

**WELLSVILLE EARLY CHILDHOOD EDUCATION AND KINDERGARTEN
READINESS AS MEASURED BY THE DYNAMIC INDICATORS OF BASIC
EARLY LITERACY SKILLS (DIBELS)**

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ABSTRACT

This study was conducted on students from a rural school district located in Kansas. According to the Dynamic Indicators of Basic Early Literacy Skills, less than half of the students entering kindergarten in the Wellsville Unified School District are ready to learn. This study aims to identify the early childhood providers within the district and determine if there is a difference in the reading readiness of students who have attended them. This study utilized student scores and classifications from the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) beginning kindergarten assessment.

Research Hypotheses

The researcher formulated two hypotheses. They were:

Research Hypothesis One: There is a difference in Initial Sound Fluency as measured by the DIBELS assessment between the various early childhood providers (home-based daycare, preschool, at-home with parent/guardian) at the 0.05 level of significance.

Research Hypothesis Two: There is a difference in Letter Naming Fluency as measured by the DIBELS assessment between the various early childhood providers (home-based daycare, preschool, at-home with parent/guardian) at the 0.05 level of significance.

As a result of the one-way ANOVAs ran on the data from this study, no differences were found at the 0.05 level of significance. Therefore, the researcher rejected both of the Research Hypotheses. One possible explanation for the lack of significant differences could be the small sample size of the study. Another possible explanation could be the rural setting in which the study was conducted.

DEDICATION

This clinical research study is dedicated to my family whose support and encouragement throughout this process made my dream come true.

To My Husband, Andy Thomasson

For his unwavering support of me as I began this journey and for never letting me give up. I appreciate the sacrifices you have made in order for me to get where I am now.

You make my life complete. I love you as much today as I did 20 years ago.

To My Mother, Susan Goracke

For all her words of encouragement and always making me feel like I could accomplish anything I set out to do.

To My Father, Jim Goracke

While he will never know that I have accomplished this goal, he was always proud of me and encouraged me to continue my education.

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CHAPTER ONE

INTRODUCTION

Background to the Study

The Goals 2000: Educate America Act (P.L.103-227) was signed into law on March 31, 1994. The first goal of this act was to ensure that “All children in America will start school ready to learn” (North Central Regional Educational Laboratory 1). Kansas Governor Kathleen Sebelius testified before the United States Congress Joint Economic Committee on the benefits of early childhood education on June 27, 2007. Speaking about Kansas, Governor Sebelius stated, “Too many children are entering school without the basic skills they need to succeed in kindergarten. This problem was brought home to Kansas policymakers by a recent survey which revealed that less than half of children start kindergarten fully ready to-learn.” (Sebelius 1) Wellsville Unified School District is no exception. Using data from the 2007 beginning kindergarten Dynamic Indicators of Basic Early Literacy Skills (DIBELS) assessment, less than half of the students entering kindergarten at Wellsville Elementary were prepared to start kindergarten ready to learn. Fifty-four percent of the kindergarten students tested in 2007 were at risk on the beginning kindergarten DIBELS assessment.

Wellsville Unified School District, encompassing 130 square miles, is located in Franklin County, Kansas and is situated in a rural area outside the urban and suburban developments of Kansas City, Kansas and Lawrence, Kansas. The district is comprised

of the city of Wellsville and rural areas of Franklin, Miami, Douglas, and Johnson counties. Table 1 below demonstrates the district's current student demographics.

Table 1

Wellsville Unified School District Enrollment Summary 2007-2008

Grade Level	Class Size	American Indian	Asian	Black	White	Hispanic	Students Receiving Free or Reduced Lunches
Preschool	42	1	0	0	38	3	5
Kindergarten	75	1	1	0	71	2	15
First	71	0	1	2	66	2	19
Second	65	1	0	3	57	4	16
Third	74	0	0	1	72	1	16
Fourth	55	0	0	0	53	2	17
Fifth	69	0	1	0	67	1	27
Sixth	55	0	0	2	52	1	16
Seventh	62	0	1	0	59	2	19
Eighth	71	0	0	0	71	0	16
Ninth	62	0	0	0	61	1	11
Tenth	74	0	2	0	71	1	16
Eleventh	54	0	1	0	53	0	6
Twelfth	62	0	1	0	61	0	12
Total	891	3	8	8	852	20	211

Source: Wellsville Unified School District PowerSchool Enrollment Summary

The district has an enrollment of 891 students. There is little ethnic diversity within the district which has only 4 percent of the students are non-Caucasian. In addition, twenty-four percent of students district-wide qualify as economically disadvantaged. English is the first language of all students. Wellsville Unified School District is situated in a small rural community with few minorities and little poverty, which are factors suggested by research that influence access to quality early childhood.

Local Early Childhood Providers

It is uncertain where students from the Wellsville Unified School District receive their early childhood education. Currently there are two known preschool facilities located within the city of Wellsville. One is a non-profit organization supported by a local church and the other is a special education preschool operated by the school district. Each of the preschools operates less than five days a week and are half-day programs. It is unknown if any additional preschools are operating within the district or if students attend preschools outside the district. The number of students who attend home-based daycares or stay at home with a family member is not known. It is possible that the lack of uniformity and quality of the education provided by some early childhood providers is leaving some children behind as shown by the increased number of students classified as at-risk and in need of additional intervention as shown on the beginning kindergarten DIBELS assessment.

Table 2 illustrates Wellsville Unified School District student data from the beginning kindergarten DIBELS assessment for the years 2003 through 2007. The data shows an increase in the number of students who are entering kindergarten at-risk on the beginning kindergarten DIBELS assessment which includes two subtests, Initial Sound

Fluency and Letter Naming Fluency. Furthermore, this table shows that over the last five years, the number of students who scored at-risk and in need of additional intervention has more than doubled, from 26 percent in 2003 to 54 percent in 2007.

Table 2

The Number of Kindergarten Students Scoring At-Risk on the DIBELS Initial Sound Fluency and Letter Naming Fluency subscales and Total Percent At-Risk 2003-2007

Year	Total Number of Students Assessed	Initial Sound Fluency Number of Students At-Risk	Letter Naming Fluency Number of Students At-Risk	Percent of Class Categorized as At-Risk On Either or Both Subtests
2003	54	10	11	26
2004	67	20	24	52
2005	66	5	24	35
2006	72	18	17	37
2007	75	30	29	54

Source: University of Oregon DIBELS Data Management System

Purpose of the Study

Quality early childhood education not only impacts students’ ability to enter kindergarten ready to learn but also has economic implications. Governor Sebelius, in her testimony to Congress, referred to decades of research that shows for every dollar the state invests in early childhood education it saves seven (Sebelius 1). A longitudinal study that followed students enrolled in a Michigan preschool program more than 40 years ago suggested a thirteen dollar return on each dollar invested in the program (Jacobson 6). Additional studies also indicate, in addition to a monetary return on the

investment, quality early childhood education enables students to avoid learning difficulties later in life. According to research performed by Rouse, Brooks-Gunn and McLanahan, students who enter school without readiness skills will continue to have difficulties later in life (2). In addition, they claim children who score poorly on cognitive skills tests during their preschool years are more likely to have difficulty in elementary and high school than their higher performing peers, and the lower performing students ultimately attain less education and are more likely to be unemployed in their adult years (2).

According to the National Center for Infants, Toddlers and Families, a child's brain is ninety percent developed by the age of five (4). This research indicates the importance of quality early childhood education. Governor Sebelius also agrees that early childhood education is important. In her testimony to Congress, she stated, "Children who attend early childhood programs are far more likely to enter kindergarten ready to learn" (Sebelius 1). In a study sponsored by the RAND Corporation, Le, Kirby, Barney, Setodji, and Gerswin found that "Both academic and nonacademic school readiness skills at entry to kindergarten were significantly related to eventual reading and mathematics achievement in fifth grade" (14).

The importance of early childhood education is evident. In 2006 Kansas legislators approved an increase in early childhood education funding and further expanded the initiative in 2007. According to researcher Deborah Stipek, the number of state-funded early childhood programs is increasing. State funding for early childhood programs increased from \$190 million in 1998 to \$2 billion in 2002 (2).

Senator Robert Casey introduced a bill known as the Prepare All Kids Act of 2007. This Act, if passed, would “assist States in making voluntary high quality full-day pre-kindergarten programs available and economically affordable for the families of all children for at least one year preceding kindergarten” (Library of Congress 1). Also contained in the Act is the congressional finding that “Investments in children and early education should be a national priority” (2).

