than meets the eye; his/her activity does not represent the whole of what is happening developmentally in the brain. Kagan et al. (1995) supported stages of development as a multi-dimensional, highly variable, and culturally and contextually influenced over time; school readiness is, likewise, developed over time and influenced by the child’s own characteristics and interactions with the environment.

In addition, Vygotsky cited play as an essential component of children’s development. Through play, children begin with imaginary situations that closely mimic their real lives. “As play develops we see a movement toward the conscious realization of its purpose. It is incorrect to conceive of play as activity without purpose” (Vygotsky, 1978, p. 103). Play is the work of children as they master the complex work of growth and maturation in making sense of their world.

Speech development is a process that begins when a word is applied to something that has meaning. The word is used to express the meaning through sound. Before the word comes the thought. “Thought is not merely expressed in words; it comes into existence through them. Every thought tends to connect something with something else, to establish a relation between things” (Vygotsky, 1978, p. 218).

“Thought undergoes many changes as it turns into speech. It does not merely find its expression in speech; it finds its reality and form” (Vygotsky, 1978, p. 219). The two planes of speech, the internal speech, the meaningful semantic aspect of speech, and the external speech, the phonetic aspect, work together to make the unit of thought and expression. Vygotsky characterized development as “a complex dialectical process,

characterized by periodicity, unevenness in development of different functions, metamorphosis or qualitative transformation of one form into another, intertwining of external and internal factors, and adaptive processes which overcome impediments that the child encounters” (Vygotsky, 1978, p. 73).

The social constructivist theory of development pointed to the importance of children as active participants in the learning process. The interactive process of development occurs as children relate to others and initiate the learning process through “play, speech, and relationship” (*Theories of child development and learning*, n.d.).

Transition-to-School Theory

An important dimension of development includes the ability to adapt to the transitions that occur in life. One adaptation is that of school readiness. School readiness is well defined in the literature, but the transition process which includes the dimension of “school knowledge and familiarity” is largely undefined or little-described to this point in the literature (S. E. Brotherson, personal communication, November 28, 2011). This dimension consists of the knowledge and familiarity acquired primarily through “environmental exposure” and “experiential learning,” the functional knowledge and familiarity that allow a child to understand and negotiate the processes of learning in a formal education setting. This readiness includes knowledge and familiarity with the environment, expectations, routines, peers and adults, equipment, and other elements of the learning atmosphere in kindergarten (S.E. Brotherson, personal communication, November 28, 2011).

Bronfenbrenner (1979), in his study of human development, called transitions an integral part of

mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by relations between these settings, and by the larger contexts in which the settings are embedded. (p. 21)

This ecological transition takes place in settings that begin small, the microsystem. As children grow, their world expands from the microsystem to also include a larger area outside of the home, the mesosystem. The mesosystem can include neighbors, churches, daycare, and other small entities with which children may interact. The mesosystem is followed by an even larger setting, the macrosystem, which encompasses the community at large and the world. An ecological transition occurs whenever a person's position in the ecological environment is altered as the result of a change in role, setting, or both (Bronfenbrenner, 1979).

Two of Bronfenbrenner's hypotheses are significant for the transition to school: Hypothesis 27 stated, the "developmental potential of a setting in a mesosystem is enhanced if the person's initial transition into that setting is not made alone" (1979, p. 211), and Hypothesis 42 stated that, "upon entering a new setting, the person's development is enhanced to the extent that valid information, advice, and experience relevant to one setting are made available on a continuing basis, to the other" (1979, p. 217).

Fabian and Dunlop (2007) noted that transition to school often does not take place until children are already in school. This theoretical framework supported a journey of preparation leading to the start of school. The transition process occurs naturally through experiences with routine, sharing, learning to follow directions and rules, and visits to kindergarten classrooms. Transition programming is often suggested as a component of

school readiness but lies in a grey zone of how, what, and who should be responsible for implementation. Both children and parents who are prepared and know what to expect in the school environment tend to experience less anxiety and greater enjoyment at school entrance. “If going through a transition is a learning skill in its own right, it is important that children build resilience to change but are also given support to help to both mark and negotiate change” (Fabian & Dunlop, 2007, p. 3).

Overlapping Spheres of Influence Theory

The importance of parental involvement, as a significant contribution, in a child’s life and education is supported through Dr. Joyce Epstein’s Overlapping Spheres of Influence theory of education. This theory supports the combined efforts of home, school, and community for maximum growth and development in children (Epstein, 2001).

Epstein’s (1987b) Overlapping Spheres of Influence model is fluid and recognizes an external and internal structure of overlapping and non-overlapping spheres that represent family, community, and school. Forces, time, experience in family, and school experience influence the degree of overlap and connection.

Force A (Epstein 1987b) represents a developmental time and history for students, families, and schools. Home is a child’s first environment and is often a separate sphere where parents are the primary influence. The parent-child instruction, although not formal, occurs in that early setting. Parents apply their knowledge of child rearing, their understanding of school readiness, their own school experiences, and other information from outside sources to educate their children. The spheres of school and community begin to formally overlap as children enter school (Epstein, 1987b).

Force B and Force C (Epstein, 1987b) are the experiences and pressures encountered as the learning environment evolves and changes. Parents' involvement or lack of involvement in their children's school education directly influences the overlap of the spheres.

Epstein (1987a) also promoted a shared responsibility with each segment of the sphere; the child is at the center as the object of focus. Each entity works together at times, and separately at times, in a role that supports the child. Parents are a child's primary connection, and the first type of parent involvement, as supported in the six types of parental involvement, relates directly to care of the child.

As the child enters school and the community, a shared partnership develops. The shared partnership enlarges the scope of support available for the child's education and growth. The Overlapping Spheres of Influence model works to support cooperation and collaboration between school and home (Epstein, 1987b). Piotrkowski, Botsko, and Matthews (2001) cited the importance of schools and communities working together to prevent failure in school and said that parents share the responsibility for educating their child along with the education community

Maximum benefit is gained when schools and families work closely together, in a cooperative manner, to assist the child with the education journey. "Children are connected to the same families but different teachers over their school years" (Epstein, 1987b, p. 128).

At the neighborhood level, school readiness resources include affordable, high quality child care and preschool for all; well-stocked libraries welcoming to children and parents; safe playgrounds and streets, and so forth (Shore, 1998).

Local school readiness resources include strong, accountable leadership; transition

programming and parent involvement activities, on-going professional development and support for teachers; high quality individual instruction and so forth. Family readiness resources include a rich literacy environment, nurturing parenting, financial resources, and social support for child rearing. Ideally, these resources are integrated to facilitate the optimal development of each child. (Piotrkowski et al., 2001, p. 540)

Early Childhood Learning and Development

The first five years of a child's life are generally regarded by families, researchers, and practitioners as critical years for the development of foundational skills and competencies that support continuous, lifelong learning that allows children to reach their full potential in development and life (National Governors' Association [NGA], 2005). The NGA task force in its report on school readiness, *Building the Foundation for Bright Futures*, wrote:

Getting children ready to succeed in school begins at birth. . . . Children are born learning. The first years of life are a period of extraordinary growth and development. During this time the brain undergoes the most rapid development as neurological connections (synapses) are made at incredible rates that are reinforced and solidified or lost through attrition over time. Development in young children is continuous. (National Governors Association, 2005, p. 11)

The early and rapid development of the brain and related neurological functions during this period is well documented and researched (Shonkoff, 2007). "Early experiences actually influence brain development, establishing the neural connections that provide the foundation for language, reasoning, problem solving, social skills, behavior and emotional

health” (Rhode Island KIDS COUNT, 2005, “Executive Summary”). “The first five years of a child’s life are marked by a significantly accelerated period of growth and development” (North Dakota Department of Human Services, 2008a, p. 4). This time of significant growth and development is critical to later success as they begin school and experience life outside the home. Research demonstrates there are “windows of opportunity” for the developing brain (North Dakota Department of Human Services, 2008b, p. 4; Sprenger, 2008, p. 15).

The North Dakota Department of Human Services’ (2008a) early education guidelines also supported the important roles that family and community play in healthy child development. These guidelines work to aid parents and caregivers as they prepare children for school. Families that are economically stable, understand child development and care, and have positive relationships are more likely to experience success as children enter kindergarten. Children develop best in an atmosphere of care, love, and support that also provides opportunities to explore and learn (Fielding et al., 2004; National Association for the Education of Young Children [NAEYC], 2009; NGA, 2005; North Dakota Department of Human Services, 2008b; Rhode Island KIDS COUNT, 2005; Sprenger, 2008; Wesley & Buysse, 2003). Parents are their child’s first and most important nurturer and teacher, and parents should be supported by family, community, friends, childcare, health care, and educators (National Scientific Council on the Developing Child, Center on the Developing Child, 2007; North Dakota Department of Human Services, 2008b).

The brain, as noted by Sprenger, (2008) is the only organ in the body shaped through its interaction with the environment. Because the brain is the organ dedicated to learning and memory, educators and parents must understand the importance of the

developmental stages and conditions that coexist for maximum development in a child's learning journey.

Dr. Marilee Sprenger (2008), noted researcher and educator in the area of brain-based learning, supported general principles that guide a child's developmental learning: (a) every brain is totally unique; (b) emotions guide our learning; (c) stress affects learning; (d) there is a brain-body connection; (e) the brain has multiple memory systems and multiple modalities; (f) the brain seeks meaning and relevance; (g) the brain learns through experience; (h) the brain is social; (i) the brain learns in patterns; and (j) the brain grows through enrichment (Sprenger, 2008, pp. 2-5).

Dr. Sprenger's work emphasized the importance of interacting and teaching children from birth to help them learn to make sense of their environment and to maximize the potential in every child. "According to the National Association for the Education of Young Children, early childhood begins at birth. The achievement gap can also begin then" (Sprenger, 2008, p. 5).

Supporting Dr. Sprenger's research, The National Association for the Education of Young Children (NAEYC, 2009) listed very similar principles which also include additional realms of development, beyond the brain, for best practices in raising children: (a) development in one area is closely related to development in other areas; (b) skill development begins with basics and progresses to the complex; (c) development does not occur at even steps or intervals and can vary among children; (d) personal experience has an effect on development; (e) development is enhanced when meaning is attached to the learning; (f) play is important for children's growth and development; (g) children need many opportunities to acquire skill and greater proficiency; (h) children express their

knowledge through multiple modalities; and (i) children thrive and develop in a safe environment where they are loved and valued (NAEYC, 2009, pp. 11-16).

National Education Goals Panel Early Childhood Development

Dimensions and the National Governors' Association

In congruency with Sprenger (2008) and the NAEYC (2009), the National Education Goals Panel (NEGP, 1995) identified five dimensions of developmental early learning to support school readiness. The NEGP recognized the well-being of America's young children is a shared responsibility of family, society, and educators and only by working collaboratively across sectors and institutions, will America be able to realize its "readiness" vision identified in Goals 2000. The NEGP supported five dimensions of early childhood development and learning important for school readiness and success. These five dimensions work to affirm the connection between early development and learning, and children's later success in school and in life (NEGP, 1995).

The National Governors' Association, in its updated 2005 report taken from *The National Education Goals Report, Building a Nation of Learners*, reinforced support for early childhood education and learning. The report lists multiple areas but focuses on five key domains to help children and parents with school readiness: physical well-being and motor development, social and emotional development, approaches toward learning, language development, and cognition and general knowledge.

Physical Well-Being and Motor Development

Kagan, Moore, and Bredekamp (1995) reported a link to children's health and their performance in school. Low birth weight, as well as improper nutrition, can greatly influence children's learning and development. It is important for children to have

opportunities to develop gross motor skills through outdoor physical activity and to have the opportunity for fine motor skills through simple tasks: buttoning a shirt, holding a crayon, or mastering a puzzle.

Social and Emotional Development

The second domain presented by Kagan et al. (1995) reported children's earliest family social experiences are the basis for building relationships with friends and teachers. Stable home relationships aid children in developing a sense of self and well-being that will guide them as they enter school and become an integral part of the school community.

Approaches Toward Learning

Kagan et al. (1995) cited children as unique, and their approach to life varies greatly. It is important to allow children to explore and learn in a safe and accepting environment that encourages exploration and discovery. Experiences should help children discover aptitude for certain activities along with likes and dislikes. Children, when given the opportunity to explore, examine things of curiosity, discover independence, and begin to develop a sense of self and self-confidence. Through the growing and learning process, children begin to develop an understanding of who they are and a sense of belonging.

Language Development

Kagan et al. (1995) emphasized the importance of language development in helping children make stronger connections with their world. As language develops, it helps children connect with others and provides tools for relating and expressing thoughts, feelings, wants, and needs. Language development is also an important link to early literacy and is foundational to the reading experience.

Cognition and General Knowledge

The fifth domain cited by Kagan et al. (1995) represents a full palette of incoming information and how children process new information to make meaning and to apply the information to their lives. Children are continuously learning and adding new information; as that process moves forward they begin make connections, understand relationships, and develop problem-solving skills. General knowledge acquisition presents itself in the practical realm of self-care and ability to dress and toilet, adapt to routine and to change, and to begin contributing through basic chores and family interactions.

These five domains are intrinsically interrelated and dependent upon each other. Development in one area will affect development in others. Inherent in this perspective is the belief that there is no single or uniform “standard” of readiness. Development varies from child to child, thus no child will demonstrate all necessary skills in every area. The goal is for children to develop competencies across all five domains with the understanding that no one dimension is more important than another (High/Scope Educational Research Foundation, 2006).

North Dakota’s *Early Learning Guidelines* and development indicators complemented the research of Sprenger; the NAEYC’s early learning guidelines, and the NGA research to reinforce the NEGP dimensions of early learning and goals for school readiness. North Dakota’s development indicators progressed from birth to age five, provided a framework for further development and understanding of school readiness, and prescribed a common set of developmentally appropriate expectations for the early years of growth and development (North Dakota Department of Human Services, 2008a; 2008b).

The state of North Dakota segmented early learning guidelines into two groups, birth to age 3 and ages 3 through 5 (North Dakota Department of Human Services, 2008a; 2008b). Birth to age 3 was divided into four domains: (a) Social and Emotional Development, (b) Language Development and Communication, (c) Cognitive Development, and (d) Physical and Motor Development. Each domain of development is related to and influences the others. Four of these domains are closely matched with the National Education Goals Panel's dimensions of development and school readiness: Social and emotional development, Language development, Cognition and general knowledge, and Physical well-being and Motor development.

“The *social and emotional* domain included the development of trust, emotional security, self-awareness, self-regulation, and the beginning of relationships with other children” (North Dakota Department of Human Services, 2008b, p. 15). *Social and emotional development* is a foundational aspect of children's growth and development; children who trust and feel secure have greater opportunities for meaningful relationships and experience a greater ability to self-regulate. Shonkoff (2007) called emotional well-being and social competence the “bricks and mortar” of children's growth and development.

The *language development and communication* domain is important in the development of children's expressive and verbal skills. Language development encompasses multiple senses: listening, speaking, the process of understanding, and the beginning of early literacy (North Dakota Department of Human Services, 2008b).

The North Dakota Department of Human Services (2008b) noted the *cognitive development* domain represents children's thinking and how they make sense of the world

around them. As children grow and develop physically, their sense of imagination, the complexity of their play, and their ability to make connections with cause and effect also grow towards higher and more complex thinking

Physical and motor development, as described by the North Dakota Department of Human Services (2008b), was characterized by tremendous early growth. By the end of the first year, most children have learned to roll over, crawl, begin to climb, and may be in the early stages of walking. As children move about, they experience increased coordination and have greater control over muscles. Strong physical growth is essential to the exploration and discovery that allows children to explore their environment.

North Dakota Early Learning Guidelines: Ages 3 Through 5 (North Dakota Department of Human Services, 2008a) provided a general framework of developmental mastery for children as they enter kindergarten. All domains are important, but it is equally important to note children develop at their own pace and that “no domain is more important than another” (North Dakota Department of Human Services, 2008a, p. 6).

There are eight domains for ages 3 through 5: (a) Health and Physical Development, (b) Social and Emotional Development, (c) Approaches to Learning, (d) Expressive Arts and Creative Thinking, (e) Language and Literacy, (f) Mathematics and Logical Thinking, (g) Science and Problem Solving, and (h) Social Studies (North Dakota Department of Human Services, 2008a).

The *health and physical development* domain listed by the North Dakota Department of Human Services (2008a), for ages 3 to 5, described greater expectations for children’s stamina: their ability to complete a task and interact with balls, puzzles, or other

objects connected with movement. Children should experience a greater skill level with writing, kicking a ball, and other skills as muscles develop and grow stronger.

The North Dakota Department of Human Services (2008a) expected children at this stage to begin to learn how to dress themselves, tie shoes, master zippers, and do other tasks once foreign to them. This domain also included an understanding of hunger and fullness and knowledge of the body parts and their roles

Preschool children are naturally active; they have a built-in drive for motor activity. They tend to explore their environment by checking out all the corners of the room or playground, working to achieve physical closeness, and seeking out communication with others. These activities and actions are all essential for proper cognitive, emotional, and physical development. “When we allow children to run, play, and explore in a safe environment, they will naturally get the motor activity they need” (Poole, 2000, p. 41).

The *social and emotional development* domain cited by the North Dakota Department of Human Services (2008a) supported the development of children’s self-concept through healthy relationships and interactions with parents and caregivers. Children become connected through important daily activities: playing, sharing, and through learning to express themselves appropriately.

The North Dakota Department of Human Services (2008a) referred to *approaches to learning* as a child’s temperament and tendencies in learning styles. This domain accounts for variety of personality types, variances in learning styles, and patterns and norms in cultures. This domain places an emphasis on the implementation of multiple avenues of learning and instruction.

The North Dakota Department of Human Services (2008a) defined the *expressive arts and creative thinking* area of development to encompass an important added dimension of life that enhances the quality of children's learning and their environment. This area of growth can include dancing, music, and exposure to drama and the visual arts.

The *language and literacy* area of development is continued from the birth to 3 framework by the North Dakota Department of Human Services (2008a). Healthy children continue to learn more and better ways of expressing themselves; demonstrate a greater understanding and use of language, both expressive and receptive; and acquire pre-reading literacy skills.

The North Dakota Department of Human Services (2008a) noted that, as children develop and grow, they will demonstrate progress and growth in language and literacy skills as demonstrated through communicating with words and writing, creating ideas, learning to listen to stories, retelling a story, asking questions for clarification, and listening to and identifying sounds. Familiarity with books and their purpose is also a major characteristic of language and literacy development.

Strategies that have been shown to be effective at promoting children's early literacy development include reading aloud to children, fostering children's understanding of print concepts; arranging the environment for children have an opportunity to interact with books and other print materials; providing opportunities for children to experiment with writing; familiarizing children with letters of the alphabet and their corresponding sounds; and involving children in activities that promote phonological skill and development (Green, S.D., Peterson, R., & Lewis, J.R., 2006, para. 8-9).

Green, Peterson, & Lewis (2006) substantiate reading teachers' beliefs; reading to children is the most important aspect in helping them learn to read. Parents who read to children expose them to a multitude of learning with one simple activity. Stories help children to understand print has meaning, letters make sounds, and letters together make words. Through the reading experience, children enjoy closeness with the reader and absorb vital information that connects with learning to read.

The *mathematics and logical thinking* domain of development focused on the area of children's logic development and a continually growing sense of mathematical knowledge, which included number sense, the ability to see patterns, measurement, and accounting (North Dakota Department of Human Services, 2008a). A child's sense of mathematical thinking begins as early as six months of age (Fielding, 2009).

The North Dakota Department of Human Services (2008a) guidelines created for child development noted that, as children develop, they begin demonstrate greater understanding of math concepts. Children's development in math begins with counting and then recognizing that one of something has meaning. Continued development and growth of math concepts also includes time sense, recognition of coins as something that have value, understanding colors and shapes, and increasing problem-solving ability.

Young children often have a spontaneous and explicit interest in mathematical ideas. Naturalistic observation has shown, for example, that in their ordinary environments, young children spontaneously count, even up to relatively large numbers, like 100, and may want to know what is the 'largest number.' Also, mathematical ideas permeate children's play: in the block area, for example, young children spend a good deal of time determining which tower is higher than another,

creating and extending interesting patterns with blocks, exploring shapes, creating symmetries, and the like.

“Play provides valuable opportunities to explore and undertake activities than [*sic*] can be surprisingly sophisticated from a mathematical point of view” (North Dakota Department of Human Services, 2008a, p. 38).

The *science and problem solving* domain of development (North Dakota Department of Human Services, 2008a) encompassed children’s understanding of the world around them. They begin to wonder the “why” questions and often ask the same question repeatedly. This important aspect of development is the early beginning of understanding force, gravity, and other scientific phenomenon they will learn later school.

The *social studies* domain of development (North Dakota Department of Human Services, 2008a) supported children’s growth in understanding the various environments to which they are exposed: daycare, home, church, other family, and neighborhood. Through interaction with different people and environments, children learn appropriate social skills and accepted behaviors. Established cultural norms become a part of who they are and provide children with a sense of place and belonging.

Synthesizing Early Childhood Development

Early childhood research terms have many common identifiers that create a general framework of early development guidelines and competencies. Sprenger (2008) and the NAEYC (2009) noted common developmental dimensions and ideas, although stated in different language: Each brain is unique, and children display different strengths and varying rates of development. Emotions guide learning, and the learning environment greatly influences the early childhood window of learning, with children in poverty often

experiencing delayed development (NAEYC, 2009; NGA, 2005; Rhode Island KIDS COUNT, 2005; Sprenger, 2008). Children learn in stages of development and patterns with prior experiences giving the understanding and support to new learning (Sprenger, 2008). The recognition of a brain-body connection is noted in children's physical action and in play (Sprenger, 2008). Challenge builds higher skill levels and allows children to use prior learning as the new skill set is developed. Learning happens best in a community and in a safe environment that fosters a sense of value and emotional security (NAEYC, 2009; North Dakota Department of Human Services, 2008a; 2008b; Sprenger, 2008).