While early childhood education is becoming a priority, it is also important to remember that the quality of the early childhood provider matters. Simply dropping a child off at any early childhood facility will not ensure a high quality education. According to Steven Barnett, research has shown that smaller class size and student to teacher ratios have led to better test scores (11). In addition, it is important that preschool programs have a balanced curriculum that focuses on developmentally appropriate academic skills including social and emotional skills. Lastly, studies have shown that teacher qualifications can have an impact on student learning and development (12).

Information gained through this study will be used to identify early childhood providers. Furthermore, it will help determine if future students would benefit from the district’s collaboration with and professional development training of all early childhood providers within the district.

With the number of at-risk students entering kindergarten, Wellsville Unified School District is responsible for funding numerous intervention and remedial programs to address the kindergarten readiness needs of the increasing at-risk population.

The purpose of this study is:

1. To identify the early childhood providers within the district.

2. To explore if a difference exists between the type of early childhood provider the student attended the year prior to entering kindergarten and his or her early classification on the beginning kindergarten DIBELS assessment which includes the two subtests, Initial Sound Fluency and Letter Naming Fluency.

Research Questions

The researcher formulated two research questions to guide this study:

Research Question One: Who are the early childhood providers within the district?

Research Question Two: Is there a difference between the location at which a student received their early childhood education and his or her kindergarten reading readiness as measured by the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) using both Initial Sound Fluency and Letter Naming Fluency subscales?

Research Hypotheses

The researcher formulated two hypotheses. They were:

Research Hypothesis One: There is a difference in Initial Sound Fluency as measured by the DIBELS assessment between the various early childhood providers (home-based daycare, preschool, at-home with parent/guardian) at the 0.05 level of significance.

Research Hypothesis Two: There is a difference in Letter Naming Fluency as measured by the DIBELS assessment between the various early childhood providers (home-based daycare, preschool, at-home with parent/guardian) at the 0.05 level of significance.

Definition of Key Terms

The definitions of the following words are included to help facilitate the understanding and importance of the terms used within the study. Each definition that is not followed by a citation was created by the researcher.

At-risk shall be defined as any student classified on the beginning kindergarten DIBELS assessment in need of additional intervention.

Benchmark shall be defined as any student classified on the beginning kindergarten DIBELS assessment as on grade level.

Dynamic Indicators of Basic Early Literacy Skills (DIBELS) shall be defined as “a set of standardized, individually administered measures of early literacy development. DIBELS are comprised of measures to test fluency in the following areas: Initial Sounds and Letter Naming” (Good & Kaminski 1). The DIBELS benchmark assessment is administered to all children in the school three times per year - at the beginning, middle, and end of the school year.

DIBELS Initial Sound Fluency (ISF) shall be defined as “a standardized measure, individually administered measure of phonological awareness that assesses a child's ability to recognize and produce the initial sound in an orally presented word. Students are considered at risk in achieving early literacy benchmark goals if they score below 8 initial sounds at the beginning of kindergarten” (Good & Kaminski 10).

DIBELS Letter Naming Fluency (LNF) shall be defined as “a standardized, individually administered test that provides a measure of risk. Students are presented with a page of upper- and lower-case letters arranged in a random order and are asked to name as many letters as they can. Students are considered at-risk for difficulty achieving early literacy benchmark goals if they perform in the lowest 20 percent of students in their district” (Good & Kaminski 6).

Early childhood provider shall be defined as the location at which children receive care and/or education the year prior to entering kindergarten (home-based daycare, preschool, at-home with parent/guardian).

Kindergarten readiness shall be defined as students who do not need additional intervention and are considered at low risk for achieving early literacy ISF and LNF benchmark goals on the DIBELS assessment.

Limitations and Delimitations to the Study

Limitations, or possible flaws that are out of the researcher's control, are inherent in any study. This study was limited to the data available on the 282 students who attended kindergarten at Wellsville Elementary School during the years 2003-2007 and were administered the DIBELS beginning assessment. In addition, this study is limited in its ability to be generalized outside the Wellsville Unified School District. Since Wellsville is a small rural community, there is limited opportunity for students to receive early childhood services in a preschool setting. Another limitation is the number of early childhood providers identified by the survey has changed over the years; many are no longer in business.

Delimitations are boundaries set by the researcher to make the study manageable. This study was delimited to 282 students in the Wellsville Unified School District. Only students who were administered the beginning DIBELS assessment during the years of 2003-2007 and who are currently enrolled in the district were invited to participate. The data on early childhood providers was collected for only the year prior to entering kindergarten. Furthermore, the DIBELS data was delimited to Initial Sound Fluency and Letter Naming Fluency subscales.

Assumptions

The researcher assumes the parents who responded to the research survey responded truthfully. It is also assumed that the two DIBELS subscales, Initial Sound Fluency and Letter Naming Fluency are valid indicators of kindergarten readiness. Lastly, it was assumed that the administration of the DIBELS was conducted in a standardized manner by trained individuals.

Overview of Methodology

The researcher obtained a list of all kindergarten students who were enrolled in the Wellsville Unified School District during the years 2003-2007 and who were administered the kindergarten DIBELS beginning assessment.

A cover letter explaining the research project and survey was mailed to the parents of the 282 students who attended kindergarten in 2003, 2004, 2005, 2006, and 2007, and are still enrolled in the district. Parents were asked to return the survey within two weeks. Thirty-three percent of the parents returned the survey. A second request was sent and additional parents responded with a final response rate of 43 percent.

Parents were asked to provide demographic information on the type, location, and names of the provider of the early childhood their child or children participated in the year prior to entering kindergarten. The survey results remained anonymous to the public. A coded list was used to match specific student scores to the early childhood provider indicated by the parent. Finally, the survey was closed, and the results were downloaded into the Statistical Program of the Social Sciences (SPSS) software for data analysis.

Organization of the Clinical Research Study

This clinical research study contains five chapters. Chapter One introduced the statement of the problem, purpose of the study, research questions, operational definitions, limitations, delimitations, and assumptions of the study. Chapter Two provides a review of the literature pertaining to early childhood providers and kindergarten readiness. Chapter Three includes the methodology, research design, sample selection, data collection, and data analysis procedures. Chapter Four presents the data analysis and Chapter Five provides a summary of the findings, conclusions and recommendations for future studies.

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

Early childhood education has been researched and studied by many experts, researchers, and governmental agencies. Richard Coley reports that as early as 1960 the government began to focus on early childhood education issues with the initiation of Head Start which continues today with the National Education Goals that states all children will enter school ready to learn (8).

In a 2001 report by the National Center for Educational Statistics (NCES), 60 percent of students were more likely to be cared for in a center than by a relative (14). The majority early childhood education is being provided by someone other than the parent in a location outside the child's home. It is evident that adults must take responsibility for the early childhood educational system and the quality of education provided. In a study by the National Center for Children in Poverty, Jane Knitzer and Jill Lefkowitz state, "responsibility for school readiness lies not with the children, but with the adults who care for them and the systems that support them" (13).

Kansas continues to place an emphasis on early childhood education. Governor Sebelius reported in her 2008 State of the State address that she would propose additional funding for early childhood programs (2). In addition to state funding, the Kansas Senate has proposed a bill (SB399) that would require students to attend kindergarten (1). This

further emphasizes the importance for students to receive quality early childhood education to help ensure that students enter school ready to learn.

Three trends reported by Bowman, Donovan, and Burns that have led to heightened interest of young children. They are:

- (1) an unprecedented number of working mothers, creating a strong and increasing demand for child care;
- (2) a consensus among professionals and (increasingly) parents that the care of young children should provide them with educational experiences;
- and (3) growing evidence from child development research that young children are capable learners and that educational experience during the preschool years can have a positive impact on school learning. (23)

It is evident from both past and current legislation and research that access to, and the quality of, early childhood education are an important factor in a student's ability to enter school ready to learn.

Organization of the Chapter

This chapter will include information on numerous studies that have been conducted to determine if there are any advantages for students who participate in an early childhood program. It will also include the elements of a quality early childhood program as identified through research.

Early Childhood Providers in Kansas

Kansas serves a large population of rural students. This limits the type and quality of early childhood education services available. High quality early education

programs are not always available. In her research, Carol Perroncel reports that people in rural areas, where scarcity of local resources and greater geographic distance between people and services are most common, face the greatest challenge in participating in high quality educational programs. (1)

In a 2005 Child Care Licensing Study conducted by the National Association for Regulatory Administration, Kansas had 1,270 child care centers, defined as, a non-residential facility, 2,735 small family child care homes, which was defined as a child care program located in the licensee's residence, generally including one provider and a small number of children, and 4,581 large/group child care homes, child care programs located in the licensee's residence, generally including one provider and one assistant and a large number of children (1).