The common readiness indicators supported by this author's research suggest a strong thread of emphasis that supports a focus on the five domains of school readiness: Physical well-being and motor development, Social and emotional development, Approaches toward learning, Language development, and Cognition and general knowledge (NEGP, 1991; NGA, 2005; North Dakota Department of Human Services, 2008a; 2008b; Rhode Island KIDS COUNT, 2005).

Wesley and Buysse (2003) cited the importance of children's emotional health as a key factor in readiness. Children in poverty may have independence skills as a result of being left alone to care for themselves, whereas a child from a nurturing, two-parent home may never have had to concern himself/herself with basic survival skills. One would be independent, the other not necessarily so. Does that independence constitute emotional health or emotional neglect? The social aspect of Wesley and Buysse's report recommended that children attend some type of high-quality, developmentally appropriate preschool to assist with school readiness to support social development and interaction.

The report also emphasized the importance for a shared collaboration of family, educators, and community members in socializing and educating children.

High; the Committee on Early Childhood, Adoption, and Dependent Care and the Council on School Health, in *Pediatrics* (2008), cited the responsibility of schools to be ready for students at all levels of development. A child's early learning environment can significantly affect school readiness and later school success. This report listed developmental factors for readiness, including social, emotional, cognitive, and physical development. This report cited early brain and child development as modifiable factors in a child's early experiences that can greatly affect a child's learning trajectory. Many children in the United States enter kindergarten with limitations in their social, emotional, cognitive, and physical development that might have been significantly diminished or eliminated through early identification of and attention to child and family needs. (High et al., 2008, p. 1008)

The report concluded with three conditions for children to enter school ready to learn: intellectual skills, motivation to learn, and strong social-emotional capacity and support (High et al., 2008).

Raver and Knitzer (2002), in their report *Ready to Enter*, linked the connection to early emotional development to academic learning. Children at risk often enter school with poor social, emotional, and behavioral development. At-risk children often demonstrate other inappropriate anti-social behaviors which often affect their academic performance negatively. This report recommended early interventions and education for teachers and child-care providers in helping them learn to deal with difficult behaviors.

Linking Early Childhood Development and School Readiness Expectations

The early years are an important period during which children acquire the basic skills that serve as the foundation for later learning (Fielding et al., 2004; NAEYC, 2009; Sprenger, 2008). Moreover, these years are the time when parents' beliefs about their children's abilities are shaped and when children's own academic self-concepts begin to form. When parents value learning and education, they set the stage for their children to value learning, too (Epstein, 1987a). Young children who are active learners in their early years will more likely enter kindergarten ready to continue the learning process and experience greater success in school (Fielding et al., 2004; NAEYC, 2009; NGA, 2005).

The NAEYC supported appropriate developmental and academic learning in preschool by incorporating play as the major vehicle for learning. "Research demonstrated the links between play and foundational capabilities such as memory, self-regulation, oral language abilities, social skills, and success in school" (NAEYC, 2009, p. 14). Today, academics play a stronger role in school readiness, and parents and educators are learning to finesse the fine balance of instruction with appropriate amounts of play. Play has a greater value beyond entertainment; it is an important means of learning for children, too. Researcher and parent educator Michael Popkin (1996) emphasized fun while teaching your child:

A four year old should be able to sit for 20 minutes with a book and know that people read from left to right and that words and letters produce different sounds.

He should be able to tell rhymes and sing songs. (p. 6)

Play is the umbrella under which the best early learning takes place and is a vital part of early childhood education and development. When children explore, experiment, and

interact through play, they learn how the world works and begin to develop a sense of their place in the world (NAEYC, 2009). Part of that development is caring and knowledgeable adults who are guiding and ensuring appropriate learning experiences through play and other modalities of discovery (NGA, 2005). Sprenger (2008) and Weiss et al. (2006) reinforced the importance of parent participation in child-centered activities, specifically play. Play is also important for children's social and emotional development. Children who play at home and whose parents understand the importance of play in development are more likely to demonstrate prosocial and independent behavior in the classroom. In addition, parent participation with their children in activities such as arts and crafts is associated with children's literacy development.

The NAEYC (2009) and the North Dakota Department of Human Services (2008a) also supported developmentally appropriate practice as a significant aspect of early childhood education. Research in human development and learning emphasized play among other strategies. Using developmentally appropriate practice, teachers intentionally meet individual children at their particular stage of development and provide challenging, achievable goals to promote the development and learning that support school readiness.

The North Dakota Department of Human Services (2008a) supports play as a most important early learning tool. School readiness, like play, is understood to be important, but has recently been reformed to a different understanding and meaning. How did the concept of school readiness change so significantly in a relatively short period of time?

Changes in School Readiness Expectations

Kindergarten has long been known for its socialization practice and introduction to letters and writing. The current educational standards are far beyond what most people

remember from their kindergarten days. The basic socializing and introduction of letters that once began in kindergarten now begins in preschool (Fielding et al., 2004).

In the past, educators primarily used a maturational viewpoint of school readiness with a set age for kindergarten entry (Zigler, Gilliam, & Jones, 2006). The general school-readiness guidelines today are the result of a journey of progress in understanding child development and achievement rather than simply stating a set age of readiness. The guidelines are also a result of the NEGP establishment of school-readiness goals in 1995: “All children will start school ready to learn” (Wesley & Buysse, 2003, p. 352). Just what did “ready to learn” look like in the past, and what does “ready to learn” look like today?

Teacher Perspectives on Education Expectations

In 1993, a school-readiness survey of 1,339 kindergarten teachers showed that 75% felt the top three readiness attributes were for a child to be (a) physically healthy, rested, and well nourished; (b) able to communicate his or her thoughts and needs in words; and (c) curious and enthusiastic in his or her approach to new activities. More than half of the teachers in this study also indicated that readiness included not being disruptive, being sensitive to other children’s feelings, and being able to take turns and share. Less than 10% thought that being able to count to 20 or more or knowing the letters of the alphabet were important in terms of kindergarten readiness (Ackerman & Barnett, 2005). Similar findings in a study by Fabian (2002) reported teachers’ perceptions of readiness: “the ability to be part of a large group competing for the attention of one adult; the capacity to concentrate; to be self-sufficient; use their initiative and sit for long periods of time” (Fabian & Dunlop, 2007, p. 10).

Ackerman and Barnett (2005) reported from the Early Childhood Longitudinal Study–Kindergarten Class of 1998-1999 (ECLS-K) study about the importance of nonacademic readiness skills for kindergarten teachers. Specific academic tasks—such as using a pencil, knowing the names of the colors and shapes, recognizing letters, or counting to 20 or more—were likely to be rated as essential or very important by less than one-third of the teachers. Seventy-five percent of the 3,305 kindergarten teachers sampled in this study regarded being able to follow directions and to communicate needs and thoughts, as well as not being disruptive, as essential or very important readiness skills.

Ackerman and Barnett (2005) described a 1993 study where parent perceptions of readiness were focused on a positive attitude towards school and good social skills. Parents' thoughts regarding academic readiness differed from the teacher's perceptions of readiness; 58% of the parents thought their children should be able to count to 20 and know their letters.

A more recent survey of kindergarten teachers and parents (PNC Financial Services Group, Inc., 2007) also confirmed the differing perceptions that parents and teachers held about readiness skill development upon entry to kindergarten. Approximately 80% of the parents felt their own children were well prepared in social-skill development while only 15% of the teachers agreed. These perceptions held for academic skills as well with approximately 70% of parents indicating their child was very well prepared academically and just 15% of the teachers agreeing. Overall, that report indicated that only 25% of the parents and 7% of the teachers described children in the United States as being very well prepared for learning upon entry into kindergarten (PNC Financial Services Group, Inc., 2007).

Fielding (2006) reported that, in a short period of time, there has been a significant shift in school-readiness expectations. The April 2006 edition of the *American School Board Journal* identified typical characteristics for incoming kindergartners in the United States. Targets expectations for literacy were as follows: Children enjoy being read to and can retell a story, know 12-15 upper- and lowercase letters and their sounds, memorize 5-6 nursery rhymes, hear ending sounds (rhyme) and beginning sounds (alliteration) in words, speak in complete sentences, and have a vocabulary of 4,000 to 5,000 words. Target expectations for math and social development included counting from 1 to 20, one-to-one correspondence with numbers, and settling into new groups or situations.

Because school readiness is a complex and ever-evolving issue, a basic definition of school readiness is important. “School readiness,” according to Piotrkowski (2000), is the set of skills and attributes that a child needs at school entry in order to profit from the kindergarten experience and meet societal expectations of competence in the classroom. Rather than learning readiness, educational readiness, or academic readiness, which are more abstract in focus, school readiness implies being ready for adequate functioning in a tangible location – school. (Zigler et al., 2006, p. 29)

In the Rhode Island KIDS COUNT (2005) report, school readiness was summarized:

School readiness encompasses children’s curiosity and enthusiasm for learning, their physical and mental health status, their ability to communicate effectively, their capacity to regulate emotions, and their ability to adjust to the kindergarten classroom environment and cooperate with their teachers and peers. Ready children are those who, for example, play well with others, pay attention and respond

positively to teachers' instructions, communicate well verbally, and are eager to participate in classroom activities. They can recognize some of the letters of the alphabet and are familiar with print concepts (e.g., that English print is read from left to right and top to bottom on a page and front to back in a book). Ready children can also identify simple shapes (e.g., squares, circles, and triangles), recognize simple-digit numerals, and of course, count to ten. (pp. 11-12)

School readiness has also been redefined by changes in education law throughout the course of time, especially in the last 20 years. Recent changes in education law (No Child Left Behind Act of 2001) resulted in a demand for greater accountability in student achievement and more stringent learning expectations at younger ages. This process has resulted in states responding with greater demands on educators and a clearer set of expectations and standards for early learning.

In 1994, President William Clinton signed the Goals 2000: Educate America Act. This federal mandate was designed to ensure all children would begin school ready to learn. Following the passage of Goals 2000, President Clinton created the National Education Goals Panel (NEGP) to monitor the progress of the education goals (Kagan & Rigby, 2003). The NEGP (1995) assigned the readiness goal to a subgroup that created a definition of school readiness encompassing the whole child. Domains of readiness were divided into five categories: (a) physical well-being and motor development, (b) social and emotional development, (c) approaches to learning, (d) language development, and (e) cognition and general knowledge (NEGP, 1995).

Fielding et al. (2004) cited the education law, No Child Left Behind (2002), which further increased the requirements for student growth and achievement. No Child Left

Behind (NCLB), in effect, created a 95% reading and math goal for all students and schools, stating that, by the year 2014, 100% of students must achieve minimum standards in reading and math. All 50 of the United States responded with legislation to increase school accountability for that achievement, and many states have responded by increasing their academic standards.

The National Governors' Association (NGA; 2005) cited the 2002 NGA project which used NEGP's work and established a gubernatorial task force on school readiness to determine what states could do to advance school readiness. The NGA (2005) task force incorporated the following principles into its school-readiness recommendations: (a) family is integral to a child's life; (b) school readiness is an adult responsibility; (c) the first five years of life are critical; (d) the five dimensions of school readiness are equally significant; and (e) no single school-readiness plan can meet every state's needs. These five principles formed the NGA's school-readiness framework of Ready States, Ready Schools, Ready Communities, and Ready Children. The work of both groups broadened the definition of school readiness to include both child readiness and environment readiness.

Wesley and Buysse (2003) agreed with educators and believed parents and communities are responsible to produce a child ready for school. In addition, they wanted a greater responsibility for parents and communities in preparing children for school. Most of the educators felt that the responsibilities of the school did not begin until the day a child began school. Their viewpoint reinforced the school's lack of involvement with the community in supporting preschool children and their families toward school readiness. The eighth national education goal, however, mandated school collaboration with parents to encourage early learning and development. Without a source of consistent

communication and information, parents reported little understanding of the schools' expectations regarding school readiness (Wesley & Buysse, 2003).

Wesley and Buysse (2003) further reported how the NEGP's understanding of readiness to learn hinged on a range of factors, including a child's health and physical development, social and emotional development, approaches to learning, language and communicative skills, and cognition and general knowledge. Efforts to improve school readiness, therefore, should begin long before children enroll in kindergarten. No one entity should bear all the responsibility to prepare a child for school; communities should collaborate to support families, educate parents, and raise the quality of early care and education. Helping all children to begin school "ready to learn" is the shared responsibility of all institutions in a community.

North Dakota Readiness Expectations

The North Dakota Department of Public Instruction's readiness skills for an incoming kindergartner are for him/her to have a vast general knowledge: how to write his/her first name, recognize most of the letters of the alphabet and their sounds in isolation, understand rhyming words, count to 20, count backwards from ten to one, and demonstrate a one-to-one correspondence with numbers to ten. Children should also be familiar with books; they should know top-to-bottom print, understand left-to-right paging, and be able to know books tell a story (Department of Public Instruction, 2005a). The Department of Public Instruction standards combined with the North Dakota Department of Human Services' *Early Learning Guidelines* make it clear that children entering kindergarten in North Dakota should have a readiness skill set of growth and learning in all realms of development.

Transition to School

Families have their children for a lifetime; educators have the children for one academic year. Educators can be a link for parents to assist with transitions in educational settings. When educators come alongside parents with information, connection, and support, it can ease tension and stress for both parents and children (Weiss et al., 2006).

Weiss et al. (2006) cited a growing consensus in research that supports a responsibility between early childhood settings and elementary schools to sustain the family involvement link through the transition from preschool to the public school setting. It is at this critical time schools should maintain rigorous efforts to connect and reach out to parents in this transitional period. Schools that provide multiple opportunities through the transition period enjoy increased levels of family participation.

It is important that local communities establish processes for consensus-building around common readiness goals for young children, develop continuity between preschool and kindergarten—including but not limited to integrated curricula—and assume joint responsibility for ensuring that all children be ready for success when they enter kindergarten. (Piotrkowski et al., 2001, p. 555)

Transition practices cited in Piotrkowski et al. (2001) included preschool and kindergarten teachers visiting each other's classrooms as well as meetings with early childhood administrators and elementary school administration. These interactions would promote the understanding of barriers, help clarify expectations, and provide the basis for transition planning that best meets the needs of individual families. This study suggested that the responsibility of transition practice resided with the schools, not the parents.

Piotrkowski et al. (2001) expected schools to improve the readiness of young children by making connections with local child-care providers along with preschools and by creating policies that ensure smooth transitions to kindergarten. Children entering kindergarten vary in their opportunities for experiences, skill development, acquisition of knowledge and language. In addition culture, and family background can vary greatly, and schools must be ready to address the diverse needs of the children and families in their community and must be committed to the success of every child.

Fabian and Dunlop (2007) cited steps schools can take to reach out to future and current families. Schools that provide families with logistical information regarding procedures, routines, and academic expectations help to reduce fears and transition difficulties. Schools and families who partner together experience greater satisfaction in relationship and smoother student transitions to school.

Home-School Contact and School Readiness

Fielding et al. (2004) believed that parents need a clear understanding of childhood development and academic expectations in order to begin to recognize the importance of their role as educators during their children's preschool years. The home is the child's first classroom and continues to have a great impact on the child throughout life.

The research of Hanson (2008), the North Dakota Department of Human Services (2008a), Patrikakou et al. (2005a); and Schulting (2008) reinforced the importance of early childhood programs in recognizing the needed the support of families and communities to best educate children. To acquire this support, there is a need to encourage the family-involvement processes that research has shown to be effective in encouraging children's learning and socio-emotional development. Parents' beliefs and competencies greatly shape

the home and learning environment of their young children. In the early childhood years, the home-school relationship refers to the formal and informal connections between families and their young children's educational settings. Both participation in preschool-based activities and regular communication between families and teachers are related to young children's outcomes. Parents who maintain direct and regular contact with the early educational setting experience fewer barriers to involvement and have children who demonstrate positive engagement with peers, adults, and learning. In addition, teachers' perceptions of positive parental attitudes and beliefs about preschool are associated with fewer behavior problems as well as higher language and math skills among children. A positive home-school relationship can buffer some of the negative impacts of poverty on academic and behavioral outcomes of poor children (Schulting, 2008). Early childhood education often has the benefit of a home-visit component, thus strengthening the parent-school relationship. Epstein (1987a) emphasized the importance of including parents in a wide variety of activities, which keep parents connected with their children's learning and with teachers.

Fielding (2009) and Sprenger (2008) shared strategies for educational parent-involvement activities that can be as simple as inviting parents to school to share in classroom activities with their children. This kind of experience can directly influence parent practices at home with their children. When parents have a sense of what denotes competency, they are more likely to get involved. In early childhood, the learning emphasis is most likely to be on language along with literacy support and skills.

Christenson and Sheridan (2001) and Gestwicki (2004) provided ideas outside the investments of time or money; simple activities like Play Dough letter building; counting

numbers talking about least to greatest; and other simple, but effective, early childhood activities are helpful. Everyday classroom materials and lessons can be a spark for parent applications of learning in the home. Teacher interactions with learning-based questions serve to provide a basis for parents to ask learning-related questions and for teachers to provide insights for parents about the capacity of their children for learning.

Fantuzzo and his colleagues (2004) recently showed that practices associated with responsibility for learning (e.g., providing a place for educational activities, asking a child about school, reading to a child), above and beyond the aspects of the home-school relationship, are related to children's motivation to learn, attention, task persistence, and receptive vocabulary and to fewer conduct problems. (Harvard Family Research Project, 2006a, p. 4)

The Harvard Family Research Project (2006a) findings demonstrated the effectiveness of educators who work with young children in promoting family-involvement opportunities. Workshops, trainings, and parent-child groups helped to promote warm and nurturing relationships outside the classroom. The research recommended teachers communicate often with parents, in a variety of modes, regarding their children's learning. Teachers shared ideas to help student progress, lesson content, and ways to find patterns in learning. Teachers who provided opportunities for parents to visit the classroom, both to participate and observe, helped to contribute to a greater sense of belonging for both children and parents. Frequent and ongoing communication and connection were recommended as a regular part of teacher practice. The important aspect of family history was emphasized to teachers for effectiveness in communicating with families. Educators were encouraged to take initiative in connecting and relating to parents. Preschool

administration was also advised to initiate relationships with elementary schools and bring in personnel to ease the transition process for parents and children.

Children will not enter school ready to learn unless families, schools and communities provide the environments and experiences that support the physical, social, emotional, language, literacy, and cognitive development of infants, toddlers and preschool children. Efforts to improve school readiness are most effective when they embrace the rich cultural and language backgrounds of families and children. Research has provided great insights into children’s development and numerous strategies to assist learning. The strongest effects of high quality early childhood programs are found with at-risk children—children from homes with the fewest resources and under social and economic stress. (Rhode Island KIDS COUNT, 2005, “Executive Summary”)

Zigler et al. (2006) cited the Chicago Longitudinal Study that showed parental involvement in child activities, both in the home and at preschool, boosted school readiness and that parent participation had positive effects on children’s achievement and behavior, grade retention, dropout rates, and juvenile delinquency. Parental involvement in preschool was also associated with greater reading achievement and less grade retention through eighth grade. Parents who were involved in preschool education with their children were also more likely to be involved in their children’s elementary school

Parent involvement, beginning in preschool, influences children’s academic success through four interrelated pathways: (a) Parent involvement in preschool is linked to involvement in supportive activities at home. (b) Parent involvement in preschool and at home has direct effects on children’s concurrent academic performance. (c)

Parent involvement in preschool and at home has effects on children's social behavior and motivation, which in turn should affect their school performance. (d) Parents who are involved in preschool are more likely to continue to be involved in elementary school, and this continued participation is associated with better academic achievement and behavioral adjustment. (Zigler et al., 2006, p. 155)

The research of High et al. (2008), Piotrkowski et al. (2001), and Raver and Knitzer (2002) cited the importance of parent practices and how those practices impact a child's development and growth. Children who experience positive, prosocial, and nurturing relationships in their homes also progress in the other areas of development. Parent education and support can create a positive impact in helping children prepare for school. Programs can provide families with a sense of relationship and connectedness, along with trainings, strategies, and interventions for problematic situations.

Conditions for Creating Successful Parent Involvement: What Works

Henderson and Mapp (2002) found parents want to be involved in their children's education but often lack the knowledge to do so. How do schools wrap their arms around the multiple factors, represented in families, to bring about effective parent involvement? Because parent involvement is a multi-faceted concept, Christenson and Sheridan (2001) identified four conditions that are helpful in creating effective parent partnerships: approach, attitudes, atmosphere, and actions.

School Approach Matters

Christenson and Sheridan (2001) cited the importance of the approach schools use in establishing a relationship. Their work supported the concept that a relationship begins with teachers and administrators communicating to parents they are integral to the

education process and their input is valuable and needed. Teachers should discuss the school and classroom mission statement, create an atmosphere for bi-directional communication, help parents understand assessment practices, and communicate in a variety of ways with families. The school should expect parents to be involved and invite them to do so. Teachers should help parents recognize learning takes place throughout the day and share learning opportunities outside the classroom.

Teacher Attitudes Make a Difference

Christenson and Sheridan's research (2001) illustrated how positive school views about families send strong signals to parents that school is a good place for them and their children. The school communicates there are no problematic individuals, but opportunities for problem solving. Teachers and principals should listen to parent perspectives and work to understand family needs and situations. Listening and responding create positive conditions in establishing parent partnerships. An attitude of mutual respect fosters parent comfort and can aid in parent openness in dealing with difficult issues.

School Atmosphere of Trust and Openness is Important

An open school atmosphere, according to Christenson and Sheridan (2001), recognizes the value of parent input in the decision-making process regarding children and promotes positive outcomes for them. Trust is foundational to relationships. Creating an atmosphere of openness and trust opens the door for building and continuing communication and relationship. Opportunities for connection can be created through family participation in school learning, cross-cultural awareness events, and education training classes.

Including Parents on the Planning and Action

Building a shared responsibility, according to Christenson and Sheridan (2001), begins with school personnel inviting parents to be a part of the ongoing school processes. Parents can participate in school-improvement discussions and policy-making decisions. Teachers and administration can create effective communication strategies to ensure all families know what is happening at the school and how the school functions. Parents can be invited to staff development to create a better understanding of educational objectives and to build relationships with teachers. Effective school-family relationships can greatly enhance the learning environment and aid in academic, social, and emotional growth for students. A good relationship can make the job easier for teachers as they send home communication and homework. The partnership also creates conditions that allow parents to feel connected with their child's school.

Six Types of Parental Involvement

Dr. Joyce Epstein was the frontrunner for studying the effects of parental involvement in children's education. Through her research, she established the Six Types of Parent Involvement and set an education industry standard for parental involvement through activities at home and participation in schools and classrooms. The research demonstrates "a positive effect on children's achievements, attitudes, and aspirations. Students gain in personal and academic development if their families emphasize schooling, let the children know they do, and do so continually over the school years" (Epstein, 1987a, p. 120).

Epstein looked at teacher practices to involve parents in their children's education journey by conducting surveys with over 3,700 teachers at 600 schools in 16 school

districts in Maryland. Eighty-two teachers with a wide variety of parental involvement practices were interviewed along with 1,200 parents from those teachers' classrooms. The study also collected data on the achievement and behaviors of 2,100 students in those classrooms. Results connected teacher partnership practices with parents and children in each classroom. The results of that study helped determine the need to identify other types of parent involvement taking place in and outside the classroom. Four types of parent involvement were identified as important to establishing the parent-school relationship (Epstein, 1987a). Later, two additional types of involvement were identified (Epstein, 1995, 2006). The six types of involvement: parenting, communicating, volunteering, learning at home, decision making and collaborating with community, can guide schools as they develop effective parent relationships that influence and enhance children's learning experiences.

Basic Parenting Practices

Parents meet the basic obligations of family by providing food, safety, shelter, and health. They also establish positive home conditions to encourage school success through early childhood teaching and preparation for school from infancy through high school. "Parents lay the groundwork for students' success in school by building their children's self-confidence, self-concept, and self-reliance" (Epstein, 1987a, p. 121).

Effective Communication with Parents

The communication between home and school facilitates the flow of information about school curriculum and the child's progress. "The school has an obligation to inform parents about school programs and their children's progress. And, parents are expected to act on the information received from the school" (Epstein, 1987a, p. 122). Two-way

communications between home and school reflect the reciprocity that a collaborative relationship must have in order to be most effective (Patrikakou et al., 2005a). Home and school communication remains a strong predictor of academic achievement even in high school (Catsambis, 2002; Patrikakou, 1997, 2004). Written communication is the most commonly referenced method of communication; it is also important to include person-to-person interactions, such as open houses at the beginning of the school year, parent-teacher conferences, parent-teacher organization meetings, American Education Week activities, and other school events that include parents. Each interface allows an opportunity for relationship development.

Parent Volunteers: Effective Means of Involvement

Parents' involvement at school can include a variety of tasks: assisting teachers in the classroom, assisting in the office, preparing materials for students, recruiting parents to act as volunteers, supporting school initiatives and functions, helping in the lunchroom, supervising on the playground or at crosswalks, and assisting in other areas. It is important to extend involvement opportunities to parents on a continuous basis. Well-organized parental involvement sends the message that parents are wanted and welcome at the school and that their assistance is valuable.

Applying Classroom Learning at Home

Parental involvement as promoted by Epstein (1987a) at home refers to teachers taking the lead to ask parents to support learning through help with homework, extended learning activities reinforcing classroom instruction, and other learning-enhancement activities. At home, parents can read with their children, play instructional games, tutor, and foster rich discussion using information and requests provided by the school. School

support for at-home learning can be reinforced through contracts, weekly reports from home, parent workshops to guide at-home instruction, and interactive homework activities with instructions and references for parents. Reading to and with children is a widely used home activity recommended by teachers. A study conducted by Epstein (1986) showed almost all parents are involved with helping their children at home on some level and reflected that more than 85% of parents work with their children for 15 minutes or more. Parents indicated that they would spend more time if given the knowledge about how to help.

Parents as Partners in Decision Making

Epstein (2006) and Epstein et al. (2002) reported parents who are involved at this level have the opportunity to impact school climate and can be advocates for growth and change. This involvement can be through parent teacher organization (PTO) leadership or participation, school board membership or meeting attendance, or simply through conversations with administration and leadership. Parents can be invited to attend school-improvement meetings, participate in school assessment for accreditation, advocate for underrepresented groups, and be a part of orientation programs for new families and staff. Schools can offer training to encourage parental involvement and to create a sense of efficacy when working in the school setting. Results of parental involvement at this level often bring a sense of ownership in the school, and at this level, parents can serve as conduits of information to other parents

Group Collaboration: Parents, School, and Community

This type of collaboration, as reported by Epstein (2006) and Epstein et al. (2002), shows parent involvement can be a network for both the school and other community

entities. There are opportunities to link medical services, public health information, and involvement in other education programs; to enhance current programming; and to gain knowledge about other programs or services. By working with the community, there can be a shared use of funding and building space, and increased quality as programming is shared. Through community collaboration, there is a greater awareness of services and resources in the community

Culture of Success

Fantuzzo et al. (2000) emphasized that the goal of family-school connections for children's learning must be to create a culture of success, one that enhances learning experiences and competencies across home and school and that underscores that the partnership means shared goals, contributions, and accountability. Creating a culture of success should begin with teacher outreach to parents and a positive focus in early interactions.

Research has established a significant correlation for student learning and parent involvement. Christenson, Godber, and Anderson (2005) reported parental involvement has additional benefits in student performance: improved grades, higher test scores, and better attitudes toward school. Parental involvement has also been found to reduce school dropout rates, reduce special education referrals, increase college enrollment, and promote higher attendance rates in school.

Defining specifics in order to create a culture of success is difficult given the complexity of families today. "Christenson and Sheridan (2001) defined four features" that help to create a partnership "for families and schools: 1) a student-focused philosophy" that "encourages educators and families [to] collaborate to enhance learning opportunities,

progress, and success for students in [the] . . . academic, social, emotional, and behavioral [domains]; 2) a belief in shared responsibility for educating and socializing children . . . ; 3) an emphasis on the quality of the interface and ongoing connection,” keeping the child’s educational growth as the goal; “and 4) a preventative, solution-oriented focus” where both teachers and parents work collaboratively to address issues from the onset and work together to address needs on a continuous basis (Christenson et al., 2005, p. 23).

Christenson et al. (2005) reported parents who understand their roles in parenting and education find themselves better able to fill the responsibilities accompanied with raising and educating children. They are more likely to become involved in school readiness activities and, later, participate in school programming if they view their participation as a requirement of parenting.

“McWilliam, Tocci, and Harbin (1998) researched . . . a family-centered approach [to parental involvement] considers the needs, wishes, and skills of the family” along with “the needs of the child” (Christenson et al., 2005, p. 23). The focus is then on welcoming the family into the school community and responding to family needs and concerns. They also noted that there is often “a ‘disconnect’ between pre-K and the K-12 systems” (Christenson et al., 2005, p. 23).

Pre-kindergarten programs that are designed with a purpose of preparing both students and parents for the school experience can involve daily interaction with teachers and parents, notes home inviting parent feedback, and many family activities. When families transition to the public school, the child-teacher relationship should be emphasized, keeping the parent as an integral part of the educational process. The K-12 systems need to make a better effort at welcoming the incoming kindergarten families as

they enter the public school system and integrating them as an integral part of their child's education journey.

Increasing Parent Involvement

The Appleseed Report (2006) and Ann Henderson's testimony to the senate on NCLB (2007) reported parents need a place at the table to know their presence and involvement matters and, further, to know they are needed and wanted as a part of the school community. Parental participation will increase with three key factors. First, parents need to have a good sense of their role construction. The parent who is confident in his/her role and knows positive parenting practices will demonstrate a greater likelihood for involvement in all aspects of his/her children's lives. Teachers who demonstrate the importance of parental involvement help parents' mindset to become one of thinking they are supposed to be involved in helping their children. The teacher influence should not be underestimated in influencing parental thinking. Second, parents who have a sense of efficacy in the parenting role and who feel confident they can assist and guide their child's education will become more involved in their child's education and feel freer to ask questions. They are more likely to be involved if they think their help will make a difference in their child's learning. Lastly, parents are more likely to increase their involvement if they are invited to participate in school-related activities and programs. The sense of invitation is strongly influenced by signals parents receive from their children and the school staff (Appleseed, 2006). The invitations send an important message of expectations and presence at school.

Christenson et al. (2005) reported on the data in education reflecting the importance of educators working in partnership with families. Educators can be the catalyst at

improving school climate, parent confidence, and student success. Teachers can create the inroads for parents to know the teachers on a deeper level and the work they do. Parents who understand educational practices and expectations tend to become better advocates for their children. The research demonstrated parents are often involved when very satisfied and when dissatisfied.

Epstein (1986) and Epstein et al. (2002) emphasized educators must work to reinforce the message that children are connected to the same families but to different teachers over the course of their school years. This message can aid parents in better understanding their role in this ongoing journey. When schools and families operate as true partners, they can weather the difficulties that can occur in any relationship: misunderstandings, conflict, and differing opinions. It is the continuous efforts that focus on the goal that brings about maximum success for students.

Rockwell et al. (1996) found teacher invitations to include parents in classroom learning do not have to take a great deal of additional time. Increasing the daily contact can be as simple as inviting parents to share in the day's opening activities and then be on their way. Parents can be invited to attend a principal's round table discussing school issues over a muffin and coffee. Teachers can collaborate and conduct grade-level information sessions where parents are free to ask questions. Back-to-school picnics are effective ways to help new families feel welcome at the school. Each of these activities can also have information for other involvement opportunities and upcoming events. Parent rooms can indicate to parents that their presence is important and welcome. Parent rooms can also be places for teachers to leave projects for volunteer completion, a place for meeting with teachers, and a

place for parents to interact during the school day. Some parent centers house information libraries.

Adults as Partners in the School Environment

Merriam, Caffarella, and Baumgartner (2007) established the importance of families and educators working together in partnership roles. The attitudes they hold about each other and an atmosphere that is conducive to collaboration set the stage for the action of moving forward in collaboration and support for the student. Malcolm Knowles, an adult learning theorist and researcher, affirmed the need to model and give respect when working with parents. Parents know their children best, and when they are a positive part of the education team, it becomes easier to work towards the goal of student achievement.

Knowles in Merriam et al (2007) focused on characteristics of the adult learner to bring about maximum results for both families and schools. These characteristics can be applied to the school-home relationship formation:

- Adults move from being dependent to self directing. They should be respected and treated with a spirit of mutuality in the learning journey. Both teachers and parents can be joint inquirers in the relationship.
- Parents bring a rich reservoir of experience from their background and homes and should be asked for input regarding their knowledge and ideas.
- Teachers should be observant of parents' social and educational backgrounds and use them as springboards upon which to build a relationship.
- Adults want information to be useful and applicable. Keep the focus on the children and the concrete things parents can do to support them.

- Parents want their children to succeed; motivation for that result is internal. Teachers can help, too, by providing their emotional support and encouragement for children's growth and success.
- Adults need to know why they need to learn something; help parents by explaining what children are learning and the value of parents' participation in the children's learning (Merriam et al., 2007).

Linking Research to Readiness Programming

Identifying research-based readiness programs that align with research expectations and systematically incorporate a parent involvement component is somewhat challenging. Most readiness programs provide curriculum for teachers' use and may not be designed to align with the research. Because this program became the basis for the current study, the program is analyzed here for its relationship to research literature.

Gearing Up for Kindergarten: A Parent-Involvement and School Readiness Program

The key building blocks and objectives of the Gearing Up for Kindergarten program, include: school readiness for children entering kindergarten, parent education, parent involvement with children's learning and school, building home-school-community partnerships, and transition-to-school knowledge and practices involvement with children's early learning, (Brotherson, 2007). These objectives support and reinforce the research literature (Appleseed, 2006; Christenson and Sheridan, 2001; Fielding, 2010; 2001; Epstein, 1987a; Fabian and Dunlop, 2007; Fielding, 2009; Fielding et al., 2004; Harvard Family Research Project, 2006a; NAEYC, 2009; Rhode Island KIDS COUNT, 2005;

Sprenger, 2008; Wesley and Buysse, 2003; and Zigler et al., 2006) on child development, school readiness and parent involvement in their child's development and education.

School Readiness and Gearing Up for Kindergarten

The concept of school readiness, emphasized in the Gearing Up for Kindergarten program, relates well to Wesley and Buysse's (2003) research, citing educator perspectives regarding the importance of school readiness for children entering kindergarten. Epstein's (1987a) research established the importance of parent care for children's basic needs along with a healthy environment that prepares children for the school experience.

Parent Education

Fielding et al. (2004) reinforce the importance of parent knowledge and understanding of child development in supporting children's preparation for life. The Gearing Up for Kindergarten program supports this concept along with the previously referenced Appleseed Report (2006) that cited parent efficacy and competence as key factors in parents' decisions to become involved in their children's education. The Gearing Up for Kindergarten program provides a parent education component that teaches basic child growth and learning information in the 5 domains of development.

Parent Involvement in Children's Learning

The Gearing Up for Kindergarten program reflects the parent involvement research of Epstein (1987a), Fielding (2010), NAEYC (2009) and Sprenger (2008) by incorporating early learning guidelines with parent practices to provide learning opportunities for parents. Recall Zigler et al. (2006) found parental involvement in preschool has a direct effect on children's success in social and emotional behaviors and supports their academic success. The Gearing Up for Kindergarten program incorporates and teaches parent/child activities

each week in the parent session. Student learning at home is reinforced with lessons that include take home and practice activities where the parent is the teacher initiating and teaching new activities. In addition, parent/child activities are a primary part of the classroom experience.

Building Parent Partnerships

Christenson and Sheridan, (2001), Epstein (1987a), and the Harvard Family Research Project (2006a), as reported earlier, promote parent partnerships as a part of children's learning and education. These partnerships help to develop parent understanding of the learning environment and provide opportunities for parents to work with their children at home, as volunteers at school, and as advocates for program and policy development. Opportunities may also be realized to enhance classroom learning as parents become aware of learning concepts and use skills they may have to support and develop the learning. The Gearing Up for Kindergarten program uses a workshop and training model (Harvard Family Research Project, 2006a) and promotes parent, school, and community partnerships through the education lessons on all areas of a child's development, including relationships in the home, school, and community. As reported earlier, community connections support the culture of success (Christenson and Sheridan, 2001) and work to instill a shared responsibility for education. Through participation in the Gearing Up for Kindergarten program parents experience a positive school atmosphere (Christenson and Sheridan, 2001) and experience a positive approach to school building school connections and relationships (Christenson and Sheridan, 2001).

Transition to School

The Rhode Island KIDS COUNT, 2005, Executive Summary research, noted previously in the chapter, showed children will not enter school ready unless they are provided with early learning experiences that support whole child development. These developmental experiences make the difference in children's transition into school and set the stage for success in school. Fabian and Dunlop (2007) reported families with logistical transition information, and who partner together with schools, experience greater satisfaction in relationships and smoother transitions to school. The Gearing Up for Kindergarten parent curriculum and classroom instruction provides information for parents and students to support success in the transition to school. Classes, supporting Bronfenbrenner's (1979) research, provide practical information and support for school registration, locating school boundaries, and informing parents and students of standard school practices.

Gearing Up for Kindergarten Research and Development

The Gearing Up for Kindergarten program has been studied by researchers at North Dakota State University since the program's inception in 2006. Study results with parents suggested that the parent-school relationship is enhanced through participation in the Gearing Up for Kindergarten program (Brotherson, Query, & Saxena, 2007; Brotherson et al., 2008; 2009). The program is designed to enhance parent-school relationship through participation in the Gearing Up for Kindergarten program. Through intentional conversation and targeted curriculum information, a central message is laid out as a part of the program; parents an important part of their child's education journey. The Gearing Up

for Kindergarten program curriculum uses research to emphasize parents as children's first and most important teachers knowing best how their children learn.

Gearing Up for Kindergarten (Brotherson, 2007; Brotherson et al., 2007) is designed as a prevention-focused, preschool-parent education program for parents and their children who will be entering kindergarten in the following year. Gearing Up for Kindergarten curriculum targets child development and school readiness. The Gearing Up for Kindergarten 16 week program design provides an intensive educational experience combining preschool learning activities for pre-kindergarten children with a parent education and involvement component as the key elements of the program. The program's intended design is for families with a child entering kindergarten the following year, but can also be used with three year olds.

The program was developed in 2006 at North Dakota State University. A federal mandate to increase parental involvement in schools resulted in an opportunity for the federal Department of Education to partner with the North Dakota State Parent Information Resource Center (PIRC). Through the PIRC, Gearing Up for Kindergarten was added to additional sites across the state of North Dakota in 2008 (Brotherson et al., 2009).

The Gearing Up for Kindergarten program (Brotherson, 2007; Brotherson et al., 2007) has a unique parental involvement emphasis in addition to its preschool program for children. Through parental participation in education centers, parents are expected to experience relevant learning activities and, in the parent session, how to implement learning at home. The hands-on experience teaching is designed to provide a sense of efficacy in knowing what kinds of activities support childhood development and learning. The take-home activities parents create each week are intended to provide opportunities for

immediate application at home. Research demonstrates parental knowledge and efficacy increases the likelihood for critical learning and development towards school readiness to occur at home (Epstein 1987a; Zigler et al., 2006).

The curriculum was piloted and refined over a five-year period to develop an educational program that adheres to research using effective parental involvement and school readiness methods. The preschool education curriculum consists of a flexible, adaptive set of parent-child learning and activity sessions. The parent education curriculum consists of a series of structured educational sessions that focus on child development, school readiness, and healthy parenting (Brotherson, 2011).

The preschool education curriculum centers on learning and activity sessions for parents and children. The program design has parents and children together at the beginning of each class. At this time they participate in a 45-minute session of different learning stations. Each station is created with activities designed to address and enhance knowledge and skills in math, science, reading/literacy, sensory awareness, motor ability, imagination, and social-emotional ability. Built into that timeframe is a preschool-style “circle time” for reading.

The next segment of the curriculum has children separate from parents. Children spend the remainder of the session in additional preschool learning activities planned by the preschool teachers using the curriculum guide. The curriculum for the parent-child activity sessions was developed and compiled by North Dakota State University researchers. Curriculum design is created for two contracted facilitators for the child and parent sessions, as well as a classroom assistant (Brotherson, 2007)

The parent education curriculum consists of 16 lesson modules designed to be adapted to the program model used for any specific site utilizing the Gearing Up for Kindergarten program. Typically, as in this study, the program model is delivered in two 8-session split semesters (fall and spring sessions), or a single 16-session program (spring prior to kindergarten). There is an alternate model of 10-sessions available.

Parent-education lesson modules were adapted from the research-based curriculum Bright Beginnings for Young Children, developed by Dr. Sean Brotherson of the North Dakota State University Extension Service, and other available parent-education topics.

Parent/child take-home activities and handouts were written by Parents as Teachers, and adaptations for New Americans were developed by Even Start. Learning topics for the modules include: Parenting Styles, Raising a Reader, Effective Discipline Techniques, Developing Responsibility and Self-Help Skills, Learning Styles and School Readiness, and other selected topics.

Summary

Parental involvement in children's education has been shown to be a benefit for student achievement as well as emotional and social growth. Families that work well with the schools have a greater support system and are likely to experience success in high school and in decision making. The research (Christenson & Sheridan, 2001; Epstein, 1986; 1987a; 2001; Fantuzzo et al., 2000; Gestwicki, 2004; Harvard Family Research Project, 2006b; Henderson, 2007; Patrikakou et al., 2005a; Rockwell et al., 1996) is clear that teachers and schools do impact the likelihood of parents' participation in their child's education. Teachers have the ability to influence involvement through their attitudes and

beliefs about parental involvement. Schools that provide opportunities for meaningful involvement reinforce the importance of the parent role in education.

It is also important for schools and parents to recognize the change that has occurred in educational expectations. The increased academic standards should be shared with parents, especially parents of young children. Getting parents on board is important in elementary school, but should ideally begin in early childhood. Epstein's (1987a) sixth type of parental involvement is an example of how communities and schools can work together to educate parents about the privilege and responsibility of teaching their children both before and after school begins.

The research demonstrated the important roles parents, community, and schools play in a child's development and achievement. Responsibility for education is shared, along with the success of achievement, and is supported by the Overlapping Spheres of Influence theory framework (Christenson & Sheridan, 2001; Epstein, 1986; 1987a; 2001; Fantuzzo et al., 2000; Gestwicki, 2004; Harvard Family Research Project, 2006b; Henderson, 2007; Patrikakou et al., 2005a; Rockwell et al., 1996).

Many pre-kindergarten programs focus on preparing children for school. The Gearing Up for Kindergarten program has additional supportive components that target parents and schools with education, transition information and expectations, and an understanding of school readiness to better equip parents in effectively preparing their children for school (Fabian & Dunlop, 2007).

“Young children's earliest experiences and the environment set the stage for future development and success in school and life” (Rhode Island KIDS COUNT, 2005, “Intro”). As the research (Christenson & Sheridan, 2001; Epstein, 1986; 1987a; 2001; Fantuzzo et

al., 2000; Gestwicki, 2004; Harvard Family Research Project, 2006b; Henderson, 2007; Patirkakou et al., 2005a; Rockwell et al., 1996) indicated, early experiences influence brain development, establishing the neural connections that provide the foundation for language, reasoning, problem-solving skills, behavior, and emotional health. Families and the preschool community play a crucial role in working comprehensively to assist children in coming to school ready to learn at a kindergarten level. Children from families with economic security and healthy relationships are more likely to enroll in preschool and to experience learning opportunities that support school readiness and, ultimately, success in school. Young children thrive when parents, family, educators, and the community surround them with love; support; and continuous, positive opportunities on their learning journey (North Dakota Department of Human Services, 2008a).