In 2008, a similar study conducted by the National Association of Child Care Resource and Referral Agencies, reported that Kansas had 712 child care centers and 6,918 family child care homes, showing a decline in the number of child care centers and an increase in family child care homes (1). What is not included in either of the reports are the numbers of unlicensed and unregulated child care providers within the state.

Kansas, according to the Kansas State Department of Education, has half of its public schools located in rural areas serving one-third of all school children (4). This rural setting gives limited access to preschool facilities, making it important to facilitate collaboration among and within rural communities, "an important strategy for helping children succeed" (Perroncel 6).

The Importance of Quality Early Childhood Education

Arthur Rolnick and Rob Gruenwald write about the importance of early childhood education in their article, Early Intervention on a Large Scale:

The promise of early-childhood programs is based on fundamental facts about early human development. A child's quality of life and the contributions that a child makes to society as an adult can be traced to his or her first years of life. From birth until about the age of 5, a child undergoes tremendous development. If this period of life includes support for growth in language, motor skills, adaptive abilities, and social-emotional functioning, the child is more likely to succeed in school and to later contribute to society. Conversely, without support during these early years, a child is more likely to drop out of school, depend on welfare benefits, and commit crime—thereby imposing significant costs on society. Early-childhood-development programs recognize this potential—and this risk—and seek to nurture healthy development from the earliest years. (1)

Bowman, Donovan, and Burns report that the environment in which children develop during the preschool period can contribute to large differences in both language and literacy skills. Furthermore, reading readiness at school entry has been shown to have a high correlation with reading ability in the primary grades (23). Ackerman and Barnett agree, stating “a child's future academic success is dependent on being ready to learn and participate in a successful kindergarten experience” (1).

Linda Espinosa reports, in a study funded by the National Institute for Early Education Research (NIEER):

Research has consistently shown that 3- and 4-year-olds who attend a high-quality preschool succeed at a higher rate in kindergarten and beyond-both academically and socially. But the majority of preschool programs in the United States rank below “good”, with many rated far lower. Many of our most vulnerable children attend the lowest quality programs, and children who are at risk for school failure are more strongly influenced by the quality of preschool. Many children from middle-class families also attend preschools that are not of good quality. (1)

Studies and Results of Early Childhood Programs

Several studies have shown statistically significant positive effects of early childhood education on students’ performance on standardized achievement tests. These include the North Carolina Abecedarian Project, the High/Scope Perry Preschool Project, the Abbott Preschool Program, the Chicago Child-Parent Center (CPC) Program, and Head Start.

In their article Long-Term Studies of Preschool: Lasting Benefits Far Outweigh Costs, Bracey and Stellar summarize the long term positive effects of three of these studies which include, for preschool participants, higher test scores, obtaining higher levels of education, less likely to be identified for special education, and increased income later in life (780-797).

Abecedarian Project

The Abecedarian study began in 1972 at the University of North Carolina, Chapel Hill. The study identified children at birth and provided them full-day care, 50 weeks a year from birth until they entered school. Adults would talk to the children, show them

toys or pictures, and offer them opportunities to react to sights and sounds in their environment. As the children grew, the adult/child interactions became more concept and skill oriented. Children in the experimental group were involved in a group oriented preschool, many of them continuing in the program until they were 8 years old, while the control group did not participate in these activities (Bracey & Stellar 781).

Results of the Study

At the age of 21, a follow-up study was conducted. Research showed students who attended the preschool had completed more years of school and were more likely to be enrolled in a four-year college. Forty-seven percent of the experimental group worked at skilled jobs compared to the 27 percent of the control group (Bracey & Stellar 782).

Leonard Masse and W. Steven Barnett analyzed data from the Abecedarian projects and compiled the following information in a NIEER report that states, “children in high-quality programs are projected to make roughly \$143,000 more over their lifetimes than those who didn’t take part in the program” (1). They also report that “school districts can expect to save more than \$11,000 per child because participants are less likely to require special or remedial education” (1).

High/Scope Perry Preschool Project

The High/Scope Perry Preschool Project began in the mid-1960s. The subjects of this study were African American children who applied for the preschool program in Ypsilanti, Michigan. Children were randomly assigned to participate in the program. The children who were chosen to take part attended the program while the other students stayed at home. The children attended preschool for a half-day for eight months.

Children participating in the program also received one 90 minute home visit each week from the teachers (Bracey & Stellar 781).

Results of the Study

Lawrence J Schweinhart, President of the High/Scope Educational Research Foundation lists the following results from the study:

The preschool group significantly outperformed the non participant group on highest level of schooling completed. Sixty-five percent of the participants graduated from high school as opposed to the 45 percent who did not participate in the program. The preschool group also significantly outperformed the non participants on various intellectual and language tests from their preschool years up to age 7; on school achievement tests at ages 9, 10, and 14; and on literacy tests at ages 19 and 27. (1)

In addition, students who attended the preschool program were less likely to have been a part of a special education program (Bracey & Stellar 781).

Abbott Preschool Program

According to the National Child Care Information and Technical Assistance Center, the New Jersey Supreme Court mandated in 1998 that 3 and 4-year-old children in New Jersey's Abbott districts receive a high-quality preschool education (2). In a three year initial update to the New Jersey Department of Education, Lamy, Seplocha, Strasser, Paterson, Jambunathan, Juncker, and Wolock discuss the Abbott Project. They state:

The goal of the Abbott preschool program is to prepare children to succeed in school. The key to reaching this goal is to create high-quality programs that reach all children. Districts have shifted their emphasis from

setting up basic program components such as staffing and finding places for children to be served to selecting and building programs that offer high-quality learning experiences for all three- and four-year-olds. (2)

Results of the Study

In the Abbott Preschool Program Longitudinal Effects Study, Frede, Jung, Barnett, Lamy, and Figueras report the following findings; “There have been notable advances in classroom quality scores. In 2006, almost 90 percent of the classrooms scored above the mean score found in 2000” (3). In addition, “the results show that substantial gains in learning and development occurred in language, literacy, and mathematics. The longitudinal study finds these gains are largely sustained during the kindergarten year” (3). Lastly, “the children who attended the Abbott pre-K also continued to close the gap and those who attended for two years had closed over half the gap with the national average vocabulary score by the end of kindergarten” (4).

In addition, Frede, Jung, Barnett, Lamy, and Figueras report that “children who attended the Abbott Preschool Program for two years at ages 3 and 4 out-perform children who attended for only one year at age 4” (38).

Chicago Child-Parent Center Program

This study was much larger than the studies mentioned previously. Like the High/Scope Perry Preschool Project, the CPC program was a half-day program that operated during the school year. Three aspects make this study unique from the others. First, students were not assigned to a control group or an experimental group. Second, the study took place in 20 different centers. Finally, teachers had more freedom over the material they used. During this study the Chicago Board of Education developed a

program for all the centers to use that focused on three major areas: gross motor skills and body image, language skills, and perceptual/motor and mathematical skills. Parental involvement was also emphasized throughout the study (Bracey & Stellar 782).

Results of the Study

The results of this study were very similar to the Abecedarian Project and the High/Scope Perry Preschool Project. At the age of 21, a follow up study showed that those who had taken part in the project had lower crime rates, higher high school completion rates, and fewer retentions in grade” (Bracey & Stellar 782).

Head Start

According to the Illinois Head Start Organization, Head Start is our nation’s foremost federally funded provider of early childhood education. Launched in 1965, Head Start is one of the longest running federally funded programs in existence today. It was designed to help break the cycle of poverty by providing preschool children of low income families with a comprehensive program to meet their emotional, social, health, nutritional, and psychology needs (1).

Results of the Study

Steven Barnett and Jason Hustedt report, “Although long-term longitudinal evaluations of benefits associated with the Head Start Program have been rare, several recent studies have sought new evidence” (19). In their article Role of Early Childhood Education Intervention Programs in Assisting Children with Successful Transitions to School, Zill and Resnick state “Results from the Head Start Family and Child Experiences Survey (FACES) show that children from disadvantaged families do make gains in Head Start, and that the quality of the Head Start programs in general is higher

than other centre-based preschool programs” (4). In addition, the Fight Crime: Invest in Kids organization reports that students who participated in Head Start significantly raised their performance scores, with the largest gains being made by the lower-performing children. Furthermore, Head Start graduates have been shown to have lower crime rates as adults (1).

Elements of a Quality Early Childhood Education Program

Most of the research on quality programs is directed at preschool settings. Home-based providers and parents can also benefit by taking part in or applying the elements that research has determined to be an important part of a quality early childhood program.