CHAPTER 3. METHODOLOGY

Introduction

Schools today face great challenges as they grapple with instructing children at multiple levels of readiness and skill. Children who enter school behind in their development and academic knowledge tend to stay behind as they move into the next grade (Fielding, 2009). Research demonstrates one-third of all students entering school experience some kind of learning difficulty and 16% enter school experiencing great difficulty (Gebeke, 2010).

The literature review provided research demonstrating the importance of parental involvement in children's education. Parent involvement research has been demonstrated to be a benefit for student achievement as well as emotional and social growth. The research supports the idea that when families work well with the schools and have support system children are likely to experience success in high school and in decision making. The research (Christenson & Sheridan, 2001; Epstein, 1986; 1987a; 2001; Fantuzzo et al., 2000; Gestwicki, 2004; Harvard Family Research Project, 2006b; Henderson, 2007; Patrikakou et al., 2005a; Rockwell et al., 1996) affirmed the value of teachers and schools in connecting with parents and providing opportunities for participation in their child's education.

Kindergarten is the formal entrance into the education world, and today, many children do not arrive at school with the skills they need (NIEER, 2004). Increased learning expectations for kindergarten have resulted in fewer children ready to learn upon entrance into school. Until recently, kindergarten has been thought of as an environment to learn social skills and the alphabet (Fielding et al., 2004).

The expectations of kindergarten readiness have changed significantly in the past two decades; hence parents may lack a clear understanding of the educational expectations for their kindergartner (Espinosa et al., 1997; Fielding et al., 2004; Fielding, 2009; Hanson, 2008). For example some of the increased expectations for children include: knowing some basic letters, counting to ten or higher, taking turns, listening for ten minutes at a time, and writing their first name (Fielding, 2009). Misconceptions regarding expectations can contribute to academic deficiencies in children (Espinosa et al., 1997; Fielding, 2009; Hanson, 2008; High/Scope Educational Research Foundation, 2006; Weiss et. al, 2006). A lack of parent understanding about readiness expectations can contribute to students entering school behind in learning, even before they begin.

Kindergarten readiness is a complex and multidimensional construct influenced by many early childhood experiences. For this study, school readiness is defined using a composite of benchmarks developed by the National Education Goals Panel (Kagan et al., 1995). These benchmarks are the often-identified, current standards generally accepted by the early childhood community and are reflected in the PPASR assessment and in the Gearing Up for Kindergarten curriculum. The NEGP identifies five domains of children's development and learning important for school success:

- Physical well-being and motor development
- Social and emotional development
- Approaches to learning
- Language development
- Cognition and general knowledge

These five domains are interrelated and dependent upon each other; development in one area will affect development in others. In this perspective, there is no single or uniform standard of readiness. Children's development is individual and can vary greatly according to ability and exposure to environment. At age five, a child will not demonstrate all necessary skills in every area. It is important to note one domain is not more important than another. Children's readiness for school encompasses skill sets in all the domains. While parental involvement in education and school readiness has been researched extensively, there is little research on combined preschool and parental involvement programs, along with transition-to-school practices, to support greater readiness for children at the start of kindergarten (Rhode Island KIDS COUNT, 2005).

Research Questions and Study Design

The research questions drive the study design and impact procedures and program assessment. The research questions are followed by description of the study design.

Research Questions

1. Is the change over time in the Practical Parent Assessment of School Readiness (PPASR) scores for the treatment group parents different from the change over time for the control group parents for the 5 domains of child development?
2. Is the change over time in PPASR scores for the treatment group parents different from the change over time for the control group parents for the transition-to-school knowledge and familiarity construct?
3. Are there differences in change over time between treatment and control group in children's knowledge of letter identification, number identification, and oral counting as measured by AIMS Web scores?

4. Is there a difference between treatment and control group in the strength of the relationship between the parent PPASR scores and child AIMS Web scores?

Study Design

This study design included both a treatment and a control group of 4-year olds, who entered kindergarten the year following the program, and one or both parents. The study was designed to measure whether participation in the Gearing Up for Kindergarten program significantly impacted children's academic growth, on selected measures, and parent perceptions of their child's development and school readiness.

This study has a unique approach that includes both parents and children in the intervention phase of the program. The treatment group received the intervention; participation in the Gearing Up for Kindergarten program. The control group did not receive the intervention.

The quasi-experimental design was used due to the fact that the groups were not arranged by random assignment. The preferred design for research is the experimental design. Without random assignment, that was not possible for this study.

A pretest, posttest, post posttest design was used to assess both students and parents. This design was used with both the treatment and control groups in the study.

Treatment group: 0 (pretest) X₁ (intervention) 0 post-test 0 post posttest

Control group: 0 (pretest) X₂ (no intervention) 0 post-test 0 post posttest

The pretest-posttest control group design criterion was met with the two groups. Both groups were given the pretest followed by the intervention for the treatment group. Both groups of parents and students were tested again at the end of the study. The study design

also included a post posttest, for both parents and children, at the children's entrance into kindergarten.

Description of Intervention Program

Program Design

This program used a 16 week model, with classes held once a week for 16 weeks. This model included a 6 week break after the first 8 weeks. The series resumed after the break. The 90 minute classes began at 6:00 pm and concluded 7:30 pm. There was no cost to families to participate in the program.

The evening was divided into two segments, parent child time in the classroom for the first 45 minutes followed by separate instruction for children and parents. Each child's classroom had one preschool teacher and one para-educator along with a parent educator who worked with families the first 45 minutes of each session.

The parent educator and parents left the classroom at the 45 minute mark for a parents' only instruction component. During the 45 minute parent session parents learned how to support their child's learning and development in preparation for the start of school. The parent educator used Gearing Up for Kindergarten curriculum for instructional materials and handouts.

Children remained in the classroom with the preschool teacher for continued learning activities. The preschool teacher and para-educator worked together with curriculum, to create lessons and centers for each evening's class.

The teachers were trained by Dr. Brotherson, creator of the Gearing Up for Kindergarten program, in a three hour training session that provided background research on child development and school readiness. The training also included an overview of the

Gearing Up for Kindergarten curriculum, evaluation practices, and steps for effective program implementation. Teachers developed and practiced a lesson with each other before beginning the program with students and parents.

Study Logistics

The treatment study group consisted of classrooms at two different sites: a local elementary school and a children's center. The elementary school held classes on Monday evenings, and the children's center held classes on Tuesday evenings. The elementary site had one classroom with 13 students; the children's center had two classrooms, the Green Room with 14 students and the Blue Room with 13 students.

Evening Format

Upon arrival each evening, parents and children signed in outside the classroom. Student names were listed on a paper in bold letters. Students found their printed name, some with the help of parents, and then wrote their name on the line below. Parents also signed a weekly attendance sheet. Both parents and children had nametags prepared by the teacher. Parents and children then went into the classroom to participate in a variety of learning centers; teachers encouraged parents to let children choose which centers to visit. Parents were an integral part of the center time and were encouraged to participate, with the child leading the way. Center time emphasized the development of language and literacy, motor skills, cognitive-thinking skills, social skills, and play. Each center provided directions for ideas, or parents and children were free to explore and play as they chose. Books were also available in a library corner for families wishing to read. This opening activity lasted for 30 minutes. Following center time, there was a 15-minute reading time conducted by the teacher. The segment brought all participants together with children

usually sitting on their parent's laps. The format varied each week: reading in family units, children reading to parents, guided teacher instruction, or participants responding by following along with the teacher. During this time, the teacher emphasized the importance of early literacy and developing a love of reading. The teacher modeled an interactive reading style and encouraged parents to visit with their children during and after the story. Parents learned to ask children questions relating to the story and acquired skills to make literacy connections with everyday life.

At 6:45 pm, parents left with the parent educator for parent education in a separate room; the Gearing Up for Kindergarten Parent Education curriculum was used. Instructional topics included Brain Development in Children, Parenting Styles, The Importance of Sleep, Learning Styles, School Readiness, Raising a Reader, Temperament, and Guidance and Discipline. These topics were shared with parents through activities and discussion. Parents also made hands-on, take-home activities, for use with their child, each week relating to the evening's lesson. While creating the activity, parents also learned the importance of the particular skill associated with the activity. Each week, parents took home educational information, from the parent curriculum, on child development in the skill or subject area for that week.

During the parent time, children worked in the preschool classroom, participating in learning activities as well as gaining an understanding of listening to the teacher, following directions, and experiencing time away from Mom and Dad. Lessons included alphabet sound and writing, number sense application, fine and gross motor activities, more play, and reading.

Following the parent education, parents joined their children in the classroom for a final activity. The evening ended with children picking out a library book, provided by the researcher's parent center, to take home each week.

To support families and encourage attendance, the parent center offered free, onsite childcare for siblings of the program participants. These children were cared for in a room next door to the classroom. Staff implemented all aspects of the program with careful attention to beginning and ending on time in an effort to model the school environment for families.

The focus of the literature reviewed in this study supported appropriate early childhood development, development of school readiness, parental involvement in education, and parental understanding of readiness and transition-to-school knowledge and familiarity. The parental assessment, the PPASR, supported the child development domains and school-readiness perceptions as cited by the NAEYC (2009), NEGP (1995), and the North Dakota Department of Human Services (2008a). The Gearing Up for Kindergarten program curriculum also supported early childhood development and readiness as promoted by the NAEYC (2009), NEGP (1995), and the North Dakota Department of Human Services (2008a). The Literature Review also examined avenues to support parents' understanding of school readiness. When parents understand their roles in parenting and education, they are better able to fulfill the responsibilities that accompany raising and educating children. They are more likely to become involved in school readiness and, later, school activities, if they view their participation as a requirement of parenting (Christenson & Sheridan, 2001).

Research for this study was conducted with resources from the Educational Resources Information Center (ERIC), the Harvard Research Exchange, the National Institute for Early Education Research (NIEER), the National Education Goals Panel (NEGP), the North Dakota Department of Human Services (DHS), the North Dakota Department of Public Instruction (DPI), and the North Dakota State University Library.

Population and Sample

The North Dakota State University Institutional Review Board approved the Gearing Up for Kindergarten research study. The study was advertised to all incoming kindergarten students and their parents, for fall 2011, in an urban Midwest public school district.

Prior to sending study information, a designated number of 90 participants had been predetermined for an opportunity to participate in the study, 45 to attend the Gearing Up for Kindergarten program and 45 to participate in the study. Classroom space was limited to a recommended 15 students per class, and funding levels allowed for 3 classes.

Study participants were difficult to locate as there is no formal list of 4-year olds available through public agencies. The researcher chose to work through the local school district where a comprehensive list of elementary families was legally available, though an up to date list of elementary families was not available prior to the start of the 2010 school year. The researcher obtained family names and addresses on September 3, 2010 and recruitment letters were mailed to the entire population of 2,317 elementary families on September 7, 2010. (Appendix A) The recruitment letter invited families with an incoming kindergartner in the fall of 2011 to participate in the Gearing Up for Kindergarten program.

Recipients were also encouraged to share the opportunity with others, who may not yet have entered the school system, but had a child entering kindergarten in the fall of 2011.

Interested parents were given until September 15, 2010, to respond. The time before the pre-determined start date of the Gearing Up pre-program assessments was, short, less than three weeks after the return of the letter indicating acceptance into the program. Parents were advised that program space was limited and admission into the program would be in order of received responses. Positive responses were received from 98 families.

The second letter, September 22, 2010 (Appendix B, Appendix C), was mailed to the 98 families responding to the first recruitment letter. Two separate letters were sent, to respondents. The first 49 respondents were assigned to the treatment group and the next 49 respondents were placed in the control group. In each letter, parents were given group assignment information and a registration form for either the treatment group (Gearing Up for Kindergarten program participation) or the control group (Gearing Up for Kindergarten assessment information only). The forms outlined the details for each group: treatment group, participation in the 16-week Gearing Up for Kindergarten series, and control group, completing assessment information on school readiness. Participants were provided an addressed, postage paid envelope to return interest forms to the researcher's work site at a local elementary school.

Although random assignment is preferred in a quantitative study, given the time constraints of the class start date, the decision was made to give the opportunity to attend the Gearing Up program to the first 100 respondents. After receiving acceptance letters for the study, some families decided not to attend due to the length of the program. This was

expected and was the reason for an initially accepted larger number. The study began with 40 children in the treatment group and 35 children in the control group.

The population of the study may not accurately portray the population of kindergartners in the school district due to a lack of response on the part of some or due to not having a child in elementary school, thereby not receiving the letter regarding the Gearing Up for Kindergarten program.

Instrumentation

The quantitative study gathered data with an emphasis on collecting and analyzing information in the form of numbers (Creswell, 2008). The PPASR, parent instrument looked at parent perceptions of their child's development, as described by the 5 domains of development, and school readiness. The AIMS Web, children's assessment assessed for student proficiency in letter identification, number identification, and oral counting.

Assessments for Parent Perceptions and Demographics

Parent assessments included the Practical Parent Assessment for School Readiness (Appendix D) and the Parent Response Form (Appendix E). The PPASR contains Likert-scaled measurements and the Parent Response Form contains demographic information.

Practical Parent Assessment of School Readiness. The Practical Parent Assessment of School Readiness (PPASR) is a measure completed by parents, assessing perceptions of their pre-kindergarten children. The PPASR contains assessments pertaining to the 5 domains of child development and the transition-to-school construct. The PPASR was developed and pilot tested in collaboration with the Gearing Up for Kindergarten program by Dr. Sean Brotherson at North Dakota State University. It was first pilot tested

in 2006 and 2007 with 80 participants in the Gearing Up for Kindergarten program and then subsequently refined in 2008 (Brotherson, Query, & Saxena, 2007; Brotherson et al., 2008). It was further tested with 102 participants in 2008 (Brotherson et al., 2009). It was intended to be a holistic assessment of child development and school readiness that encompasses multiple domains of child development and preparation for school entry. The primary assessments contained in the PPASR are each described in the following paragraphs.

The Practical Parent Assessment of School Readiness was reviewed for face validity and content validity, which are important elements of construct validity, in the pilot-testing process (Brotherson, 2011). First, a systematic review of a wide variety of existing measures of a child's school readiness was conducted, and sample indicators were organized into multiple key domains of child development and school readiness. Once these indicators were organized, the draft instrument was prepared, and then, all assessments in the PPASR were re-checked against existing literature and measures to ensure content validity. Next, the draft instrument was reviewed by six to eight early childhood educators and professionals, including both university professors in child development and early childhood education as well as practicing early childhood professionals with at least a master's degree, for both face validity and content validity. Feedback about the instrument was gathered and incorporated into the revision process. Finally, the instrument was pilot tested with parents of pre-kindergarten children, and selected parents were asked to provide feedback on the wording of questions and the perceived face validity of the instrument. This testing and review process covered two

years and resulted in the current version of the Practical Parent Assessment of School Readiness (Brotherson, 2011).

Additional testing for construct validity was conducted with the PPASR using convergent validity, in which validity is illustrated for the instrument in question (PPASR) through significant correlations with existing measures that assess a similar construct. The instrument selected for comparison was the School Entry Profile, a sound early childhood assessment used extensively by the state of Missouri in pre-kindergarten and kindergarten testing of young children. This instrument has regularly been used in assessment efforts in the Gearing Up for Kindergarten program over the past 3 years, and teacher assessment scores are available from the same population in the same time period as the PPASR. Each sub-scale of the PPASR was correlated with the similar topical sub-scale in the School Entry Profile.

The PPASR is a 42-item parental assessment of a child's school readiness across 5 key domains of development that is completed by a child's parent. It includes the 5 domains of child development and a school transition domain sub-scale. The questions for the 5 domains are answered on a Likert-type scale from 1 (*hardly ever*) to 5 (*almost always*). The questions for transition are answered on a Likert-type scale from 1 (*not at all*) to 4 (*to a great extent*). Each sub-scale and its characteristics are described. Four of the 5 child development domains, approaches to learning, social and emotional (note: the social and emotional domain of development is measured in separate subsets in the PPASR), cognition and general knowledge, and language have comparable measures to the School Entry Profile. The physical well-being and motor development does not have a comparable

measure in the School Entry Profile; instead a correlation was run for this domain with a dissimilar construct.

Approaches to learning scale. The approaches to learning scale of the PPASR indicated a significant and positive correlation with the Learning to Learn sub-scale of the School Entry Profile, $r(67) = .366, p \leq .01$. This relationship suggested that the Approaches to learning sub-scale has a substantial level of compatibility with a similar measure in the School Entry Profile, an important indicator of construct validity. The scale, as measured in the PPASR, is a 9-item scale designed to assess a child's learning approach and effort. The Cronbach's alpha measured with Gearing Up for Kindergarten test subjects in 2010 was .77 (S. E. Brotherson, personal communication, May 20, 2011).

Social development scale. The social development scale of the PPASR showed a significant and positive correlation with the Working with Others sub-scale of the School Entry Profile, $r(67) = .332, p \leq .01$. This relationship suggested that the PPASR sub-scale has a substantial level of compatibility with a similar measure of social development in early childhood. The scale, as measured in the PPASR, is a 10-item scale designed to assess a child's social development and peer relationships. The Cronbach's alpha measured with Gearing Up for Kindergarten test subjects in 2010 was .89 (S. E. Brotherson, personal communication, May 20, 2011).

Cognition and general knowledge and language development scale. The cognition and general knowledge scale of the PPASR showed a significant and positive correlation with the Mathematical and Physical Knowledge sub-scale of the School Entry Profile, $r(67) = .355, p \leq .01$. Again, this relationship provided evidence for construct validity through a significant correlation with a similar existing scale. The scale, as measured in the PPASR,

is an 8-item scale designed to assess a child's proficiency with regard to such items as basic literacy, numeracy, and communication skills. The Cronbach's alpha measured with Gearing Up for Kindergarten test subjects in 2010 was .78 (S. E. Brotherson, personal communication, May 20, 2011).

Emotional development scale. The emotional development scale of the PPASR showed a significant and positive correlation with the Learning to Learn sub-scale of the School Entry Profile, which also assessed aspects of emotional development. This correlation was significant at $r(67) = .327, p \leq .01$. The scale, as measured in the PPASR, is an 8-item scale designed to assess a child's emotional development. The Cronbach's alpha measured with Gearing Up for Kindergarten test subjects in 2010 was .78 (S. E. Brotherson, personal communication, May 20, 2011).

Discriminant validity was used to establish construct validity for those sub-scales in the PPASR that did not have a comparable measure in the School Entry Profile. Discriminant validity suggested that the measure is distinctive from other measures that theoretically should assess a different construct. The physical well-being and motor development scale of the PPASR did not have a comparable measure that allowed for assessment in the School Entry Profile, so a correlation was run for its relationship to a dissimilar construct, Mathematical and Physical Knowledge sub-scale of the School Entry Profile. There was no significant correlation between these constructs, $r(67) = .208$, thus showing, through discriminant validity, that this scale also had evidence of construct validity. The scale, as measured in the PPASR, is a 7-item scale designed to assess a child's physical abilities in such areas as gross and fine motor skills. The Cronbach's alpha

measured with Gearing Up for Kindergarten test subjects in 2010 was .71 (S. E. Brotherson, personal communication, May 20, 2011).

Transition-to-school scale. The scale consists of an eight-item assessment of a preschool child's school knowledge and familiarity. The eight-item transition-to-school scale has questions that are answered on a Likert-type scale from 1 (*not at all*) to 4 (*to a great extent*). The scale, in the PPASR, asks parents to assess a child's feelings and experiences related to school knowledge and familiarity. The Cronbach's alpha measured with Gearing Up for Kindergarten test subjects in 2010 was .85 (S. E. Brotherson, personal communication, May 20, 2011).

Taken together, these findings suggested that the PPASR sub-scales in the PPASR demonstrate solid construct validity and actually measure what they are intended to measure. The transition-to-school scale was added to the instrument after its initial pilot testing and revision. Each of these sub-scales were assessed for face and content validity using a similar process to that described above, thus establishing construct validity. Further testing for construct validity of these scales using other approaches has not yet been conducted.

Parent Response Form. The demographic questions included on the Parent Response Form are standard items designed to provide basic information regarding the characteristics of study participants. The questions include participant gender, age, number of children, residential setting (rural to urban), family status, education level, employment status, racial or ethnic background, child gender, and family relationship to child. Additional questions of interest that are included address participant eligibility for Head Start, first child in kindergarten, and parent education level.

Parents in the treatment group received the independent variable, participation in the Gearing Up for Kindergarten school-readiness program. Parents in the control group did not receive the Gearing Up for Kindergarten school-readiness program. Parents in both groups were assessed for their perceptions of their child's development and school readiness. The measurements of the two groups were compared to determine if there were differences in parent perceptions due to participation in the Gearing Up for Kindergarten program.

Assessments for Measuring Children's Academic Performance

Children were assessed on three academic measures, letter identification, number identification, and oral counting using the AIMS Web student assessment tool. One minute probes on each measure were given during the same time intervals as the parent assessments.

AIMS Web. The AIMS Web (Appendix F, Appendix G, Appendix H) assessment tool is a scientifically based, assessment that is a continuous method of measuring student progress in academics. This tool is designed inform teachers and to tailor instruction to meet individual student needs.

AIMS Web provides its users the assessment materials and ability to organize and report Curriculum-Based measurement (CBM)—standardized measures of basic skills—including reading, early literacy, and mathematics. CBM is an approved set of testing practices based on over 30 years of federally funded research and has been reviewed as meeting professional assessments standards by the Reading First Assessment Committee and the National Center on Student Progress Monitoring. More than 30 years of research has shown that listening to a child read graded

passages aloud for 1 minute and calculating the number of words read correct per minute provides a highly reliable and valid measure of general reading achievement, including comprehension, for most students.