In a study conducted by the RAND Corporation, Rachel Christina and JoVictoria Nicholson-Goodman report on the importance of quality in early childhood programs:

High-quality early childhood programs have been shown to produce broad, long-term societal benefits, including increased employment and associated tax revenue, reduced crime, and reduced dependency on social welfare systems. More individualized benefits for participating children and their families are also significant. In some cases, these benefits have far outweighed the up-front cost of the programs (9).

In their report, Eager to Learn: Educating our Preschoolers, Bowman, Donovan, and Burns report a number of broadly supported findings regarding the components of quality preschool programs. First, cognitive, social-emotional, and physical developments are areas of growth requiring active attention in the preschool years. Each is related to early learning and later academic achievement (7). Second, quality educational providers are important as the teacher- child relationship influences the

child's social development and school achievement (8). Third, class size and adult-child ratios are associated with more individualization and opportunities for teachers to work on the child's social and academic skills (8). Last, children who attend well-planned, high quality early childhood programs with an integrated curriculum, learn more and are better prepared to master the demands of formal schooling (9).

Using over 20 years of research, the National Dropout Prevention Center Network, has determined that high-quality early childhood education is: holistic, nurturing, consistent, hands-on, stimulating, exploratory, and integrates interactive learning across the curriculum (1).

Summary

Many researchers have reported why early childhood education is important for young children. Further research shows that high quality, developmentally appropriate programs have been shown to have positive impacts on student readiness. Students who participate in early childhood education programs are more likely to start school ready to learn, to graduate from high school, and are less likely to commit crimes. Furthermore, the research shows that students who participated in the high quality preschool programs gave more money back to society than the amount of money that was spent on their preschool education.

While access to preschools is limited in rural areas, daycare providers and parents can use the information from research to conduct high quality education in their own homes. The next chapter will describe the methodology used in this study, including the research perspective and design, the participants, the variables, the data collection procedures, the statistical analysis used, reliability and validity, and a summary.

CHAPTER THREE

METHODOLOGY

Introduction

The purpose of this study was to identify the early childhood providers within the district and to determine if there was a difference in Dynamic Indicators of Basic Early Literacy Skills (DIBELS) assessment scores based on the type of early education provider. The beginning kindergarten DIBELS assessment includes the two subtests, Initial Sound Fluency and Letter Naming Fluency.

The researcher formulated two hypotheses. The first, there is a difference in the Initial Sound Fluency between the various early childhood providers and the second, there is a difference in Letter Naming Fluency and the various early childhood providers.

Dynamic Indicators of Basic Early Literacy Skills

According to Literacy First Process, DIBELS measures were designed to assess the literacy skills of kindergarten and first grade students, especially those at risk, as they change over time (1). Good and Kaminski report that the DIBELS measures were based on skills and strategies that are prerequisites and fundamental to later reading success (7).

The DIBELS assessments can be considered much like curriculum-based measurement, an alternate form of assessment, which tracks student proficiency across core curriculum areas. Students are assessed three times a year (beginning, middle, and end). The assessments are easy and efficient to administer (each assessment is a 1 minute fluency-based probe), can be administered frequently, and are cost effective (the

materials are free). Based on their performance, students are then placed in categories of Low Risk, Some Risk, and At-Risk as determined by the set DIBELS benchmark goals. For the purpose of this research, students who were categorized as having some risk will be considered at-risk. The assessments are scored by imputing the raw scores into the specified database available through the secure DIBELS website.

The DIBELS assessments are a reliable assessment of a student's ability. According to the Literacy First Process, for a test to be considered at least minimally reliable, its statistical reliability should approach or exceed .80 (2). The University of Oregon's Assessment Committee reports the reliability of the Initial Sound Fluency subtest to be .90 (2). The committee credits the high reliability to the assessments structure which is absolutely criterion referenced, brief, and able to be repeated (8).

The DIBELS ISF is a "standardized, individually administered measure of phonological awareness that assesses a child's ability to recognize and produce the initial sound in an orally presented word" (Assessment Committee 8). The examiner shows four pictures to the student, names each picture, and then asks the student to identify the picture that begins with the sound produced orally by the examiner. Student's scores are then calculated by the examiner from the amount of time the student took to identify the correct sound (Assessment Committee 9). Students with an ISF score less than eight at the beginning of kindergarten are considered at-risk (Good & Kaminski 49).

The Letter Naming Fluency subtest is "a standardized, individually administered test that provides a measure of risk" (Assessment Committee 6b). Students are presented with a page of randomly assigned upper and lower-case letters. Students are then asked

to name as many letters as they can. Students are considered at-risk if they perform in the lowest 20 percent of students in their district.

The goal of the DIBELS assessment is to match students with the needed instructional support before a pattern of reading difficulty and failure is established. Using student performance on a given DIBELS measure, the teacher can then direct specific instruction toward the student's deficit in a particular skills area.

Research Design

The researcher obtained a list of all kindergarten students who were enrolled in the Wellsville Unified School District during the years 2003-2007 and who were administered the kindergarten DIBELS beginning assessment and are still enrolled in the district. A cover letter explaining the research project and a survey was mailed to the parents of the 282 students who attended kindergarten in 2003, 2004, 2005, 2006, and 2007. Parents were asked to return the survey within two weeks. There were 122 surveys returned, of the 282 sent, for a return rate of 43 percent.

Parents were asked in the survey to provide demographic information on the type, location, and names of the early childhood provider their child or children attended the year prior to entering kindergarten.

The researcher divided all students into two groups, those classified by the DIBELS assessment as at-risk, or on grade level. The researcher defined the independent variable as the type of early childhood provider (home-based daycare, preschool, or at home with parent or guardian).

Participants

The population in this study was a group of students who attended kindergarten at Wellsville Unified School District during the years 2003-2007 and are still enrolled within the district and were given the beginning kindergarten DIBELS assessment. The parents of these students were sent an invitation to participate in this study which can be found in appendix C. There were 282 cover letters and surveys sent to parents of which 122 were returned for a response rate of 43 percent.

Research Instrument

The research instrument used in this survey was demographic in nature. The survey, which can be found in appendix D, asked the parent to indicate the early childhood provider(s) that their child attended the year prior to entering kindergarten. The instrument further asked the parent to identify by name the provider and where it was located. In addition, the parents were asked to state the number of hours per week their child spent with each provider.

Data Collection Procedures

This survey was administered through a cover letter explaining the purpose of the study, the survey itself, and a self-addressed stamped envelope for respondents to return the survey. First, the researcher obtained a list of all the students who attended kindergarten during 2003-2007. Secondly, the researcher obtained a master list of all students currently enrolled in the district. Next, the researcher obtained a list of all the students who had been administered the beginning kindergarten DIBELS assessment in 2003, 2004, 2005, 2006, and 2007. Finally, 282 students were identified who were still enrolled in the district and were administered the beginning kindergarten DIBELS

assessment. All student information was obtained from the student management system, PowerSchool, used by the Wellsville Unified School District. The DIBELS information, which is housed at a secured website, was accessed through the DIBELS home page located at the University of Oregon.

To ensure anonymity, the researcher developed a coded list in order to match student classifications on the DIBELS assessment to the early childhood provider indicated by the parent. Finally, the data was collected, and the results were manually entered into the SPSS software for data analysis.

Statistical Analysis

To begin the analysis, the students' scores and classification as a result of the DIBELS assessment was entered into SPSS. Students were placed in one of three groups; the first group attended home-based day care, the second group attended preschool, and the third group stayed at home with a parent or guardian. Students, whose parent indicated they attended preschool in addition to any other setting, were considered to be part of the preschool group. Finally, using the researcher's coded list, individual student scores and classifications on both the Initial Sound Fluency and Letter Naming Fluency subtests were entered into the database.

Once the data table in SPSS was complete the researcher performed a one-way analysis of variance (ANOVA) to determine if any differences existed at the 0.05 level of significance among the ISF scores across the three education provider groups. According to Gall and Borg, an ANOVA is a procedure for determining whether the difference between the mean scores of two or more groups is statistically significant (544). A second one-way ANOVA was performed to determine if any differences existed at the

0.05 level of significance among the LNF scores across the three education provider groups.

Bias and Error

The survey used by the researcher was demographic in nature; therefore, the truth-in-responding error is minimal. In addition, it is possible, though unlikely, that bias and error may have been present in the administration of the DIBELS assessment. It is not known if each test administrator conducted the assessment with fidelity to the instructions and training. However, Wellsville Unified School District provides training to all DIBELS administrators each year in order to provide standardized testing.

Summary

This chapter addressed the methodology used in this study, including the research design, the research hypotheses, the population, the variables, the data collection procedures, the statistical analysis used, and reliability and validity. The next chapter will focus the results of the data collected from the 122 completed surveys.