This testing practice, Reading Curriculum-Based Measurement (R-CBM) has met the standards for use in Reading First as determined by the Secretary of Education's Committee on Reading Assessment and the Office of Special Education Program's National Center for Student Progress. (AIMS Web, 2011)

More than 200 empirical studies published in peer-reviewed journals (a) provide evidence of CBM's reliability and validity for assessing the development of competence in reading, spelling, and mathematics and (b) document CBM's capacity to help teachers improve student outcomes at the elementary grades. (Fuchs & Fuchs, 2004, p. 1)

Fuchs (2004) identified CBM as an effective tool that specifically identifies student instructional needs and demonstrates growth over time. This tool, when used consistently throughout the year, meets the research requirements of performance level at one point in time, the slope of performance actually associated with overall growth, and usefulness in teacher instruction.

Curriculum-based measurement is a specific testing strategy that uses limited numbers of standardized and valid testing measures. "The core CBM testing strategies are varied systematically and combined with other pieces of information to make one of five decisions in the Problem-Solving model" (Shinn, 2002, p. 679). The first step is to determine whether there is a problem in an area of learning, Problem Identification, which identifies the specific area of deficiency. The next step is Problem Certification, where the

severity of the problem is determined. Solutions to the problem are explored in the next step, followed by the Goal Setting process and, finally, Evaluating the Solutions. The CBM model is consistent and continuous, and reliable in its usefulness in individual instruction for student remediation and improvement (Shinn, 2002).

These standardized tests are based on general outcome measurement principles in order to efficiently and accurately evaluate student progress relative to a year-end target, regardless of curriculum or intervention. AIMS Web assessments are designed for kindergarten through eighth grade, and are valid and reliable when used with those populations. The AIMS Web pre-K measures are norm based with other schools that use these measures across the United States. The sample populations have been determined significant; however, at this time, the United States does not have fully funded pre-K programs available to all students. States and schools using the pre-K assessments have helped to formulate a norm referenced set of tests. Each test lasts in length from 1-4 minutes, and each test has 33 forms to reduce the rate of test familiarity.

Pre-kindergarten, 4-year-old students in the experimental group received the independent variable, participation in the Gearing Up for Kindergarten school-readiness program. Pre-kindergarten, 4-year-old students in the control group did not receive the Gearing Up for Kindergarten school-readiness program. Students in both groups were assessed for knowledge in three school-readiness content areas with the AIMS Web assessment tool: letter identification, number identification, and number sense. The academic measurements of the two groups were compared to determine if there were differences in school readiness due to participation in the Gearing Up for Kindergarten school-readiness program.

Data Collection

This quasi-experimental study used a research design with pre, post, and follow-up measurement data from AIMS Web assessment probes given to children in the Gearing Up for Kindergarten program (the treatment group) and the control group over a period of 12 months. This study also gave the Practical Parent Assessment for School Readiness assessment for parents in a pre, post, and follow-up design to parents of students in both the experimental and control groups. The research design was used to establish cause and effect between independent and dependent variables.

In the previously referenced September 22, 2010 letter, parents were given group assignment information and forms outlining the details for each group: treatment group, participation in the 16-week Gearing Up for Kindergarten series, and control group, completing assessment information on school readiness. Each group's parents were asked to bring their child to the parent center in a local elementary school on either October 4th or 5th for the treatment group, or on October 6th or 7th for the control group. On the assigned evenings, parents filled out the assessment forms with trained Gearing Up for Kindergarten staff members. Those forms included the PPASR and the Parent Response Form. The assessments were handed out with a number code identifying each family. The code linked the children and parents, and the data gathered were identified by the code. There was one sheet used with parent's name and address as well as the child's name. That page was taken out and placed in a locked cabinet along with the number code.

Parents signed an Informed Consent Agreement (Appendix I) to participate in the Gearing Up for Kindergarten study. This agreement indicated their understanding of the study, involvement in the study, and the purpose of the study. Parents were assured that this

study was confidential and that no names would be used in sharing the data. This study was not totally anonymous, and participants were informed, prior to the study, that there was no penalty for withdrawing from the study at any time.

Because the students in this research were minors, parental permission was obtained for participation in the research study. Both parental and student confidentiality were assured for participants in the study. IRB approval was granted under the umbrella of North Dakota State University Extension and the Gearing Up for Kindergarten research project (Appendix J).

During that same time, the children were assessed with the AIMS Web assessments for letter identification, counting, and number identification. Trained AIMS Web staff from the local school district conducted the three 1-minute assessment probes. Children were identified by a number code, the same as their parents, and no names were used in the assessments. The assessments each had a one-page score sheet. Each child's score sheets were clipped together with his/her number code. Upon completion of the assessments, parents were given a \$25 gift card to a local retailer with funds provided from a North Dakota State University research grant.

On separate days but in the same timeframe, treatment and control-group evenings were held to keep the assessment timeframe as close together as possible without the effects of group interference. Thirty-five families showed up for the treatment group, and 31 families showed up for the control group. Members who did not show up for the assessments on the assigned evenings were called and rescheduled for the following week. Any participants who did not show up that week were given one more opportunity during the second night of class for the treatment group and at the parent center one evening that

same week for the control group. The study was then closed to participants who signed up, but did not respond to the follow-up letters or phone calls. At that time, the treatment group had a total of 40 members ($N = 40$), or 89% of possible members, and the control group had 35 members ($N = 35$), or 78% of possible members. The total possible N was 90, with 45 members in each group. The size limit was determined by the number of student seats available for the treatment group, and then, a corresponding number was allotted for the control group.

Treatment group assessments were administered, post program, at the final Gearing Up for Kindergarten session on either March 14th or 15th. Student assessment took place throughout the evening. Assessors took the children into a separate classroom and administered the same 1-minute probes as the first assessment. Parent assessments were completed during the parent portion of the evenings. Once again, parents received a \$25 gift card for a local retailer. The treatment group had 35 completed assessments.

Post program control-group assessments were administered at the parent center in conjunction with a Gearing Up for Kindergarten Learning Fair on March 21, 2011. Parents took the assessments in Room 1 with trained Gearing Up staff administering the same assessments as in the fall. Child assessments were administered in Room 3 with the same trained AIMS Web assessors used in the fall assessment. Families then played games at the learning fair and received their gift card. The control group had 33 completed assessments.

The final parent assessments for both groups were given at the parent center on September 28 and 29, 2011. Parents were sent a letter refreshing their memory about the study (Appendix K), and all parents were invited to come to the parent center from 1:00-6:00 pm on either day to fill out the final assessments. Forty assessments were completed at

that time. Final assessments were then mailed to parents who did not attend that meeting, and 15 additional assessments were received. A deadline of November 11, 2011, was set for receipt of the final assessments. Parents who filled out the final assessment received a final \$25 gift card. The treatment group members completed a total of 30 assessments, and the control group members completed 28 assessments.

The same AIMS Web student assessments used in the Gearing Up for Kindergarten study are automatically given to students in the school district. Site administrators were able to access this year's data, with permission from school district administration. No further testing was done for the final student assessments.

The assessments administered in the fall of 2010 were used to establish student baseline academic-level measurements for both the control and treatment groups on the three school-readiness indicators prior to the start of the experimental group in the Gearing Up for Kindergarten program. Upon completion of the 16-session intervention phase for the treatment group, both student groups were assessed on the three school-readiness indicators a second time. Both groups entered kindergarten in the fall of 2011 where the third AIMS Web assessment was automatically given to each child. The AIMS Web scores were measured before the intervention, the pretest, and again after the intervention, a posttest. The third set of scores, in kindergarten, was intended to be used to compare levels of readiness skill sets between the treatment and control groups using an analysis of variance (ANOVA). The ANOVA is used to determine if an observed statistical difference is sufficiently larger than a difference that would be expected solely by chance (Gay et al., 2006)

After all participants completed each round of assessments, the assessments were sent to North Dakota State University's College of Human Development and Education. There, the assessments were analyzed and placed in a secure location. These documents only identified participants by the assigned number code. Documents will be destroyed 5 years after the study is completed.

The school district granted permission to use the AIMS Web database and purchased the required student space to test and record student data. These student data were transferred to each student's teacher at the beginning of the 2011 school year. Classroom space and permission to conduct the research study in the school district was also obtained from the Assistant Superintendent's office (Appendix L).

Researcher's Role

The researcher's role for this study was to organize the study, obtain permission from the local school district and a children's center to hold classes in their buildings, recruit and hire instructors and assessors, obtain IRB approval, recruit participants for both the Gearing Up for Kindergarten experimental and treatment groups, supervise personnel, oversee finances, train facilitators, and oversee all aspects of programming to ensure a quality experience for parents and students. The researcher also provided data analysis for the study data.

The researcher is the parent coordinator for the local school district, and works with the local Extension office and conducts programming for the region. She has held this position for eight years, and her duties include parent programming; outreach to incoming kindergarten families; parent instruction at Head Start and at an Air Force base;

development of new programs for parents and children; implementation of the “red,” read everyday campaign; and awareness of community needs with regard to parenting.

The researcher has been an educator for 13 years. Prior to becoming parent coordinator, she taught third grade for 5 years.

The researcher has a bias towards parent involvement in children’s growth and development, believing that parents are a child’s first and most important teacher. The researcher did not teach the Gearing Up for Kindergarten program. The researcher did, however, get to know families during the course of the program. To avoid researcher bias, the researcher did not conduct any of the assessments with parents or children.

Pilot Study

The researcher conducted a pilot study in the spring of 2010 to better understand the Gearing Up for Kindergarten school-readiness program and to create an effective implementation model for the experimental study. A 10-week Gearing Up for Kindergarten pilot program was held at the local Head Start site with 2 classrooms that had 14 children in each class. The adapted 10-week pilot study was utilized as a model for the current 16-week study. Adaptations for this study were made after determining the weaknesses of the pilot model.

Student recruitment for the pilot study was drawn from the winter 2010 Head Start 4-year-old waiting list. Recruitment letters were sent to 49 potential participant families, with follow-up phone calls giving parents an opportunity to ask questions regarding the program. Families were invited again with a personal invitation from Head Start personnel. Twenty-eight families committed to the program, and 14 families completed the 10-week series.

The AIMS Web assessment tool was used to create baseline data of student academic knowledge. Trained assessors, who were familiar with the instruments and with assessing children, were hired to assess pre and post program. The first night of class, the parent questionnaires and assessments, the PPASR and Parent Response Form, were given by trained personnel to ensure instrumentation reliability. Survey instruments were lengthy, and administration the first night of class did not create a smooth introduction or a get-to-know-you period. The parent instructors hired for the program were familiar in working with Head Start parents and were comfortable speaking to parents.

Modifications Applied to Current Study

The pilot study identified a lack of consistent attendance. Of the 28 families ($N = 28$) that began the Gearing Up for Kindergarten program, only 14 ($n = 14$), or 50%, completed eight (80%) of the sessions. The researcher attributed low attendance to a 10-week series with no breaks between sessions, a lack of weekly parent communication between sessions, and a weak parent-instruction component.

To address the lengthy 16 week series, this study divided the Gearing Up for Kindergarten program into two 8-week segments with a break between sessions. To increase communication and build relationships, a program coordinator was hired to communicate weekly with parents, by email, flyers, or phone calls. These strategies were used to keep Gearing Up for Kindergarten on parents' minds and to inform them about upcoming topics and events. Parents were also contacted if they missed a class. The program coordinator's job description included goals to establish a caring relationship and feelings of connectedness, for parents and children.

The parent curriculum was strengthened by adding two take-home activities to each Gearing Up for Kindergarten lesson. Two kindergarten teachers, who have taught the Gearing Up curriculum, created 32 hands-on, take-home lessons for parents to make in the parent sessions each week. During the parent sessions, parents learned the objectives of each topic, had discussions centered on each topic, and created two take-home activities relating to that topic. These activities were sent home for use with preschoolers during the week. Each activity was designed to reinforce an area of development and learning, and to encourage parent-child time together.

The two parent facilitators for the study were kindergarten teachers. Both individuals taught with an interactive instruction model and knowledge of kindergarten-readiness expectations.

To mitigate the lengthy assessment period for parents, a separate assessment night was conducted prior to the first and last nights of class. Parents were invited to a separate location to complete the assessments, and their children also participated in AIMS Web assessments. Parents received a \$25 gift card for a local retailer as compensation for their time. Children, upon completing the AIMS Web assessments, played in a classroom under adult supervision.

Ethical Considerations

Parents were given the option of participating in the study and were also told there was no penalty for leaving the study. Participants were assured of confidentiality in their responses and could indicate a desire to see the results of the study. Assessments for both parents and children were kept in a locked cabinet at the researcher's office during the

assessment period, and then transferred to North Dakota State University and locked in a secure location where they will be kept for five years and then destroyed.

Validity and Reliability

Participants were not chosen by random selection but, instead, in the order response forms were received; therefore, it was considered a convenience sample. The turnaround time from original letter of recruitment to the class start time was short, less than 1 month.

One possible threat to the validity of the research design was the natural maturation process of 4-year olds in a 12-month time period and the date on which they turned 4. Entry into school mandates that children turn five on or before July 15th the year they enter kindergarten.

Selection of the groups was also limited to children entering kindergarten in the school district in the fall of 2011. Participants' awareness of the program may have introduced threats that influence outcomes, such as environment, preschool exposure, and ability levels.

Instrumentation was controlled, as much as possible, with rigorous training for the AIMS Web assessors and a commitment for the duration of the research. Fidelity in administration for all assessment instruments was required of the parent educators when administering assessments to parents.

Data Analysis

This quasi-experimental study examined the following research questions related to school readiness and parent understanding of readiness:

Research Question 1

The first research question was as follows: Is the change over time in PPASR scores for the treatment group parents different from the change over time for the control group parents for the 5 domains of child development?

The first research question addressed whether differences will be evident between treatment-group and control-group parents regarding perceptions of their child's development across multiple domains. Parental perceptions of children's school development were measured using instruments designed to assess a child's development across the 5 domains: approaches to learning, physical well-being and motor development, social and emotional development, cognition and general knowledge and language development. The domains were measured using the sub-scales in the Practical Parent Assessment of School Readiness (PPASR). This question was examined utilizing a repeated-measures analysis of variance (ANOVA) approach to compare pre- and post-program participant scores and to explore interaction effects.

Research Question 2

The second research question was as follows: Is the change over time in PPASR scores for the treatment group parents different from the change over time for the control group parents for the transition-to-school knowledge and familiarity?

The second research question replicated the first question; however, it focused specifically on a newly constructed transition-to-school knowledge construct as a dimension of school readiness. Parental perceptions of children's transition-to-school knowledge were assessed using the 8-item Child-School Knowledge sub-scale (included in the PPASR). This question was also studied utilizing a repeated-measures ANOVA

approach to compare pre-program and post-program participant scores and to explore interaction effects.

Research Question 3

The third research question was as follows: Are there differences in change over time between treatment and control group in children's knowledge of letter identification, number identification, and oral counting as measured by AIMS Web scores?

The third research question addressed whether there was a difference between children's AIMS Web scores by treatment versus control group. The children in both groups were assessed, by trained evaluators, regarding their current knowledge of specific aspects of numeracy and literacy using three identified sub-scales in the AIMS Web measure, letter identification, number identification, and oral counting. A repeated-measures ANOVA was employed to analyze pre-program and post-program participant scores and to explore interaction effects.

Research Question 4

The fourth research question was as follows: Is there a difference between treatment and control group in the strength of the relationship between the parent PPASR scores and child AIMS Web scores?

The final research question explored whether there were relationships between the parental perceptions of a child's school readiness scores (PPASR, etc.) and the child's AIMS Web scores in both the treatment and control groups. A correlation analysis was conducted to determine whether there were meaningful relationships between the children's scores on letter identification, number identification, and oral counting and the parent perception of their child's scores on the same measures in the PPASR. Those

measures were found under the cognition and general knowledge and language scales of the PPASR. The measure assessed for strength of the relationships between these scores.

A low level of correlation would be less than $+0.35$ or -0.35 . A moderate level of correlation would be “between $+0.35$ and $+0.65$ or between -0.35 and -0.65 ” (Gay et al., 2006, p. 194). A high level of correlation exists when the scores are “higher than $+0.65$ or -0.65 ” (Gay et al., 2006, p. 194). “Coefficients of plus or minus $.60$ or $.70$ are usually considered adequate for group prediction purposes . . .” (Gay et al., 2006, p. 194).

Chapter 3 described the Methods and Procedures used in the study, including study design, program implementation, population and sample, instrumentation, data collection, pilot study, validity and reliability, ethical considerations, and methods of data analysis of the data as related to the four research questions. Chapter 4 will present the Analysis and Results of the study. Chapter 5 will summarize the study and provide Conclusions and Recommendations for further study.

CHAPTER 4. FINDINGS AND RESULTS

This chapter contains the following sections: introduction to the chapter including statement of research questions, study participants, demographic information, research question 1 report and tables, research question 2 report, research question 3 report and tables, and research question 4 report and figures.

The purpose of this quasi experimental study was to examine the impact of the Gearing Up for Kindergarten program in shaping parent perceptions of child development and student readiness for the kindergarten transition. The study also examined three subtests of children's academic readiness. Three research questions were proposed in order to identify characteristics of child development and school readiness through the parent lens. The fourth question was designed to measure change over time in student growth on selected measures of academic readiness.

This study was designed to research the effectiveness of the Gearing Up for Kindergarten program from a parent understanding of child development and school readiness and to measure student gains in selected academic school readiness indicators

This quasi experimental study examined the following research questions:

1. Is the change over time in the Practical Parent Assessment of School Readiness (PPASR) scores for the treatment group parents different from the change over time for the control group parents for the 5 domains of child development?
2. Is the change over time in PPASR scores for the treatment group parents different from the change over time for the control group parents for the transition-to-school knowledge and familiarity?

3. Are there differences in change over time between treatment and control group in children's knowledge of letter identification, number identification, and oral counting as measured by AIMS Web scores?
4. Is there a difference between treatment and control group in the strength of the relationship between the parent PPASR scores and child AIMS Web scores?

Participants

The pretest PPASR assessment had 40 members in the treatment group and 35 members in the control group for a total of 75 participants. The posttest PPASR had 35 responses from the treatment group and 33 responses from the control group, for a total of 68 participants. The post posttest PPASR had 30 participants in the treatment group and 28 participants in the control group for a total of 58 participants.

The pretest AIMS Web assessment had 40 students in the treatment group and 35 students in the control group for a total of 75 participants. The posttest AIMS Web assessment had 35 students in the treatment group and 33 students in the control group for a total of 68 participants. The post posttest AIMS Web assessment had 35 students for the treatment group and 30 students in the control group for a total of 65 participants.

Demographic Data

Frequencies were run on the Gearing Up for Kindergarten control and treatment groups for the following variables: parent and child gender, ethnicity, parent education, family status, employment status of parent, number of children in the family, relationship of parent filling out assessment, first child in kindergarten, Head Start eligibility, child experience in preschool, and in home daycare experience, Seventy five children

participated in the study, with 35 in the control group and 40 in the treatment group. Parent Response Form found in Appendices.

Seventy-five parents filled out the assessments; the control group had 31 females (88.6%) and 3 (8.6%) males and 1 other (2.9%) complete the surveys. The treatment group had 34 females (85.0%) and 6 males (15.0%) complete the surveys. There were 20 boys in the participating in the children's control group, (57.1%) and 15 girls, (42.9%). The treatment group had 24 boys, (60%) of the group and 16 girls, (40%) of the group.

Family ethnicity was reported with Caucasian as the largest group represented in the study; 32 for the control group (91.4%) and 34 for the treatment group (85.0%). Native American or Alaskan Native was reported as 1 parent for the control group (2.9%) and 2 parents for the treatment group (5.0%). Asian was reported as 2 parents for the control group (5.7%) and 1 parent for the treatment group (2.5%). There were 2 Hispanic parents in the treatment group, (5.0%) and 1 other (2.5%).

The education level of participants varied greatly with the majority of parents reporting some college, 11 in the treatment group (27.5%) and 10 in the control group (28.6%) and a 4-year college degree, 11 in the treatment group (27.5%) and 13 in the control group (37.1%). Other reported education levels were: some high school 1 in the control group (2.9%) and 2 in the treatment group (5.0%). Completion of high school was reported by 2 parents in the control group (5.7%) and 4 parents in the treatment group (10.0%). A 2-year college degree was reported at 2 parents for the control group (5.7%) and 7 parents for the treatment group (17.5%). Participants who reported a master's degree or higher were 7 for the control group (20.0%) and five for the treatment group (12.5%).

Family status was listed for the following categories: married control group had 22 participants (62.9%) and the treatment group had 28 (70.0%), for single (never married) the control group 5 (14.3%) and treatment group 6 (15.0%), for separated/divorced the control group reported 4 (11.4%) and the treatment group reported 4 (10.0%), persons living together or cohabitating were reported at 3 for the control group (8.6%) and 2 for the treatment group (5.0%), lastly the control group had 1 remarried person (2.9%).

Parent employment status was reported with full-time work ranking the highest. The control group had 17 working full-time (48.6%) and the treatment group had 16 (40.0%). The control group had 3 (8.6%) people working 26-39 hours a week and the treatment group had 8 (20.0%) at working at that rate. Those working less than 25 hours a week had 1 member (2.9%) for the control group and 2 (5.0%) for the treatment group. Seeking employment had 6 in that category, 2 (5.7%) for the control group and 4 (10.0%) for the treatment group. Those not seeing employment consisted of 9 (25.7%) for the control group and 9 (22.5%) for the treatment group. The other category had 3 (8.6%) in the control group and 1 (2.5%) in the treatment group.

Families with two children were the largest grouping for number of children in a family. The control group had 16 families (45.7%) and the treatment group had 18 (45.0%). Three children in a family was the next largest category reported with the control group having 9 (25.7%) and the treatment group having 16 (40.0%). Three families (8.6%) reported one child in the control group and 2 families (5.0%) in the treatment group. Five (14.3%) control group families had four children and 3 (7.5%) families reported four children in the treatment group. Two families (5.7%) from the control group reported 5 children and 1 family (2.5%) reported 6 children in the treatment group.