CHAPTER FOUR

RESULTS

Introduction

There were two purposes for this study. The first was to identify the early childhood providers within the district. The second purpose was to explore if a significant difference existed between the type of early childhood provider the student attended the year prior to entering kindergarten and his or her ISF and LNF classification on the beginning kindergarten DIBELS assessment.

The results from this study are presented in the following sections. The first section contains summary information for each year data was collected, including provider type, student scores on each of the two DIBELS subtests, and the classification of each student on both the ISF and LNF subtests. The second section contains the ISF results from all the years combined. Finally, the third section contains the LNF results from all the years combined. Two separate ANOVAs are presented in section six and seven to assist in understanding if there are any differences between the early childhood providers and student scores. The researcher provided additional information to assist in understanding the classification of the 122 students on both the ISF and LNF subtests from the beginning kindergarten DIBELS assessment.

Research Hypotheses

The researcher formulated two hypotheses

Research Hypothesis One: There is a difference in Initial Sound Fluency as measured by the DIBELS assessment among the various early childhood providers (home-based daycare, preschool, at-home with parent/guardian) at the 0.05 level of significance.

Research Hypothesis Two: There is a difference in Letter Naming Fluency as measured by the DIBELS assessment between the various early childhood providers (home-based daycare, preschool, at-home with parent/guardian) at the 0.05 level of significance.

Methodology Summary

The researcher obtained a list of all kindergarten students who were enrolled in the Wellsville Unified School District during the years 2003-2007 and who were administered the kindergarten DIBELS beginning assessment. From this list, the researcher mailed a cover letter explaining the research project and survey to the parents of the 282 students who attended kindergarten. The surveys from 122 parents were returned and those students participated in the study. A coded list was developed in order to match specific student scores to the early childhood provider indicated by the parent. All the data collected was manually entered into the Statistical Program of the Social Sciences (SPSS) software for data analysis.

Participants

The participants analyzed in this study were the 122 students who had surveys returned. These students attended kindergarten at Wellsville Unified School District during the years 2003-2007 and were still enrolled within the district and had been given the beginning kindergarten DIBELS assessment. The parents of 282 students were

invited to participate in the study. A total of 122 parents responded to the survey for a final participation rate of 43 percent. Table 3 indicates the number of respondents for each year, 2003 had 13 students, 2004 had 23 students, 2005 had 24 students, 2006 had 27 students and 2007 had 35 students.

Table 3

Participants by Year

Year	Number of Participants	Number of Students At-Risk in Initial Sound Fluency	Number of Students At-Risk in Letter Naming Fluency	Number of Students Categorized as At-Risk on Either or Both Subtests
2003	13	0	1	1
2004	23	8	3	9
2005	24	2	5	6
2006	27	4	2	6
2007	35	11	10	14
Total	122	25	21	36

Results for Early Childhood Provider by Year

Parents were asked to identify the type of early childhood provider their children received the year prior to entering kindergarten. Table 4 indicates the number of participants for each early childhood provider type for years 2003-2007 as indicated by responses from the parent survey. Table 4 shows 84 percent of the students from this study attended a preschool.

Table 4

Number of Participants by Early Childhood Provider Type 2003-2007

Year	Home-Based Daycare	Preschool	At Home with Parent/Guardian	Total Participants by Year
2003	1 (7.7%)	10 (76.9%)	2 (15.4%)	13
2004	0	23 (100%)	0	23
2005	1 (4.2%)	18 (75%)	5 (20.8%)	24
2006	0	25 (92.6%)	2 (7.4%)	27
2007	0	27 (77.1%)	8 (22.9%)	35
Totals	2 (2%)	103 (84%)	17 (14%)	122

Results for Initial Sound Fluency and Letter Naming Fluency by Year

The following tables illustrate student scores and classifications for the ISF and LNF subtests on the beginning kindergarten DIBELS assessment for the years 2003-2007. Students who scored less than 8 on the ISF subtest are considered at-risk. Students are classified as at-risk on the LNF subtest if they scored in the bottom 20 percent of the district. The results in Table 5 show information for the 13 respondents from 2003. Only one of the 13 students is classified as at-risk on the LNF subtest.

Table 5

2003 Initial Sound Fluency and Letter Naming Fluency Results From the Beginning Kindergarten Dynamic Indicators of Basic Early Literacy Skills Assessment

Initial Sound Fluency Score	Initial Sound Fluency Classification	Letter Naming Fluency Score	Letter Naming Fluency Classification
8	Grade Level	39	Grade Level
10	Grade Level	44	Grade Level
11	Grade Level	2	At-Risk
14	Grade Level	45	Grade Level
18	Grade Level	12	Grade Level
20	Grade Level	48	Grade Level
22	Grade Level	39	Grade Level
22	Grade Level	32	Grade Level
27	Grade Level	58	Grade Level
27	Grade Level	31	Grade Level
30	Grade Level	36	Grade Level
37	Grade Level	52	Grade Level
43	Grade Level	51	Grade Level

Table 6 examines the ISF and LNF scores and classification for 2004. Eight of the 23 students were classified as at-risk in ISF and four were classified at-risk in LNF.

Table 6

2004 Initial Sound Fluency and Letter Naming Fluency Results From the Beginning Kindergarten Dynamic Indicators of Basic Early Literacy Skills Assessment

Initial Sound Fluency Score	Initial Sound Fluency Classification	Letter Naming Fluency Score	Letter Naming Fluency Classification
0	At-Risk	12	Grade Level
1	At-Risk	14	Grade Level
2	At-Risk	17	Grade Level
3	At-Risk	7	At-Risk
4	At-Risk	0	At-Risk
5	At-Risk	13	Grade Level
6	At-Risk	25	Grade Level
7	At-Risk	3	At-Risk
9	Grade Level	18	Grade Level
10	Grade Level	4	At-Risk
10	Grade Level	19	Grade Level
11	Grade Level	13	Grade Level
13	Grade Level	27	Grade Level
14	Grade Level	32	Grade Level
14	Grade Level	26	Grade Level
16	Grade Level	33	Grade Level
18	Grade Level	45	Grade Level
18	Grade Level	18	Grade Level
21	Grade Level	27	Grade Level
25	Grade Level	50	Grade Level
28	Grade Level	38	Grade Level
38	Grade Level	25	Grade Level
42	Grade Level	41	Grade Level

Table 7 demonstrates the scores and classifications for 2005. There were 24 respondents, of which two students are classified as at-risk on the ISF subtest and five students are classified as at-risk on the LNF subtest.

Table 7

2005 Initial Sound Fluency and Letter Naming Fluency Results From the Beginning Kindergarten Dynamic Indicators of Basic Early Literacy Skills Assessment

Initial Sound Fluency Score	Initial Sound Fluency Classification	Letter Naming Fluency Score	Letter Naming Fluency Classification
4	At-Risk	39	Grade Level
7	At-Risk	4	At-Risk
8	Grade Level	11	Grade Level
9	Grade Level	34	Grade Level
10	Grade Level	16	Grade Level
10	Grade Level	9	Grade Level
10	Grade Level	34	Grade Level
13	Grade Level	24	Grade Level
14	Grade Level	34	Grade Level
16	Grade Level	10	Grade Level
17	Grade Level	4	At-Risk
17	Grade Level	4	At-Risk
17	Grade Level	32	Grade Level
18	Grade Level	22	Grade Level
19	Grade Level	39	Grade Level
20	Grade Level	43	Grade Level
22	Grade Level	7	At-Risk
23	Grade Level	7	At-Risk
24	Grade Level	29	Grade Level
25	Grade Level	28	Grade Level
26	Grade Level	32	Grade Level
26	Grade Level	18	Grade Level
28	Grade Level	31	Grade Level
28	Grade Level	40	Grade Level

The results from 2006 are displayed in Table 8. There were 27 respondents from this year. Four of the students from this year were classified as at-risk in ISF and two of the students were classified as at-risk in LNF

Table 8

2006 Initial Sound Fluency and Letter Naming Fluency Results From the Beginning Kindergarten Dynamic Indicators of Basic Early Literacy Skills Assessment

Initial Sound Fluency Score	Initial Sound Fluency Classification	Letter Naming Fluency Score	Letter Naming Fluency Classification
0	At-Risk	39	Grade Level
3	At-Risk	37	Grade Level
4	At-Risk	31	Grade Level
5	At-Risk	17	Grade Level
8	Grade Level	20	Grade Level
8	Grade Level	19	Grade Level
9	Grade Level	8	Grade Level
9	Grade Level	11	Grade Level
9	Grade Level	35	Grade Level
10	Grade Level	0	At-Risk
11	Grade Level	20	Grade Level
11	Grade Level	16	Grade Level
12	Grade Level	13	Grade Level
12	Grade Level	31	Grade Level
14	Grade Level	14	Grade Level
17	Grade Level	25	Grade Level
17	Grade Level	23	Grade Level
17	Grade Level	15	Grade Level
18	Grade Level	13	Grade Level
19	Grade Level	29	Grade Level
19	Grade Level	0	At-Risk
20	Grade Level	11	Grade Level
24	Grade Level	25	Grade Level
24	Grade Level	18	Grade Level
25	Grade Level	20	Grade Level
28	Grade Level	38	Grade Level
29	Grade Level	39	Grade Level

Table 9 shows the results from the 35 respondents for 2007. Twelve of the students were classified as at-risk in ISF and nine of the students were classified as at-risk on the LNF subtest.