Of the parents filling out the survey 32 (91.4%) in the control group and 34 (85.0%) in the treatment group were biological mothers. Fathers filling out the survey numbered 2 (5.7%) for the control group and 6 (15.0%) for the treatment group. There was 1 (2.9%) respondent in the other category for the control group.

Additional frequencies reported contain dichotomous data reporting yes responses. Fifteen (42.9%) of the families in the control group and 11 (27.5%) indicated the child in this study was their first child to enter kindergarten. Thirteen (37.1%) of the families in the control group and 10 (25.0%) of the families in the treatment group indicated eligibility for Head Start enrollment. Lastly, attendance averaged 26 children per week for the group. Thirty-four children attended the first class, 25 attended session 8, and 27 were in attendance for the last class.

Findings and Results from Analysis

Research Question 1

Aggregate scores for PPASR constructs. An ANOVA was run at $p = .05$ to determine if there were differences between the treatment and control groups in the change over time between the mean scores of the parents in the treatment and control groups on each of the parent rated PPASR constructs: approaches to learning, physical well-being and motor development, social development, cognition and general knowledge and language, and emotional development. See Table 1.

To further explore the program's effect on parents' perceptions of social development; all the items that comprised social development were examined and tested in an ANOVA. See Table 2.

Table 1

Practical Parent Assessment of School Readiness: Parent Perceptions of Their Child
Aggregate Measures of Constructs

Variable	Treatment (<i>n</i> = 30)				Control (<i>n</i> = 27)				Inter- action <i>P</i>
	Baseline <i>M</i>	<i>SD</i>	Follow-up <i>M</i>	<i>SD</i>	Baseline <i>M</i>	<i>SD</i>	Follow-up <i>M</i>	<i>SD</i>	
Approaches to Learning	4.02	.549	4.38	.450	4.06	.697	4.28	.657	.246
Physical Well-Being and Motor Dev	4.62	.472	4.85	.275	4.68	.336	4.85	.439	.523
Social Dev	3.85	.658	4.35	.528	3.92	.653	4.13	.860	.034
Cognition and Language	4.24	.609	4.77	.333	4.38	.585	4.70	.379	.095
Emotional Dev	4.09	.580	4.48	.466	4.14	.596	4.26	.587	.063

Note: P-values shown are for group X time interaction effects in repeated measures

ANOVA. Analysis of variance did not show statistical significance for group by time interaction on the PPASR assessment instrument as a whole. The analysis of variance did show a significant group by time interaction effect on social development. The treatment group had greater gains in social development than the control group.

The group by time interaction effect on the emotional development construct, though not significant at a .05 level, was very close to significance at .063. To further explore the program's effect on parents' perceptions of emotional development, all the items that comprised emotional development were examined and tested in an ANOVA. See Table 3.

Table 2

Practical Parent Assessment of School Readiness: Parent Perceptions of Their Child's Social Development Measures of Construct Components

Variable	Treatment (<i>n</i> = 30)				Control (<i>n</i> = 27)				Inter- action <i>P</i>
	Baseline		Follow-up		Baseline		Follow-up		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Shares with others	3.80	.805	4.33	.661	3.89	.801	4.00	1.03	.058
Works/Plays Cooperatively	3.93	.785	4.43	.679	4.00	.845	4.19	1.07	*.033
Listens in Group	3.87	.900	4.40	.621	4.00	.784	4.07	1.10	.098
Takes Turns	3.80	.925	4.37	.669	4.00	.734	4.04	1.05	*.038
Remembers and Follows Directions	4.17	.834	4.67	.479	4.11	.698	4.26	1.09	.116
Enjoys Talking/Playing	4.40	.814	4.67	.606	4.22	1.01	4.52	.893	.896
Gets Along	3.50	.861	4.07	.691	3.67	.920	3.96	.980	.395
Understands/ Follows Rules	3.80	.64	4.43	.626	3.85	.662	4.15	.907	.086
Understands How to Enter Talking	3.80	.997	4.13	.900	3.89	.974	4.22	.934	.336
Tries to Solve Problems	3.43	.935	4.07	.828	3.52	.975	3.93	.781	.156

P-values shown are for group X time interaction effects in repeated measures ANOVA.

* $p < .05$. Analysis of variance showed a significant group by time interaction effect of parents' perceptions, on works or plays cooperatively with friends, $F(2,110) = 3.53$, $p = .033$ and takes turns with others, $F(2,110) = 3.38$, $p = .038$. The interaction effect was

such that the treatment group had greater gains in two aspects of social development, works or plays cooperatively with friends and takes turns with others, than the control group.

Table 3

Practical Parent Assessment of School Readiness: Parent Perceptions of Their Child's Emotional Development Measures of Construct Components

Variable	Treatment (<i>n</i> = 30)				Control (<i>n</i> = 27)				Inter- action <i>P</i>
	Baseline		Follow-up		Baseline		Follow-up		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Feels Loved and Supported	4.87	.434	4.93	.254	4.78	.424	4.89	.424	.566
Spends Time Away W/out Anxiety	4.17	.913	4.67	.547	4.33	.832	4.59	.572	.405
Identifies Feelings	4.33	.844	4.67	.606	4.15	.864	4.44	.847	.287
Can Talk About Others Feelings	3.87	1.04	4.23	.817	3.93	.874	4.00	1.00	.503
Manages Feelings	3.50	.820	4.17	.747	3.81	.962	3.59	1.04	*.004
Adapts to New Situations	3.93	.785	4.40	.621	4.00	1.00	4.19	.921	.296
Shares Feelings with Adults	3.93	.907	4.33	.802	4.00	.784	4.07	.917	.111
Appreciates Getting to Know People	4.13	.900	4.50	.777	4.19	.786	4.33	8.32	.547

P-values shown are for group X time interaction effects in repeated measures ANOVA.

**p* < .05. Analysis of variance showed a significant group by time interaction effect on manages feelings, such as anger or frustration, without hurting or being mean to others, *F*(2,110) = 5.87, *p* = .004. The interaction effect was such that the treatment group had

greater a gain in emotional development, on the management of feelings, whereas the control group declined.

Research Question 2

Transition-to-school. An ANOVA and a significance level of .05 was used to determine if there were differences, between the treatment and control groups in the change over time on the parents' perception of their child's transition-to-school. The treatment group consisted of 30 parents and the control group had 26 parents. The mean for the treatment group was 3.36 (SD = .616) at the pre-test and 3.86 (.259) on the post-test. The mean for the control group at the pre-test was 3.31 (.671) and on the post-test 3.78 (.358).

Analysis of variance did not show an interaction effect for the transition-to-school construct, $F(2,108) = .30, p = .970$

Research Question 3

AIMS web. An ANOVA was run at $p = .05$ to determine if there were differences between the treatment and control groups in the change over time between the mean scores of the children in the treatment and control groups on each of the AIMS Web sub tests: letter identification, number identification, and oral counting. To explore the interaction effect of change over time in children's academic scores see Table 4.

Research Question 4

A Pearson product-moment correlation coefficient was computed to assess the relationship between the parent PPASR scores and the children's AIMS Web scores.

A weak correlation would be less than +.35 or -.35. A moderate correlation would be between +.35 and +.65 or between -.35 and -.65. A strong correlation exists when the scores are higher than +.65 or -.65. (Gay et al., 2006, p. 194).

Table 4

AIMS Web: Aggregate Measure of Children's Academic Scores

Variable	Treatment (<i>n</i> = 36)				Control (<i>n</i> = 32)				Inter- action <i>P</i>
	Baseline		Follow-up		Baseline		Follow-up		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Letter Identification	8.30	10.7	17.80	15.23	15.84	11.8	27.75	17.91	.373
Number Identification	19.44	17.44	31.30	16.80	27.31	17.44	36.56	16.79	.278
Oral Counting	26.00	19.12	35.25	22.99	27.78	18.20	42.00	22.98	.249

Note. P-values shown are for group X time interaction effects in repeated measures.

* $p < .05$. Analysis of variance did not show an interaction effect for letter identification, $F(1, 66) = .804, p = .373$; number identification $F(1, 66) = 1.19, p = .278$; or oral counting $F(1, 66) = 1.35, p = .249$.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the parent PPASR scores and the children's AIMS Web scores on the letter identification post-test. A scatterplot summarizes the results (Figure 1).

In the control group, student letter naming fluency and the parent perception that the child is familiar with (or able to recognize) letters of the alphabet had a weak positive correlation, Pearson's $r(32) = .199, p < .05$.

In the treatment group, student letter naming fluency (letter identification) and the parent perception that the child is familiar with (or able to recognize) letters of the alphabet had a moderate positive correlation, Pearson's $r(35) = .418, p < .05$.

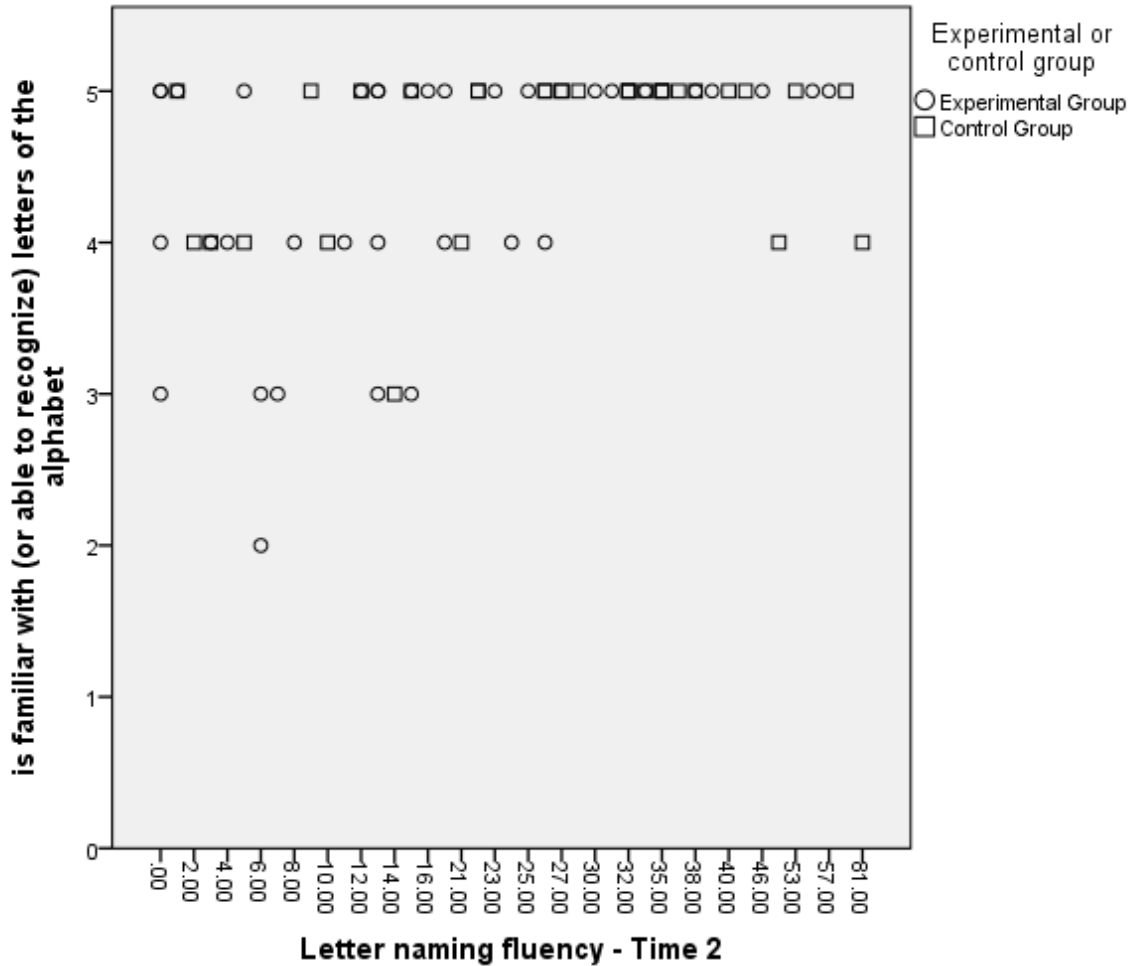


Figure 1. Parent perceptions of their child’s letter identification abilities with the child’s actual letter identification (indicated in Figure 1 as letter naming fluency) score on the post-test.

In the treatment group, the parent perceptions of their child’s letter identification were more strongly related (.418) to the children’s actual letter identification scores than they were in the control group (.199).

There was no significant difference between these two correlation coefficients, $Z = .958, p = .169$.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the parent PPASR scores and the children’s AIMS Web scores on the number identification post-test. A scatterplot summarizes the results (Figure 2).

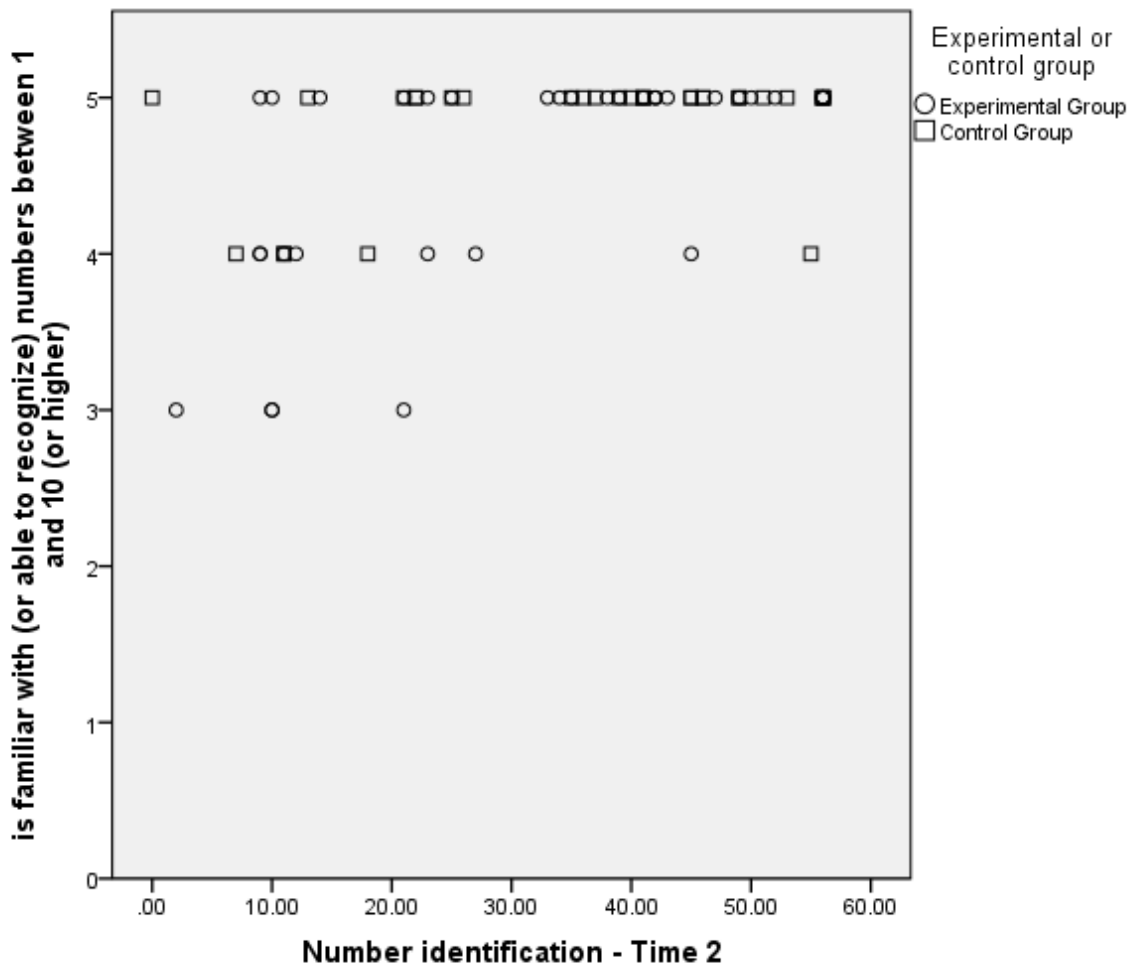


Figure 2. Parent perceptions of their child’s number identification abilities with the child’s actual number identification score on the post-test.

In the control group, student number identification and the parent perception that the child is familiar with (or able to recognize) numbers between 1 and 10 (or higher) had a moderate positive correlation, Pearson’s $r(33) = .418, p < .05$.

In the treatment group, student number identification and the parent perception that the child is familiar with (or able to recognize) numbers between 1 and 10 (or higher) had a strong positive correlation, Pearson’s $r(35) = .608, p < .05$.

In the treatment group, the parent perceptions their child's number identification scores were more strongly related (.608) to the children's actual number identification scores than they were in the control group (.418).

There was no significant difference between these two correlation coefficients, $Z = 1.016, p = .154$.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the parent PPASR scores and the children's AIMS Web scores on the oral counting post-test. A scatterplot summarizes the results (Figure 3).

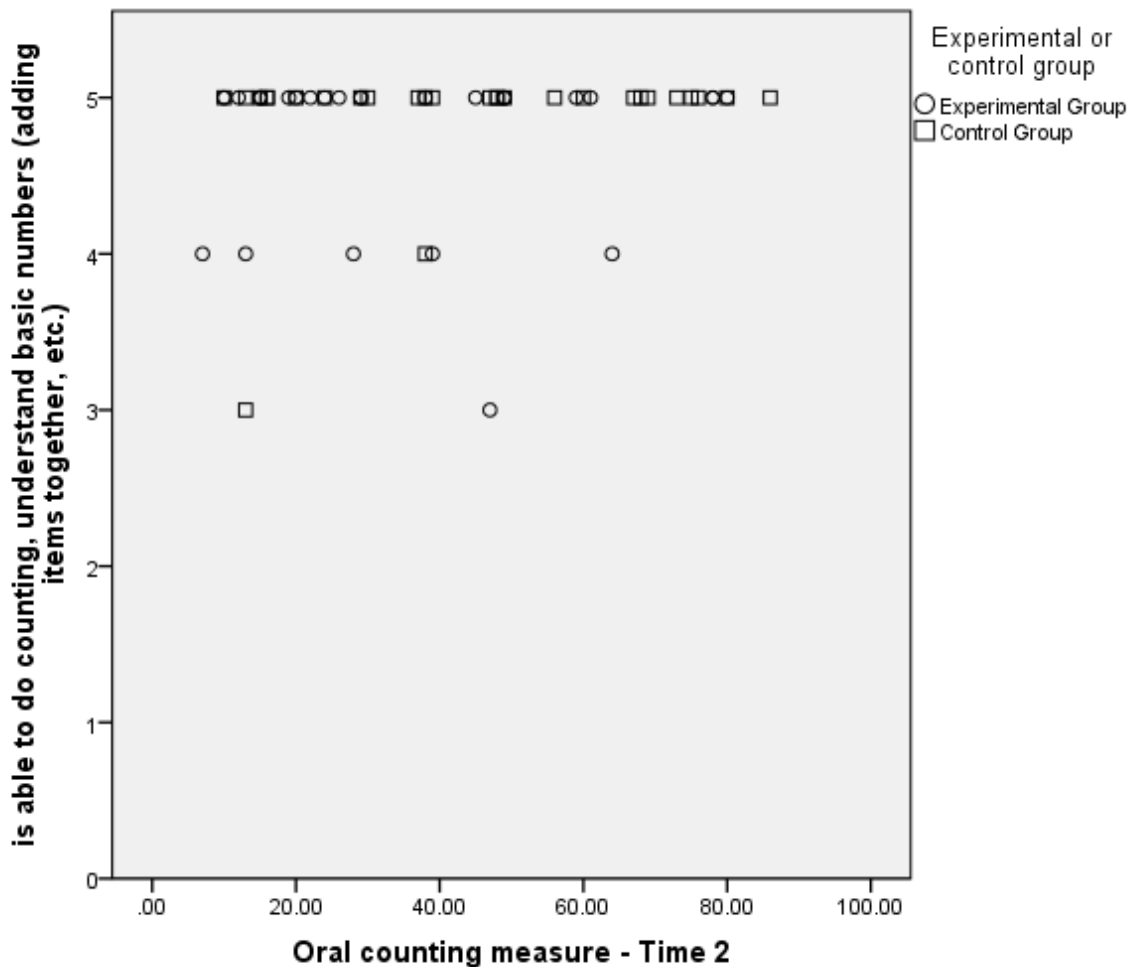


Figure 3. Parent perceptions of their child's oral counting abilities with the child's actual oral counting score on the post-test.

In the control group, student oral counting measure and the parent perception that the child is able to do counting had a weak positive correlation, Pearson's $r(33) = .217$, $p < .05$.

In the treatment group, student oral counting measure and the parent perception that the child is able to do counting had a moderate positive correlation, Pearson's $r(35) = .469$, $p < .05$.

In the treatment group, the parent perceptions of their child's oral counting were more strongly related (.469) to the children's actual oral counting scores than they were in the control group (.217).

There was no significant difference between these two correlation coefficients, $Z = 1.134$, $p = .128$.

CHAPTER 5. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The first purpose of this study was to investigate if parent perceptions showed that the Gearing Up for Kindergarten, child development and school-readiness, program played a significant role in helping parents prepare their child for school, at kindergarten levels of readiness, as reviewed in the Chapter 2 literature. In addition to children's developmental school readiness, the study investigated children's readiness to make the transition to school. The final purpose of this study was to investigate if children's readiness skills, on selected academic measures, were significantly impacted through participation in the Gearing Up for Kindergarten program as reviewed in the Chapter 2 literature.

Summary

Research Question 1

Is the change over time in the Practical Parent Assessment of School Readiness (PPASR) scores for the treatment group parents different from the change over time for the control group parents for the 5 domains of child development?

This study, as a whole, did not find the Gearing Up for Kindergarten program as being significant in changing parents' perceptions of their children's readiness for school in 4 of the 5 domains of child development.

The lack of random assignment for the groups was quite likely the most limiting factor in this study's lack of finding significant results in the change over time in parent perceptions of child development. The small number of participants may also have contributed to the lack of significance.