Table 9

2007 Initial Sound Fluency and Letter Naming Fluency Results From the Beginning Kindergarten Dynamic Indicators of Basic Early Literacy Skills Assessment

Initial Sound Fluency Score	Initial Sound Fluency Classification	Letter Naming Fluency Score	Letter Naming Fluency Classification
0	At-Risk	27	Grade Level
2	At-Risk	8	At-Risk
2	At-Risk	7	At-Risk
4	At-Risk	6	At-Risk
4	At-Risk	8	Grade Level
4	At-Risk	4	At-Risk
4	At-Risk	5	Grade Level
5	At-Risk	18	Grade Level
5	At-Risk	24	Grade Level
6	At-Risk	4	At-Risk
7	At-Risk	5	At-Risk
7	At-Risk	6	At-Risk
10	Grade Level	32	Grade Level
10	Grade Level	32	Grade Level
10	Grade Level	41	Grade Level
10	Grade Level	31	Grade Level
11	Grade Level	26	Grade Level
11	Grade Level	32	Grade Level
11	Grade Level	45	Grade Level
12	Grade Level	3	At-Risk
12	Grade Level	0	At-Risk
15	Grade Level	32	Grade Level
15	Grade Level	21	Grade Level
16	Grade Level	8	Grade Level
16	Grade Level	26	Grade Level
17	Grade Level	42	Grade Level
18	Grade Level	23	Grade Level
18	Grade Level	13	Grade Level
19	Grade Level	30	Grade Level
20	Grade Level	35	Grade Level
20	Grade Level	34	Grade Level
24	Grade Level	17	Grade Level
25	Grade Level	11	Grade Level
25	Grade Level	34	Grade Level
26	Grade Level	22	Grade Level

Results for Initial Sound Fluency

In order to view the number of students who attended each early childhood provider type and the classifications for the ISF subtest, the researcher performed a cross tabulation of the type of early childhood provider and the student's ISF classification (Table 10). Of the 122 students, 103 attended a preschool provider; two students attended a home-based daycare, and 17 students stayed at home with a parent or guardian. A total of 24 students were classified as at-risk on the ISF subtest. None of the students who attended a home-based daycare were classified at-risk, 21 students who attended a preschool were classified as at-risk and two students who stayed at home with a parent or guardian were classified as at-risk. The remaining 98 students were classified at grade level or benchmark.

Table 10

Cross Tabulation of Provider Type and Initial Sound Fluency Classification

Early Childhood Provider Type	Initial Sound Fluency Classification At-Risk	Initial Sound Fluency Classification Grade Level/Benchmark	Total
Home Based Daycare	0 (0%)	2 (100%)	2
Preschool	21 (20%)	82 (80%)	103
At Home With Parent/Guardian	3 (18%)	14 (82%)	17
Total	24 (20%)	98 (80%)	122

Table 11 shows the ISF subtest mean scores for the 122 students.

Table 11

Initial Sound Fluency Mean Scores

Subtest	Minimum Score	Maximum Score	Mean Score	Standard Deviation
Initial Sound Fluency	0	43	14.90	8.986

Table 12 displays the results from the ANOVA performed on the type of early childhood provider and the student's ISF scores. Due to small population size, the two providers, home-based day care and at home with parent or guardian were combined. The results of the ANOVA showing a significance of .095 indicates that there are no significant differences at the 0.05 level of significance in ISF scores based upon the early childhood provider type.

Table 12

One-Way ANOVA on Provider Type and Initial Sound Fluency Scores

	Sum of Squares	df	Mean Square	F	Significance
Between Groups	222.407	1	222.407	2.834	.095
Within Groups	9545.412	120	79.545		
Total	9770.820	121			

Results for Letter Naming Fluency

Table 13 shows the cross tabulation analysis between the type of early childhood provider and the LNF classification on the DIBELS subtest. Students are considered at-

risk on the DIBELS LNF subtest if they perform in the lowest 20 percent of students in their district (Good & Kaminski 6).

Table 13

Cross Tabulation of Provider Type and Letter Naming Fluency Classification

Early Childhood Provider Type	Letter Naming Fluency Classification At-Risk	Letter Naming Fluency Classification Grade Level/Benchmark	Total
Home Based Daycare	1 (50%)	1 (50%)	2
Preschool	14 (14%)	89 (86%)	103
At Home With Parent/Guardian	6 (35%)	11 (65%)	17
Total	21 (17%)	101 (83%)	122

Table 14 shows the LNF subtest mean scores for the 122 students.

Table 14

Letter Naming Fluency Mean Scores

Subtest	Minimum Score	Maximum Score	Mean Score	Standard Deviation
Letter Naming Fluency	0	58	23.16	13.883

Table 15 displays the results from the ANOVA performed on the type of early childhood provider and the student's LNF score. Due to small population size, the two providers, home-based day care and at home with parent or guardian were combined. The results of the ANOVA showing a significance of .342 indicates that there are no significant differences at the 0.05 level of significance in LNF scores based upon the early childhood provider type.

Table 15

One-Way ANOVA on Provider Type Letter Naming Fluency Scores

	Sum of Squares	df	Mean Square	F	Significance
Between Groups	175.873	1	175.873	.912	.342
Within Groups	23144.848	120	192.874		
Total	23320.721	121			

Summary

This chapter presented the results from this study, reviewed the methodology and data collection procedures, and identified the participants. The research hypotheses were tested. As a result of the one-way ANOVAs, no differences were seen between groups at the 0.05 level. Therefore, the researcher rejected Research Hypothesis One: There is a difference in Initial Sound Fluency as measured by the DIBELS assessment between the various early childhood providers (home-based daycare, preschool, at-home with parent/guardian) at the 0.05 level of significance. Research Hypothesis Two: There is a difference in Letter Naming Fluency as measured by the DIBELS assessment between

the various early childhood providers (home-based daycare, preschool, at-home with parent/guardian) at the 0.05 level of significance was also rejected by the researcher.

Chapter Five, the final chapter, will address the three research questions that guided this study. Research Question One: Who are the early childhood providers within the district? Research Question Two: Is there a difference between the location at which a student received their early childhood and his or her kindergarten reading readiness as measured by the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) using both Initial Sound Fluency and Letter Naming Fluency subscales? Research Question Three: Is there a need to provide curriculum materials, professional development and training to the early childhood providers within the district? In addition to the research questions, Chapter Five will analyze and discuss the results obtained from the survey, including examining the contributions of this study along with recommendations for future research.

CHAPTER FIVE

INTERPRETATION AND RECOMMENDATIONS

Introduction

This chapter discusses the results obtained from this study. Since the primary purpose of this study was to determine if differences exist between the type of early childhood provider a student attended the year prior to entering kindergarten and his or her scores and overall classification on both the ISF and LNF subtests of the beginning kindergarten DIBELS assessment. Results presented in Chapter Four will be interpreted and discussed in this chapter.

Summary of Results

The responses from the participants were collected to identify the type of early childhood provider each student attended the year prior to entering kindergarten. Student scores and classifications on the beginning kindergarten DIBESLS assessment were matched from the researcher's coded list to the survey response. All participant responses were manually entered into SPSS for analysis. A one-way ANOVA was conducted to determine if any difference within or between the groups existed (Tables 12 and 15). As Table 12 shows, the significance between groups using the ISF subtest was 0.095, which is not statistically significant. Therefore, the researcher must reject Research Hypothesis One: There is a difference in Initial Sound Fluency as measured by

the DIBELS assessment between the various early childhood providers (home-based daycare, preschool, at-home with parent/guardian) at the 0.05 level of significance.

Table 15 shows the significance between groups using the LNF subtest was 0.342, which is not statistically significant. The researcher must also reject Research Hypothesis Two: There is a difference in Letter Naming Fluency as measured by the DIBELS assessment between the various early childhood providers (home-based daycare, preschool, at-home with parent/guardian) at the 0.05 level of significance.

Discussion of Results

The parents of 282 students were invited to participate in this clinical research study. A total of 122 parents responded to the survey. As Table 3 shows the smallest number of participants were from the 2003 school year with just 13 respondents. The number of respondents was similar for 2004, 2005 and 2006. There were 23 respondents in 2004, 24 respondents in 2005, and 27 respondents in 2006. The largest number of participants was from 2007 with 35 respondents.

Table 4 specified the type of early childhood attended by students for each year of the survey. From the 122 responses, only two parents (2%) indicated that their child attended a home-based day care, 103 students (84%) attended preschool, and 17 students (14%) stayed at home with a parent or guardian. The researcher was surprised by the number of students who attended a preschool. As stated previously, there are only 2 known preschools within the district. After a review of the survey responses, an additional preschool operating in the district was identified, in addition students also attended an additional 22 preschools located outside the district.

The number of at-risk students entering kindergarten has increased since 2003. Tables 5-9 show the number of students identified as at-risk each year. Table 5 indicates that only one student (8%) from 2003 was classified as at-risk in LNF. Table 6 identified 8 students (35%) as at-risk in ISF and four students (17%) at-risk in LNF. In 2005 (Table 7), the number of students classified as at-risk in ISF decreased. Two students (8%) were classified in 2005 as at-risk in ISF and five students (21%) were at-risk in LNF. The results from 2006 (Table 8) shows four students (15%) were classified as at-risk in ISF and two students (7%) were classified as at-risk in LNF. The number of students who were classified as at-risk increased in 2007 (Table 9). In 2007, 12 students (34%) were classified as at-risk in ISF and 8 students (23%) were at-risk in LNF.

As stated in Chapter One, the percent of students entering kindergarten at-risk has been increasing (Table 2). While there was a slight decrease in the number of at-risk students in 2005, the percent of at-risk students continued to rise, more than doubling in 2007. However, the results of this study did not show at-risk percentages as high as shown in the original population tested. This decrease in the number of at-risk students likely is a result of the fact that 84 percent of the sample population returning the surveys were homes where children were participants in a preschool program. As supported by research cited in this study, students who attend preschool do perform better than do students who do not have preschool training.

Table 10 shows a cross tabulation of the early education provider type and the student's ISF classification. Twenty-four students (20%) were classified as at-risk, 21 of the at-risk students (87.5%) attended a preschool and three at-risk students (12.5%) stayed at-home with a parent or guardian.

The remaining 98 students (80%) were classified as on grade level or benchmark on the ISF subtest. Two of the benchmark students (2%) attended a home-based daycare, 82 students (84%) attended preschool, and 14 students (14%) stayed at home with a parent or guardian.

Table 13 shows a cross tabulation of the early childhood provider type and the student's LNF classification. Twenty-one students (17%) from the survey were classified as at-risk in LNF. One student who was classified as at-risk (5%) attended a home-based daycare, 14 of the at-risk students (67%) attended preschool, and six at-risk students (23%) stayed at home with a parent or guardian. One hundred-one of the students (83%) were classified as on grade level or benchmark. Of the benchmark students, one (1%) attended a home-based daycare, 89 (88%) attended preschool, and 10 (11%) stayed at home with a parent or guardian. The number of students who were classified as at-risk in LNF was not surprising; the DIBELS assessment classifies the bottom 20 percent of students in the district as at-risk.

After reviewing the research and literature on the benefits of preschool, the researcher found this study supported the research. One hundred-three (84%) of the students from the study attended preschool. Eighty-two (80%) of those students performed at grade level on the ISF subtest and 89 (86%) of them performed at grade level on the LNF subtest.

It is important to note that of the surveys returned, 84 percent of the students attended preschool. The large number of surveys returned with students who attended preschool, 103 of the 122, skewed the sample size. One hundred-sixty parents did not return surveys and it is possible that many of those students did not attend preschool.

Due to the increasing percentage of students who enter kindergarten at-risk, there is a need for collaboration between home-based daycare providers, stay at home parents, and the school district. The district should conduct additional surveys of home-based daycare providers and stay at home parents to determine what type of curriculum and activities they provide to determine if there is a need for professional development training on appropriate curriculum and activities that would help decrease the number of students who enter kindergarten at-risk.

Relationship of Results to Theory

The research from the Abecedarian Project, High/Scope Perry Preschool Project, Abbott Preschool Program, Chicago Child-Parent Center Program, and Head Start, all reported that students who attended a high quality preschool program are more likely to enter kindergarten ready to learn.

Linda Espinosa states “Research has consistently shown that 3- and 4-year olds who attend a high-quality preschool succeed at a higher rate in kindergarten and beyond- both academically and socially, but the majority of preschool programs in the United States rank below “good” with many rated far lower” (1). The quality of the early childhood programs attended by the students of this study is not known but student scores indicate that the majority of students are entering kindergarten ready to learn. It leaves to question the quality of education being delivered to the 160 students who did not participate in the study.

Summary and Conclusion

Wellsville Unified School District 289 is a rural district with 891 students. Many of the factors suggested by research that can influence access to quality early childhood s

program is not evident. Although there is little ethnic diversity and poverty within the district, the number of students who are entering kindergarten at-risk continues to rise. The information obtained through the clinical research survey shows that most of the students in the survey population attended preschool programs and this population showed fewer at-risk students than did the original population. The research population suggests that preschool programs make a difference in reducing the at-risk population.

Research Hypothesis One and Two were both rejected. The findings were unexpected as no significant differences occurred between the types of early childhood providers and student achievement. One possibility of why no significant differences were found could be due to the small sample size of non preschool students (16%), compared to those who attended preschool (84%) While there was no significant difference between the providers, the DIBELS data shows the majority (84%) of students from this study attended a preschool and most performed at grade level on both the ISF (80%) and LNF (89%) subtests.

Implications for Further Research and Practice

More analysis needs to be conducted on this study. While the findings from this study supported the body of research, Wellsville students continue to enter kindergarten at-risk.

Wellsville Unified School District's next step would be to conduct another survey to identify additional early childhood providers within the district. The district should begin collecting this information at early childhood screenings, kindergarten round-up, kindergarten screenings, and enrollment. A simple checklist could be added to forms that would indicate the type (home-based daycare, preschool, at home with a

parent /guardian) and name of the early childhood provider the student attends. Once the childhood provider data is obtained, the district could determine if there is a relationship between the type of childhood provider and the at-risk population for each type.

This study used student achievement on the beginning kindergarten DIBELS assessment as the only measure for kindergarten readiness. Future studies should use data from additional instruments. For instance, the Iowa Test of Basic Skills (ITBS) is national standardized reference test and is administered each fall to kindergarten students. The district also uses other curriculum based measurements that indicate student readiness. The use of multiple measures may give researchers a better idea of how students are performing overall, rather than on a single test given at the beginning of the year.

Because a large number of preschools were identified outside the district, a focus committee could be convened to discuss the entering kindergarten students' academic trends and the possibility of providing collaboration with early childhood providers within the district and even possibly those outside the district.

Lastly, while Wellsville Unified School District has a low poverty rate (24%), this factor can not be ignored. One might also investigate if there is a relationship between the children who receive free or reduced lunches and the type of early childhood provider (home-based daycare, preschool, at home with parent/guardian) that is chosen by the parent and if this has had an impact on their kindergarten readiness skills.

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APPENDICES

APPENDIX A: IRB APPLICATION

IRB Review Form

I. Research Investigator(s) (students must list faculty sponsor first)

Department(s) Education

Name Tamara Thomasson **Signature** _____

1. Dr. Willie Amison (check if faculty sponsor) **Signature** _____
Associate Professor of Education
Baker University
2. Dr. Bill Neuenswander
Professor of Education
Baker University
3. Trilla Lyerla, Baker University
Professor of Music
Baker University
4. Dr. Susan Myers
Superintendent
Atchison Public Schools

Principal investigator or faculty sponsor contact information:

1. Dr. Willie Amison
Associate Professor of Education
Baker University
8001 College Blvd., Suite 100
Overland Park, KS 66210
2. Tamara Thomasson
Graduate Student

Expected Category of Review: Exempt Expedited Full

II. Protocol Title

Wellsville USD 289 Early Childhood Education and Kindergarten Readiness as Measured by Dynamic Indicators of Basic Early Literacy Skills (DIBELS).