As measured by the ANOVA, there were significant differences found in one domain, social development. The scores obtained on the measure of social development

indicated the significance was due to stronger social skill development in the area of being able to work or play cooperatively with friends and taking turns with friends. The measures of sharing and understanding and following rules were not significant, but did measure near the $p < .05$ significance level.

The social constructivist theory of development (Vygotsky, 1978) supports the value of learning in social settings. The Gearing Up for Kindergarten program offers learning opportunities through interaction with other children and parents in a familiar setting designed to enhance children's experiences and expand knowledge of the world around them.

Research demonstrates children learn best in group settings where taking turns and sharing is expected and emphasized (NAEYC, 2009; Sprenger, 2008). The Gearing Up for Kindergarten program emphasizes the social aspect of children's development. Through participation in the 16 week Gearing Up for Kindergarten program children were exposed to a lengthy time period of expected social behaviors. This program component, along with a period of time to learn and develop social skills is likely to have contributed to the significant difference in social development between the two groups.

As measured by the ANOVA, there were near significant differences found in one domain, emotional development. The scores obtained on the measure of emotional development indicated the near significance was due to stronger skill development in the area of being able to manage feelings.

The literature supports that children who are taught how to understand and process emotions experience a greater ability to appropriately express feelings (NAEYC, 2009; North Dakota Department of Human Services, 2008a; 2008b; and Sprenger, 2008). The

Gearing Up for Kindergarten program emphasizes the emotional aspect of children's development. Through participation in the 16 week Gearing Up for Kindergarten program children were exposed to a lengthy time period of appropriate emotional behaviors. This program component, along with time to learn and develop and practice those skills is likely to have contributed to the near significant difference between the two groups.

Research by Sprenger (2008) and the North Dakota Department of Human Services (2008a; 2008b), validates the importance of a healthy social and emotional environment for children. The quality of the home environment directly influences children's ability to relate to and interact with others in a healthy manner. Children who are nurtured and loved are better able to respond in a healthy manner emotionally and socially (High/Scope Educational Research Foundation, 2006). In addition, children who are regularly exposed to taking turns, being acknowledged, and listened to, have greater skill ability to learn and exhibit those behaviors in outside settings.

Research Question 2

Is the change over time in PPASR scores for the treatment group parents different from the change over time for the control group parents for the transition-to-school knowledge and familiarity construct?

The analysis of variance did not show significant difference in the transition-to-school construct between the treatment and control groups. The researcher did not expect this result, but also realizes the central focus of the Gearing Up for Kindergarten program is not on the transition into kindergarten, but preparation for success in the school setting. The program curriculum does not contain specific lessons designed to address the transition into kindergarten. There are also variations in where the Gearing Up for Kindergarten program

is held. Program locations in this study were not at the schools most children attended for kindergarten. The study, did however, add information for parents to support school transition preparation and shared the dates of kindergarten registration along with opportunities to participate in a summer program, Intro to Kindergarten.

The overlapping spheres of influence theory supports the shared role of schools and families in the transition process, and beyond (Epstein, 1987b). The assessment of this theory explored the importance of parent knowledge in recognizing their place in the transition process from home to school.

Bronfenbrenner's (1979) research emphasized the importance of support for children as they move from a small area of interaction, the home and daycare, to a larger area of interactions and expectations at school. Fabian and Dunlop (2007) reported though many schools recognize the importance of support in transitions, few schools or programs assign responsibilities to ensure this support mechanism is in place for families (p.3).

Research Question 3

Are there differences in change over time between treatment and control group in children's knowledge of letter identification, number identification, and oral counting as measured by AIMS Web scores?

The analysis of variance did not show significant differences in change over time on any of the AIMS Web scores between treatment and control groups on the selected academic measures.

This lack of significant effect could be due to a variety of other factors as well as the lack of random assignment. The mean of children in the control group was higher on all

of the pretest measures; therefore there was less room for significant growth as each measure had a ceiling limit.

The post-test mean for letter identification was higher for the treatment group than the control group. The mean for number identification and oral counting was higher for the control group than that of the treatment group. Each group made progress from the beginning of the study to the conclusion. This study did not take into account children's expected growth over time and parent high ratings at the beginning which could have influenced study results. The small n in the control group could also have contributed to a lack of significance in the results. A recommended minimum for a study is at least 30; the control group did not reach that number.

Lack of significance could also be attributed to the teachers used in this study. The teachers at the children's center had strengths in the domain of children's development with regard to play and social skills. Their instruction in the academic section of class left room for improvement. The researcher spent time reviewing the curriculum with them and working to strengthen instruction in that area. The instructors were slow to respond to a stronger academic focus and as a result, the students did not receive the best instruction possible in that area. The students in the school, however, had an instructor who incorporated academics in all aspects of the evening, play, reading, and instruction.

Due to the small n of the study, there was not the ability to effectively measure the difference in classroom instructors. Fielding et al. (2004) and the researcher believes the quality of targeted instruction can make a significant difference in student achievement.

Another possible factor in the control group's higher scores was the education of the parent group; the control group had fewer numbers, but a greater percentage of parents

with four year and master's degrees. Parent education levels are known to be direct correlates of children's academic scores (Rhode Island KIDS COUNT, 2005).

Research Question 4

Is there a difference between treatment and control group in the strength of the relationship between the parent PPASR scores and child AIMS Web scores on post-test measures? There was not a significant difference between treatment and control group parents in the strength of the relationship between their perceptions of their child and their child's scores on the AIMS Web assessment.

Parents who participated in the Gearing Up for Kindergarten program were expected to have a better sense of their child's academic development than those in the control group who did not participate in the program. The lack of random assignment most likely limited the effect of the program in producing significant results.

The treatment group parents' perceptions of the three academic measures, letter identification, number identification, and oral counting, showed more accurate recognition of their child's academic abilities than did the control group parents. Though the treatment group parents more accurately perceived their children's abilities, in all cases there was no significant difference between treatment and control group parents on perceptions of their child's academic abilities.

It is possible that treatment group parents had a better sense of their child's academic abilities due to the activities in the classroom and the parent education component of the program. The Gearing Up for Kindergarten program does not have lessons identifying specific academic readiness skills for kindergarten though some skills

were practiced. This factor could have influenced parent understanding of the academic measures and the role academics plays in school readiness.

The strengths of this study were the opportunities provided for parents and their preschoolers to participate in the Gearing Up for Kindergarten program. This was not a qualitative study, but many positive comments from parents reinforced the importance of a program of this nature. Parent comments included references to education not requiring a significant investment of money, but use of things already in the home. Other comments included the importance of understanding what specifically constitutes school readiness, learning that education takes place every day in every way, the value of understanding children's temperaments and learning styles, and the time spent one on one with children.

The limitations in this study were primarily the lack of random assignment, but there were others. The researcher experienced a change of advisors during the course of the study and this was the first full implementation of the program. The teachers at the children's center were also tied to grant dollars to implement the program. Under normal conditions they would not have been hired for the program. In addition, this was the first major research project of the researcher. A great deal of learning has taken place and changes will be made for future research.

Conclusions

This study did not establish overall significance of the Gearing Up for Kindergarten program. The research findings however on social development corroborate with previous research on the Gearing Up for Kindergarten program. This program component was further strengthened with this study (Brotherson et al., 2007; Brotherson et al., 2009). Previous findings also show program significance in the area of cognition and general

knowledge (Brotherson et al., 2009) and were expected in this research. This study did not support those findings and it is the researcher's belief that lay with the lack of teacher quality and expertise at the children's center factored in with first time delivery of the Gearing Up for Kindergarten program to the entire community.

Though overall significance was not found, the researcher supports the program concept. The program's target audience, preschool children and their parents do not have adequate early childhood education resources available in their state. Due to the lack of formal state funding for preschool children, this program can help in a small way, to close the gap of this underserved population. This study served approximately 5% of the district's preschool student population. While the percentage served was small, there are still 40 students who benefitted from participation in the program. This program replicated the school environment with procedure, routine, group activities, school readiness activities and the use of actual classrooms. Though there was no measurable significance, this exposure to school practices likely made a difference in both parent and child readiness for school.

A benefit of this study is the first time inclusion of a children's assessment. Though this measure did not produce significance, it did provide an opportunity to measure specific aspects of children's academic growth over time and to explore the merit of a children's assessment. The third student assessment was not administered with fidelity of implementation and was not able to be used in the data analysis for the study. A third wave of assessment would allow for greater measurement of the program's impact on student academic achievement and further opportunity to research the correlation between children's scores and parent perceptions of their child.

This program, though not a daily program, does provide a learning environment in which teachers and parents have the opportunity to experience children's growth over a period of time. Through the program teachers can address academic and developmental growth with a variety of educational activities. One of the teacher practices in this study, children writing their names each week, allowed for the children and parents to observe growth over time and the ability to have a clearer picture of the progress on that specific skill.

It is the opinion of the researcher that the small n impacted the lack of significance along with the instructor component at the children's center. Time constraints did not allow for participants in this study to be chosen randomly. Those factors contributed to a lack of this study's ability to be generalizable to other pre-school populations.

The social constructivist theory of child development was supported in this study along with the emphasis of the shared role of parents, educators, and community in raising a child. The overlapping spheres of influence theory was reinforced with the Gearing Up for Kindergarten instruction model. The new transition-to-school theory was introduced in this study as a piece of the foundation for support in transitions. Lack of significant findings in this area do not negate the importance of future research in this area. One aspect of the research clearly demonstrated lack of a formal system for integrating children into the school environment (Wesley & Buysse, 2003) and perhaps will spark additional discussion between the local preschools and school community in addressing this issue.

This study introduced the Gearing Up for Kindergarten program to the community for the first time and as a new program did not generate as much response as the researcher had hoped. At the time of the conclusion of this report, the school district has a waiting list

for next year's students. The program has grown in its recognition and popularity in this community and in the state where it has received endorsement from other school districts.

Recommendations

Curriculum realignment. Recommendations for future implementation of the Gearing Up for Kindergarten program based on the research presented in the literature include: curriculum alignment with stronger emphasis on skills for the 5 domains of children's development, specific strategies for transition to kindergarten and targeted instruction for parents on expected academic readiness skills for incoming kindergarteners.

The social and emotional development of children is a significant strength of the Gearing Up for Kindergarten program; as reflected in the statistical difference between the treatment and control group. The expanded curriculum model should include the addition of specific skill practices aligning with the other domains of development; approaches to learning, physical well-being and motor development, cognition and general knowledge, and language development. The use of NAEYC (2009) standards, North Dakota Department of Human Services (2008a; 2008b) research, and NEGP (1995) skills and strategies would incorporate well into the current curriculum design.

The recommendations for the Gearing Up for Kindergarten program preschool and parent curriculum includes expansion for specific lessons integrating basic academic skills in language and numeracy. The curriculum could add a letter/sound component focusing on recognizing the letters of the alphabet and their basic sounds and a mathematical component for number identification, one-to-one correspondence, and oral counting. Future student and parent instruction should incorporate incoming kindergarten standards as stated by the North Dakota Department of Public Instruction. (North Dakota Department of

Public Instruction 2005a; North Dakota Department of Public Instruction 2005b). The addition of these features would corroborate with the North Dakota Department of Public Instruction's language and math expectations for incoming kindergartners and give parents the knowledge and skill necessary for adequate instruction and preparation the year before kindergarten.

The researcher recommends a greater emphasis built into the Gearing Up for Kindergarten program to strengthen support for the transition process as researched by Bronfenbrenner (1979). The research hypotheses recommended support in the transition process through information regarding expectations, logistical information and practices, and that the transition not be made alone (Bronfenbrenner, 1979, p. 217). This information should be integrated into the parent curriculum lessons and shared with the Department of Public Instruction as the Gearing Up for Kindergarten program is promoted in the state.

Gearing up expansion. Future Gearing Up for Kindergarten programming should also take into consideration expansion into daycares and preschools. Preschool programming may not include a direct parent education and involvement component. The parent participation emphasis reflected in this program could greatly enhance parent understanding of child development and school readiness, and in turn increase parent involvement in children's development and learning. This expansion would also educate daycare providers in the importance of parent involvement in child development and school readiness.

Closing thoughts. The field of early childhood education is one of national importance and currently has the attention of educators everywhere. This program has a significant opportunity to create impact in children's readiness for school, transition into

school, and success in life. Educational reform will not go away and continued scrutiny will be necessary as standards for education increase along with the diversity of the learning population. This program brings a unique combination of parent/child programming that fosters children's growth and development along with strengthening the family relationship. The motto at an elementary school in the researcher's district is to produce lifelong learners and responsible citizens. Parents afforded the opportunity to participate in this program have the privilege of showing responsibility to their families by attending a lengthy series of classes and implementing the learned skills in their parent practices. The children have the opportunity to experience positive parent models and opportunities to begin school with a rich learning history, and best of all, ready to learn at expected levels of kindergarten readiness.

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APPENDIX A



September 7, 2010

Dear Parent of Upcoming Kindergartner – Fall 2011:

The Grand Forks Public Schools, in partnership with the NDSU Extension Service, is looking for families for the Gearing Up for Kindergarten readiness program. This program will help Grand Forks Public Schools and NDSU staff better assist parents in preparing their children for school.

- Did you know that many parents want help in preparing their child for kindergarten?
- Do you have a child that is preparing to enter kindergarten in Grand Forks Public Schools in the fall of 2011?

The Gearing Up for Kindergarten readiness program is designed to learn from parents who have a child getting ready for kindergarten in the fall of 2011. Also, it allows parents to understand their child's development and growth in preparing for school.

Parents who respond will have the opportunity to be involved with their child in kindergarten readiness activities and programming. Children who are prepared for kindergarten have a better kindergarten experience, enjoy school more, and are more likely to achieve school success.

Due to the large pre-kindergarten population and the limited class size, participants who enroll will be placed in one of two programming options. Enrollment in the program begins immediately and interested families should respond by September 15, 2010.

Participants in the program will receive information about school readiness and be involved in parent-child activities in a school setting. In addition, all participants will engage in assessments designed to further understand each child's school readiness. **All participating families will receive three \$25 gift certificates to local retail stores.**

Interested parents must have a child preparing to enter kindergarten in the fall of 2011 in the Grand Forks Public Schools. Please consider participation or sharing this information with possible participants.

To register, please complete the registration form attached to this letter and return by September 15th in the stamped and addressed envelope accompanying this letter. You will be notified of the details of the program with your acceptance letter into the program.

If you have questions, please call Judith Konerza at the Parent Information Center at (701) 787-4216.



REGISTRATION FORM

Parents Name: _____

First and last name of child entering kindergarten in the fall of 2011:

Birth Date of child: _____

Phone number with area code: _____

Street address: _____

City, State, Zip: _____

Email address: _____

Current elementary school for other children:

APPENDIX B



September 22, 2010

Dear Parents,

Thank you for your response to the Gearing Up for Kindergarten readiness program. You and your child have been selected to participate in this hands-on learning program that will take place on Monday or Tuesday evenings, beginning October 11th and 12th, 2010. Our Monday night class will be held at Phoenix Elementary School and the Tuesday night class will be held at the University Children's Center on the University of North Dakota (UND) Campus.

Gearing Up for Kindergarten begins at 6:00 p.m. and ends at 7:30 p.m. each night. Free onsite childcare is provided for brothers and sisters ages six months through 5th grade. The evening schedule is listed below:

- 6:00- 6:45 p.m. Children and parents together with teacher in the classroom
- 6:45- 7:15 p.m. Children remain with teacher and parents with parent instructor
- 7:15- 7:30 p.m. Parents rejoin children to play interactive learning game

During the class time parents and children will participate together in a variety of learning activities that include painting, math, science, reading, and music. Teachers will also conduct activities for the entire group.

The parent time will provide parents with information on parenting styles, normal child development, reading ideas, and other important topics relating to school readiness. During that time, parents will also make a related activity to take home and practice with their child that week. Children will also take home a book selection each week and bring it back to exchange for another book the next week.

The dates for Gearing Up for Kindergarten (16 week program):

Mondays: October 11, 18, 25, November 1, 8, 15, 22 and 29. **Break.** Classes begin again on January 24, 31, February 7, 14, 21, 28, March 7 & 14. Monday night classes are held at Phoenix Elementary School.

Tuesdays: October 12, 19, 26, November 2, 9, 16, 23 and 30. **Break.** Classes begin again on January 25, February 1, 8, 15, 22, March 1, 8 & 15. Tuesday night classes are held at University Children's Center on the UND campus.

You and your child will participate in assessments as mentioned in the recruitment letter. Parents and your upcoming kindergartner are asked to come to the Parent Information Center, located at Lewis and Clark Elementary School, Room 1, on October 6th or 7th (choose which ever night works better for you) between 5:00 and 7:00 p.m. During this time, you will complete school readiness assessments (your thoughts on your child's school readiness) and your upcoming kindergartner will complete an assessment of alphabet and number skills. You may come between 5:00 and 7:00 pm and can expect to be here for half an hour. You will receive your first \$25 gift card upon completion of the assessments, to be mailed to your home address.

Class for you and your child will begin the following week. On the return form, please indicate a preference for the Monday or Tuesday evening class. We will place participants in classes in the order we receive your response form.

The staff of Gearing Up for Kindergarten and the Parent Information Center look forward to partnering with you, as together, we prepare your child for kindergarten. If you have any questions, please call the Parent Information Center at 787-4216.

Your partner in Education,

Judith Konerza

APPENDIX C



September 22, 2010

Dear Parents,

Thank you for your response to the Gearing Up for Kindergarten readiness program. You and your child have been selected to participate in this study helping researchers and educators better assist parents in school readiness preparation.

You and your child will participate in assessments as mentioned in the recruitment letter. Parents and your upcoming kindergartner are asked to come to the Parent Information Center, located at Lewis and Clark Elementary School, Room 1, on October 6th or 7th (choose which ever night works better for you) between 5:00 and 7:00 p.m. During this time, you will complete school readiness assessments (your thoughts on your child's school readiness) and your upcoming kindergartner will complete an assessment of alphabet and number skills. You may come between 5:00 and 7:00 pm and can expect to be here for half an hour. You will receive your first \$25 gift card upon completion of the assessments, to be mailed to your home address.

The staff of Gearing Up for Kindergarten and the Parent Information Center look forward to partnering with you, as together, we prepare your child for kindergarten. If you have any questions, please call the Parent Information Center at 787-4216.

Your partner in Education,

Judith Konerza

Please complete this portion and return in the self addressed stamped envelope. Thank you!



Parents Name: _____

Childs Name: _____

Address: _____

City, State, Zip: _____

Phone number with area code: _____

Yes, my child and I will participate

No, we will not be able to participate at this time

APPENDIX D

Practical Parent Assessment for School Readiness

ID Code # _____

Name _____

Contact Information

Address _____

Phone () _____

E-mail _____

Note – Your personal information will be kept private and identified only to the project director and researcher. This is to provide you with feedback from your assessment if you are interested in that information. Please check whether you would like feedback.

- Yes No

Practical Parent Assessment for School Readiness

Developed by Sean Brotherson, Ph.D., North Dakota State University

This questionnaire is designed to assess parents' perceptions of a preschool child's (ages 3 to 5) preparation in selected areas for entering school and feeling successful in that setting (i.e., "school readiness"). It is intended as both a learning and brief assessment tool, and focuses on your awareness of a child's practical and developmental skills and abilities. Also, it can help assess a parent's perception of a child's developmental progress through time.

Perceptions of Your Child

Please consider a particular child in your life and provide your best understanding of *how your child typically thinks and behaves in the following areas*. There are no wrong answers. Please be honest and accurate and complete the entire questionnaire. Circle a number for each answer. Children vary, so you should understand you are not "grading" your child, but rather sharing your awareness of his or her development in several areas.