III. Summary:

The following summary must accompany the proposal. Be specific about exactly what participants will experience, and about the protections that have been included to safeguard participants from harm. Careful attention to the following may help facilitate the review process:

In a sentence or two, please describe the background and purpose of the research.

The purpose of this study is to determine if a relationship exists between the location where students receive their Early Childhood Education and their Kindergarten readiness as measured by the Dynamic Indicators of Basic Early Literacy Skills (DIBELS).

Research shows that students who begin school behind their peers are more likely to stay behind throughout their school lives and into adulthood. Governor Sebelius testified that less than 50% of Kansas children start kindergarten fully ready to learn. The number of kindergarten students entering Wellsville Elementary at-risk has increased from 26% in 2003 to 52% in 2007.

With the increased number of students entering kindergarten at-risk, the district is obligated to fund numerous intervention and remedial programs to address this issue. The purpose of this study is to determine if a relationship exists between the location where students receive their Early Childhood Education and their kindergarten readiness and to determine if there is a need to provide professional development training and curriculum to district daycare providers. The significance of this study could be great. Moreover, it could positively impact the entire educational experience of the student at Wellsville USD 289. If students enter kindergarten unprepared or without the skills they need to be “ready to learn”, not only could they fall further behind with each passing year, this also has severe implications in post secondary education and possibly even career choice. In order for Wellsville to fulfill their mission of meeting the needs of all students, it is important that pre-kindergarten students are not neglected.

Briefly describe each condition or manipulation to be included within the study.

Information gathered on a parent survey will be used to identify the student’s Early Childhood provider. Student socioeconomic status will be measured through free lunch, reduced lunch, or full pay participation. The student’s socioeconomic status in relationship to Kindergarten readiness will also be examined. Data collected from the initial administration of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) will include the Initial Sound Fluency and Letter Naming Fluency subscales of the test.

What measures or observations will be taken in the study? If any questionnaire or other instruments are used, provide a brief description and attach a copy.

In order to determine where students received their Early Childhood Education, parents will be asked to complete a survey that indicates the provider. (attached). A list of students who attended or are attending kindergarten at Wellsville Elementary since 2003 will be gathered from enrollment records. The survey will be mailed to the parents using current addresses gathered from the student management system.

Will the subjects encounter the risk of psychological, social, physical or legal risk? If so, please describe the nature of the risk and any measures designed to mitigate that risk.

No, the parents and the students will not encounter the risk of psychological, social, physical, or legal risk. The survey is anonymous, and they will not be identified.

Will any stress to subjects be involved? If so, Please describe.

No, there will be no stress involved to subjects.

Will the subjects be deceived or misled in any way? If so, include an outline or script of the debriefing.

No, subjects will not be deceived or misled in any way.

Will there be a request for information which subjects might consider to be personal or sensitive? If so, please include a description.

The parent survey asks for demographic type information in an anonymous way so as to allow complete honesty.

Will the subjects be presented with materials which might be considered to be offensive, threatening, or degrading? If so, please describe.

No, the subjects will not be presented with any material that could be considered to be offensive, threatening or degrading.

Approximately how much time will be demanded of each subject?

The survey will take approximately 5 minutes to complete.

Who will be the subjects in this study? How will they be solicited or contacted? Provide an outline or script of the information which will be provided to subjects prior to their volunteering to participate. Include a copy of any written solicitation as well as an outline of any oral solicitation.

Wellsville Elementary School Kindergarten students from 2003-2007 will be the subjects of this study. Permission for the study has been granted by the Superintendent of Schools, Denise O'Dea. Parents or Guardians of the students will be mailed a copy of the

parent survey, with a cover letter. A copy of the cover letter and informed consent is attached.

What steps will be taken to insure that each subject's participation is voluntary? What if any inducements will be offered to the subjects for their participation?

The parents will be asked to participate; No inducements will be offered.

How will you insure that the subjects give their consent prior to participating? Will a written consent form be used? If so, include the form. If not, explain why not.

No

Will any aspect of the data be made a part of any permanent record that can be identified with the subject? If so, please explain the necessity.

No, there will not be any permanent record of this study.

Will the fact that a subject did or did not participate in a specific experiment or study be made part of any permanent record available to a supervisor, teacher or employer? If so, explain.

No, no permanent record will be made of participation or non participation.

What steps will be taken to insure the confidentiality of the data?

The parent survey will be administered in an anonymous manner, therefore confidentiality will be maintained.

If there are any risks involved in the study, are there any offsetting benefits that might accrue to either the subjects or society?

No, no risks are involved in the study.

Will any data from files or archival data be used? If so, please describe.

No

APPENDIX B: IRB LETTER OF APPROVAL

22 January 2008

Tamara Thomasson

Dear Ms. Thomasson:

The Baker University IRB has reviewed your research project application (M-0050-0108-0122-G) and approved this project under Expedited Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

The Baker University IRB requires that your consent form must include the date of approval and expiration date (one year from today). Please be aware of the following:

1. At designated intervals (usually annually) until the project is completed, a Project Status Report must be returned to the IRB.
2. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
3. Notify the OIR about any new investigators not named in original application.
4. Any injury to a subject because of the research procedure must be reported to the IRB Chair or representative immediately.
5. When signed consent documents are required, the primary investigator must retain the signed consent documents for at least three years past completion of the research activity. If you use a signed consent form, provide a copy of the consent form to subjects at the time of consent.
6. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.

Please inform Office of Institutional Research (OIR) or myself when this project is terminated. As noted above, you must also provide OIR with an annual status report and receive approval for maintaining your status. If your project receives funding which requests an annual update approval, you must request this from the IRB one month prior to the annual update. Thanks for your cooperation. If you have any questions, please contact me.

Sincerely,

Marc L Carter, PhD
Chair, Baker University IRB
CC: Willie Amison, PhD GSoE

APPENDIX C:

COVER LETTER INVITING PARENTS TO PARTICIPATE IN THE SURVEY

Dear Parent/Guardian,

I am conducting a research study to see if there is a correlation between Early Childhood Education and Kindergarten readiness. Enclosed is a survey asking about the program(s) in which your child participated. The information will be used to determine if there is a need for stronger partnerships between the Early Childhood providers and the Wellsville School District. Please read the information below and if you so choose, respond to the survey and return the postage paid postcard by February 22, 2008.

Risks/Benefits:

There are no risks involved in this study. As for the benefits, I understand that I may be helping others learn about Early Childhood Education and Kindergarten readiness which can lead to better cooperation between providers and the school district.

Cost/Compensation:

There is no cost for being a part of this study and I understand that I will not be paid for taking part of this study.

Confidentiality of Records:

Except for this form, my name and my child's name will not be listed on any other forms. Only a number will be used so that the researcher knows which forms are mine. It is understood that neither my name nor my child's name will **ever** appear in the final written report of the study.

Limits of Confidentiality:

I understand that all of the information collected about my child by the researcher is part of her study. The responses made by me and the information about my child will be kept anonymous.

I have had the opportunity to read this form and ask questions about any part. I understand that my participation is voluntary. In order for my study to be successful, I will need to obtain a minimum of a 30% return rate; therefore I earnestly encourage you to respond.

If you would not like to be contacted in the future please indicate so below.

Your participation is greatly appreciated.

Tamara Thomasson

Any questions about this research study to be directed to
Dr. Willie Amison
Baker University
8001 College Blvd.
Overland Park, Kansas 66210

This study will conclude no later than January 22, 2009.

APPENDIX D: SURVEY SENT TO PARENTS

Early Childhood Education Survey

List the preschool program(s) your child participated in *the year prior* to entering Kindergarten. Please provide the name and location of the provider.

_____ Home-based daycare provider

Provider Name _____

Provider Location (city) _____ (state) _____

Number of hours per week _____

_____ Preschool

Preschool Name _____

Preschool Location (city) _____ (state) _____

Number of hours per week _____

_____ At Home with Parent/Guardian

Relationship to the child _____

Location (city) _____ (state) _____

Number of hours per week _____

Participant

Date

_____ I would not like to be contacted in the future

APPENDIX E: ADDITIONAL SURVEY INFORMATION: NUMBER OF HOURS

Total Number of Hours Spent at Early Childhood Education Provider

Number of Hours	Frequency	Percent
6.00	4	3.3
7.50	7	5.7
8.00	1	.8
9.00	18	14.8
10.00	2	1.6
12.00	38	31.1
15.00	4	3.3
16.00	12	9.8
20.00	4	3.3
21.00	1	.8
24.00	1	.8
30.00	1	.8
35.00	1	.8
36.00	1	.8
40.00	21	17.2
50.00	2	1.6
168.00	1	.8
Total	119	97.5
Missing	3	2.5
Total	122	100.0