In answering the questions, please use the following 1 to 5 scale:

1 = Hardly Ever 2 = Once in Awhile 3 = Sometimes 4 = Often 5 = Almost Always

I. Approaches to Learning

<i>My child typically</i>	Hardly Ever	Once in Awhile	Some-times	Often	Almost Always
1. Is curious and asks questions to learn more about a topic	1	2	3	4	5
2. Works with hands in putting together puzzles or building with blocks	1	2	3	4	5
3. Explores the environment and participates in new opportunities	1	2	3	4	5
4. Learns and recites familiar songs, nursery rhymes, finger plays or stories	1	2	3	4	5
5. Enjoys participating in small groups to play games or do learning activities	1	2	3	4	5
6. Draws and uses art to express ideas or feelings	1	2	3	4	5
7. Is able to work independently on a task (painting, picking up clothes, etc.)	1	2	3	4	5
8. Likes to work at solving problems	1	2	3	4	5
9. Is persistent when solving problems	1	2	3	4	5

II. Well-Being and Motor Development

<i>My child typically</i>	Hardly Ever	Once in Awhile	Some-times	Often	Almost Always
10. Holds a pencil or crayon with fingers (not fist)	1	2	3	4	5
11. Can button, snap or zip pants or coat	1	2	3	4	5
12. Moves easily from place to place when walking	1	2	3	4	5
13. Creates things using hands and paper, crayons, scissors, etc.	1	2	3	4	5
14. Is able to cut with scissors	1	2	3	4	5
15. Can catch or pick up a rolled or thrown soft ball	1	2	3	4	5
16. Shows large motor skills, such as hopping, skipping, running, jumping or throwing	1	2	3	4	5

III. Social Development

<i>My child typically</i>	Hardly Ever	Once in Awhile	Some-times	Often	Almost Always
17. Shares with other children (such as toys, crayons, etc.)	1	2	3	4	5
18. Works or plays cooperatively with friends	1	2	3	4	5
19. Listens in a group situation	1	2	3	4	5
20. Takes turns with others	1	2	3	4	5
21. Remembers and follows simple directions in playing games	1	2	3	4	5
22. Enjoys talking to or playing with other children	1	2	3	4	5
23. Gets along without quarreling or fighting	1	2	3	4	5
24. Understands and follows rules that are explained	1	2	3	4	5
25. Understands how to enter into talking or play with other kids	1	2	3	4	5
26. Tries to solve problems with friends	1	2	3	4	5

IV. Cognition and General Knowledge and Language Development

<i>My child typically</i>	Hardly Ever	Once in Awhile	Some-times	Often	Almost Always
27. Is familiar with books and enjoys having others read to him or her	1	2	3	4	5
28. Tries to learn and use new words	1	2	3	4	5
29. Is able to speak and communicate thoughts, needs and feelings in a way others understand	1	2	3	4	5
30. Is familiar with (or able to recognize) letters of the alphabet	1	2	3	4	5
31. Is familiar with (or able to recognize) numbers between 1 and 10 (or higher)	1	2	3	4	5
32. Is able to do counting, understand basic numbers (adding items together, etc.)	1	2	3	4	5
33. Can sort things into basic groups (such as by color, shape, things that match, etc.)	1	2	3	4	5
34. Is creative in asking questions or trying to solve problems	1	2	3	4	5

V. Emotional Development

<i>My child typically</i>	Hardly Ever	Once in Awhile	Some-times	Often	Almost Always
35. Feels loved and supported from family members at home	1	2	3	4	5
36. Spends time away from me in a variety of settings (child care, friend's house) without too much anxiety	1	2	3	4	5
37. Can identify his or her feelings (such as sad, angry, happy)	1	2	3	4	5
38. Can talk about how others might feel	1	2	3	4	5
39. Manages feelings, such as anger or frustration, without hurting or being mean to others	1	2	3	4	5
40. Can adapt to new situations within a reasonable period and feel comfortable	1	2	3	4	5
41. Regularly shares how he or she is feeling with me or other caring adults	1	2	3	4	5
42. Appreciates getting to know new people or friends through time	1	2	3	4	5

Transition-to-School

<i>My child:</i>	Not at all	To a slight extent	To a fair extent	To a great extent
6. Is excited about beginning kindergarten	1	2	3	4
7. Is familiar with the routines and expectations that exist in kindergarten (raising hands, etc.)	1	2	3	4
8. Is comfortable with the environment of the school setting	1	2	3	4
9. Talks positively about going to kindergarten	1	2	3	4
10. Is comfortable interacting with peers of a similar age who will be in kindergarten	1	2	3	4
11. Is comfortable separating from me as a parent	1	2	3	4
12. Is comfortable participating in a group with other children	1	2	3	4
13. Is curious about school and the experiences he / she will have there	1	2	3	4

APPENDIX E

Gearing Up for Kindergarten Study

Parent Response Form – Time 1

This brief form is designed to gather feedback from parents and caregivers who participate in the *Gearing Up for Kindergarten* study. It should be completed **at the beginning** of participation in the study. Please take a moment to share your thoughts with us. Circle or check the answer that applies to you. When you have completed this form, please return it to the person who provided it to you, in the self-addressed stamped envelope.

Demographic Information

1. I am:
 - Male
 - Female
2. Age _____
3. Number of children _____
Ages of children _____
4. I live:
 - Farm/Ranch
 - Rural – nonfarm
 - Town – less than 10,000
 - Town/City – from 10,000 to 50,000
 - City – more than 50,000
5. Family status
 - Married
 - Single (never married)
 - Remarried
 - Separated/Divorced
 - Cohabiting
 - Widowed
6. Education
 - Some high school
 - High school/GED
 - Some college
 - 2-year college degree
 - 4-year college degree
 - Master's degree or higher
7. Employment status
 - Employed full time (40+ hours a week)
 - Employed 26 to 39 hours a week
 - Employed less than 25 hours a week
 - Seeking employment
 - Not seeking outside employment (includes full-time homemaker, student, retired, etc.)
 - Other _____
8. Racial or ethnic background
 - Caucasian
 - Native American or Alaskan Native
 - African-American
 - Asian
 - Hispanic
 - Other
9. Are you eligible to participate in any of these programs? Please check the one(s) that apply.
 - WIC
 - TANF
 - Food Stamps
 - Head Start
 - Medicaid
 - Free/reduced lunch
10. I have a child who will likely enter kindergarten next year
 - Yes
 - No
11. Is this your first child to enter kindergarten?
 - Yes
 - No
12. Has your child been enrolled as a participant in Early Head Start/Head Start?
 - Yes
 - No
13. Has your child been in out-of-home care in any of the following settings? Please check all that apply.
 - Preschool
 - Center-based child care
 - Family-based child care
 - Other child care
14. If your child has been involved in out-of-home care, please indicate the number of hours per week. (skip if does not apply)
 - 6 hours or less
 - 6-12 hours a week
 - 12-20 hours a week
 - 20 hours or more
15. My relationship to this child is:
 - Biological mother (or adoptive)
 - Biological father (or adoptive)
 - Stepparent
 - Grandparent
 - Relative (aunt, uncle)
 - Other caregiver
16. My child in this program is:
 - Male
 - Female



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School _____
Town/City _____
Parent Name _____
Child Name _____
Date ____/____/____

APPENDIX F

u D P S R A X y l n

C V g W A G J z c E

r W Z F M c L t u f

g c T Y U b d p S o

c G S U J d a T K m

R T G l k S q n u A

R k L K s j f E h q

K h b U T l D s l a

N K k v l Z a u A F

k X O T e h g M B W

APPENDIX G

6	5	1	0	9	7	8
---	---	---	---	---	---	---

3	2	8	9	6	1	7
---	---	---	---	---	---	---

10	1	5	9	8	0	7
----	---	---	---	---	---	---

6	3	8	9	2	5	4
---	---	---	---	---	---	---

6	7	9	0	10	2	1
---	---	---	---	----	---	---

8	9	2	6	1	10	0
---	---	---	---	---	----	---

10	8	4	2	1	9	6
----	---	---	---	---	---	---

3	1	7	5	4	6	0
---	---	---	---	---	---	---

APPENDIX H

AIMSweb® Oral Counting – Benchmark Assessment

Given To: _____ Given By: _____ Date: _____

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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www.AIMSweb.com

APPENDIX I

NDSU **North Dakota State University**
Dept. of Human Development and Family Science
Dept. #7260, P.O. Box 6050
Fargo, ND 58108-6050
PH: (701) 231.8113

Title of Research Study: *Gearing Up for Kindergarten – Evaluation Project (2010-2011), Grand Forks site*

This study is being conducted by: *Sean Brotherson, Ph.D., Sharon Query, Ph.D., & Jim Deal, Ph.D., Human Development and Family Science, NDSU; Divya Saxena, M.S., NDSU Extension Service; Kathy Enger, Ph.D., School of Education, NDSU; Judith Konerza, Ph.D. candidate, School of Education, NDSU.*

Why am I being asked to take part in this research study? What is the reason for doing the study? As a participant in Gearing Up for Kindergarten you will be asked your perceptions of your child's school readiness, aspects of your parent and child relationship, and to assess the value of the educational program of Gearing Up for Kindergarten.

What information will be collected about me? *You will be asked to complete the following instruments during the parent education sessions:*

- Gearing Up for Kindergarten – Evaluation ID Sheet
- Parent Response Pre and Post Program Form – Session A
- Practical Parent Assessment for School Readiness
- Family Information Form – Times 1
- Teacher Assessment for School Readiness

Also, at your particular site, your pre-kindergarten child will participate in the following assessment:

- AIMSWeb diagnostic assessment for school readiness

Where is the study going to take place, and how long will it take? The study will take place at your Gearing Up for Kindergarten site in Grand Forks, ND, and completion of the study instruments will require 20 to 30 minutes. This will take place 3 times over a 12 month time frame.

What are the risks and discomforts? It is not possible to identify all potential risks in research procedures, but the researchers have taken reasonable safeguards to minimize any known risks to the participant. Risks might include loss of confidentiality and emotional or psychological distress.

What are the benefits to me? Through participation in the Gearing Up for Kindergarten program, participants are allowed to see how their children are doing in key areas related to school readiness. Parents get practical feedback specific to a child that could be used in discussing further needs regarding school readiness. The results from the study will be used to make program improvements to Gearing Up for Kindergarten, as well as to help

garner funding for program enhancement. However, you may not get any benefit from being in this research study.

Do I have to take part in the study? Your participation in this research is your choice. If you decide to participate in the study, you may change your mind and stop participating at any time without penalty or loss of benefits to which you are already entitled.

What are the alternatives to being in this research study? Instead of being in this research study, you can choose not to participate.

Who will see the information that I give? We will keep private all research records that identify you, to the extent allowed by law. Your information will be combined with information from other people taking part in the study. When we write about the study, we will write about the combined information that we have gathered. You will not be identified in these written materials. We may publish the results of the study; however, we will keep your name and other identifying information private.

We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is. For example, your name will be kept separate from your research records and these two things will be stored in different places under lock and key. We will provide you with an identification code, such as #40001, that will be used in place of your identifying information. Links between this code and your identifying information will be disposed of upon completion of the project.

What if I have questions?

Before you decide whether to accept this invitation to take part in the research study, please ask any questions that might come to mind now. Later, if you have any questions about the study, you can contact the researcher, Sean Brotherson, at sean.brotherson@ndsu.edu or Judith Konerza, at judith.konerza@gfschools.org

What are my rights as a research participant?

You have rights as a participant in research. If you have questions about your rights, or complaints about this research, you may talk to the researcher or contact the NDSU Institutional Review Board (IRB) by:

- Telephone: 701.231.8908
- Email: ndsu.irb@ndsu.edu
- Mail: NDSU HRPP Office, NDSU Dept. #4000, P.O. Box 6050, Fargo, ND 58108-6050

The role of the IRB is to see that your rights are protected in this research; more information about your rights can be found at: www.ndsu.edu/research/irb.

Documentation of Informed Consent:

You are freely making a decision whether to be in this research study. Signing this form means that

1. you have read and understood this consent form
2. you have had the consent form explained to you
3. you have had your questions answered, and
4. you have decided to be in the study.

You will be given a copy of this consent form to keep.

Your signature

Date

Your printed name

Signature of researcher explaining study

Date

Judith Konerza

Printed name of researcher explaining study

APPENDIX J

NDSU

NORTH DAKOTA STATE UNIVERSITY

Institutional Review Board

*Office of the Vice President for Research, Creative Activities and Technology Transfer
1735 NDSU Research Park Drive
P.O. Box 5756
Fargo, ND 58105-5756*

701.231.8908

Fax 701.231.8098

Federatwide Assurance #FWA00002439
Expires April 24, 2011

December 5, 2008

Dr. Sean Brotherson
Dept. of Child Development & Family Science
277 EML

COPY

**Re: IRB Certification of Human Research Project:
"Gearing Up for Kindergarten - Control Study"
Protocol #: HE09112**

Co-investigator(s) and research team: **Sharon Query, Divya Saxena, Elise Pforr**

Study site(s): **NDSU**

Funding: **n/a**

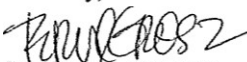
The IRB has determined that this human subjects research project qualifies for exempt status (category # 2) in accordance with federal regulations (Code of Federal Regulations, Title 45, Part 46, *Protection of Human Subjects*).

Please also note the following:

- This determination of exemption expires 3 years from this date. If you wish to continue the research after 12/4/2011, submit a new protocol several weeks prior to this date.
- The project must be conducted as described in the approved protocol. If you wish to make changes, pre-approval is to be obtained from the IRB, unless the changes are necessary to eliminate an apparent immediate hazard to subjects. A *Protocol Amendment Request Form* is available on the IRB website.
- Prompt, written notification must be made to the IRB of any adverse events, complaints, or unanticipated problems involving risks to subjects or others related to this project.
- Any significant new findings that may affect the risks and benefits to participation will be reported in writing to the participants and the IRB.
- Research records may be subject to a random or directed audit at any time to verify compliance with IRB policies.

Thank you for complying with NDSU IRB procedures; best wishes for success with your project.

Sincerely,


Teryl Grosz, MS, CIP
IRB Director

NDSU is an equal opportunity institution.

Institutional Review Board

...for the protection of human participants in research

North Dakota State University
Sponsored Programs Administration
1735 NDSU Research Park Drive
NDSU Dept #4000
PO Box 6050
Fargo, ND 58108-6050 231-8995(phone) 231-8098(fax)



Protocol Amendment Request Form

Changes to approved research may not be initiated without prior IRB review and approval, except where necessary to eliminate apparent immediate hazards to participants. Reference: SOP 7.5 Protocol Amendments.

Examples of changes requiring IRB review include, but are not limited to changes in: investigators or research team members, purpose/scope of research, recruitment procedures, compensation scheme, participant population, research setting, interventions involving participants, data collection procedures, or surveys, measures or other data forms.

Protocol Information:

Protocol #: **HE09112** Title: **Gearing Up for Kindergarten - Control Study**

Review category: Exempt Expedited Full board

Principal investigator: **Sean Brotherson** Email address: **sean.brotherson@ndsu.edu**
Dept: **Human Development and Family Science**

Co-investigator: **Sharon Query** Email address: **sharon.query@ndsu.edu**
Dept: **Center for 4-H Youth Development, Human Development and Family Science**

Principal investigator signature, Date: Sean Brotherson, 1/20/2010

Description of proposed changes:

- Date of proposed implementation of change(s)*: **February 1, 2010**
* Cannot be implemented prior to IRB approval unless the IRB Chair has determined that the change is necessary to eliminate apparent immediate hazards to participants.
K. Enger - 1/17/2008
- Describe proposed change(s), including justification:
 - Addition of two members to the research team. These individuals would be Kathy Enger, PhD, School of Education, NDSU, and Judith Konerza, PhD candidate, School of Education, NDSU. Judith Konerza would be using this data to pursue her dissertation research project. The addition will allow them to focus specifically on a specific site.**
J. Konerza - 1/17/2008
 - Addition of a specific site to recruit participants for local comparison in Grand Forks, ND. This will allow a more intensive investigation at a specific site with study participants, as there will be one added dimension for this group (addition of a specific instrument).**

c) Addition of the pre-kindergarten children of study participants at this specific new site only, to be assessed using a diagnostic educational test related to literacy and numeracy skills (the AIMSWeb survey tool). The measure would be completed on the same schedule as the other measures to be completed by participating adults (time 1, time 2, etc.).

d) Addition of two research instruments to be given to the study participants:

* Family Information Form - this questionnaire asks participants about parental involvement, school readiness expectations, and child personality. This questionnaire would be included and given on the exact same schedule as other instruments (time 1, time 2, etc.)

* AIMSWeb Early Numeracy & Literacy Kindergarten Benchmark Assessments - this questionnaire is done with a pre-kindergarten child and allows them to express literacy and numeracy skills. It takes 10 minutes. This instrument would only be used with the pre-kindergarten children of families recruited at the added study site in Grand Forks, ND.

(Copies of the research instruments are attached in Appendix A)

e) Expanded parental informed consent form. A slightly revised and expanded parental consent form for those individuals recruited to participate at the Grand Forks site, which includes information about the child's brief participation, is included.

3. Will the change involve a change in principal or co- investigator?

No

Yes: *Include an Investigator's Assurance (last page of protocol form), signed by the new PI or co-investigator.*

Note: If the change is limited to addition/change in research team members, skip the rest of this form.

4. Will the change(s) increase any risks, or present new risks (*physical, economic, psychological, or sociological*) to participants?

No

Yes: *In the appropriate section of the protocol form, describe new or altered risks and how they will be minimized.*

5. Does the proposed change involve the addition of a vulnerable group of participants?

Children: no yes – include the *Children in Research* attachment form

Prisoners: no yes – include the *Prisoners in Research* attachment form

Cognitively impaired individuals: no yes*

Economically or educationally disadvantaged individuals: no yes*

**Provide additional information where applicable in the revised protocol form.*

6. Does the proposed change involve a request to waive some or all the elements of informed consent or documentation of consent?

no

yes – include the *Informed Consent Waiver or Alteration Request* attachment form

7. Does the proposed change involve a new research site?
 no
 yes – include a letter of permission/cooperation, IRB approval, or grant application or contract



Attach a copy of the approved protocol, with highlighted change(s) incorporated within the relevant section(s).

Impact for Participants (future, current, or prior):

1. Will the change(s) alter information on previously approved versions of the recruitment materials, informed consent, or other documents, or require new documents?
 No
 Yes - attach revised/new document(s)

2. Could the change(s) affect the willingness of *currently* enrolled participants to continue in the research?
 No
 Yes - describe procedures that will be used to inform current participants, and re-consent, if necessary:

3. Will the change(s) have any impact to *previously* enrolled participants?
 No
 Yes - describe impact, and any procedures that will be taken to protect the rights and welfare of participants:

-----FOR IRB OFFICE USE ONLY-----

Request is: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Not Approved	
Review: <input checked="" type="checkbox"/> Exempt, category#: <u>1/2</u> <input type="checkbox"/> Expedited method, category # ____ <input type="checkbox"/> Convened meeting, date: ____	
IRB Signature: <u>Kristy Shiner</u>	Date: <u>2/10/2010</u>
Comments:	

Protocols previously declared exempt: (Allow 5 working days) If the proposed change does not alter the exemption status, the change may be administratively reviewed by qualified IRB staff, chair, or designee. If the change(s) would alter this status, Expedited or Full Board review will be required.

Protocols previously reviewed by the expedited method: (Allow 10 working days) Most changes may also be reviewed by the expedited method, unless the change would increase risks to more than minimal, and/or alter the eligibility of the project for expedited review.

APPENDIX K



September 15, 2011

Hello Parents,

Your four year old is now five, and a kindergartner. We are eager to hear how he/she is doing. It is also time for the third round of assessments for the Gearing Up for Kindergarten Program you are participating in.

The Parent Information Center will be open on September 28th and 29th from 1:00 pm – 6:00 pm for you to stop by and fill out the final assessment. We look forward to learning how your child has grown over the summer and into the fall. We have the WalMart gift cards here, too, and will hand them out upon completion of the assessments.

Please park on the east side of the school in the Elks swimming pool parking lot and enter the school through Door #1 on the east side of the school. If you park anywhere else, you will most likely be ticketed.

If your child **is not** enrolled in the Grand Forks Public Schools, we invite you to bring him/her along so we can complete the AIMS Web assessment at that time.

Please call the Parent Information Center office at 701-787-4216 if you are unable to come on either of these days and we will make other arrangements for the assessments.

We look forward to seeing you again!

Judith Konerza, Parent Coordinator



APPENDIX L



Grand Forks Public Schools

A Great Place to Grow and Learn!



Established 1881

Mission Statement:
To Provide Opportunities for All Students to Develop Their Maximum Potential

Parent Information Center
3351 17th Avenue South
Grand Forks, ND 58201
pic@gfschools.org
www.gfschools.org

Judith Konerza
Coordinator
Phone: 701.787.4216
Fax: 701.787.4079
judith.konerza@gfschools.org

January 21, 2010

To Whom It May Concern:

The Parent Information Center, Grand Forks Public Schools in partnership with NDSU Extension, is hosting the Gearing Up for Kindergarten program at the Lake Agassiz Head Start building and will be conducting related research by NDSU faculty, staff, and graduate student, Judith Konerza.

Grand Forks Public Schools will cooperate as needed to assist program research participants, to provide a location, and collect information to be used by NDSU for research purposes.

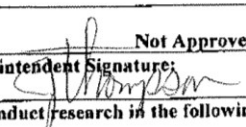
Thank you for your consideration.

Sincerely,

Jody Thompson
Assistant Superintendent
Grand Forks Public Schools

Providing Equal Opportunities in Education and Employment

Request to Conduct Research in the Grand Forks Public Schools

Date: January 26, 2010	Name: Judith Konecna	Phone: 701-787-4216
Fax or Email: jkonecna@gfschools.org 701-787-4079	Address: PICA Century School 3351 17th Ave So. Grand Forks, ND 58201	Research Advisors: Kathy Enger College or Dept.: NDSU Dept of Education See Brotherson NDSU Dept of Human Development and Family Science
Research Title: Gearing Up for Kindergarten - Evaluation Project (2010), Grand Forks site		
Give a brief description of your research. Attach additional papers if necessary. Please attach sample copies of assessment instrument, tests, or communications to be used: This research project will assess the effectiveness of the Gearing Up for Kindergarten program in preparing pre-K children for kindergarten. This unique approach works together with parents and children in a classroom setting. The assessment pieces will be used to refine the program in creating the most effective curriculum possible for Kindergarten readiness. See attached		
Number of students needed for research: between 60-80	Number of teachers needed for research: 10	Grade Level or Dept.: Pre-K
What schools are you interested in conducting the research in? Head Start @ Lake Agassiz site follow up assessment will assess Kindergarten ARMS web conducted at the child's kindergarten school location in Grand Forks Public Schools		
Will confidential records be required? (If yes, indicate type.) Yes, the ARMS web assessment on file the kindergarten year at the child's school. Information will be kept confidential - a research # will be assigned to each child.	Length of time required to complete the research: January 2010 - January 2011	
To be completed by School District Official:		
Approved:	Not Approved:	
Assistant Superintendent Signature: 		Date: 1-27-10
Approved to conduct research in the following schools:		

Send completed form to: Grand Forks Public Schools, Box 6000, Grand Forks, ND 58206-6000
Attn: Assistant Superintendent's Office

From:  Jody Thompson

Monday, October 04, 2010 9:31:11 AM  

Subject: Re: research

To:  Judith Konerza

Judith Konerza writes:

I have the Request to Conduct Research from last year and we gave it a time frame of Jan 2010 - January 2011. Should I fill out another one, or can we initial this one and extend it to September 2011? I will extend the current one to Fall 2011. Thanks.

thanks much, Judith

Judith Konerza
judith.konerza@gfschools.org
Parent Resource Coordinator
Grand Forks Public Schools
701-787-4216

We make a living by what we get. We make a LIFE by what we GIVE.
Winston Churchill

Mr. Jody Thompson
Assistant Superintendent of Teaching and Learning
Grand Forks Public School District
Grand Forks, North Dakota 58206
701-746-2200