2024

AN EXAMINATION OF THE KNOWLEDGE, UTILIZATION, AND ATTITUDES OF CURRICULUM DIRECTORS OF LARGE SCHOOL DISTRICTS IN THE UPPER MIDWEST REGARDING RESEARCH AND EVIDENCE-BASED READING PROGRAMS

Jill Hansen

AN EXAMINATION OF THE KNOWLEDGE, UTILIZATION, AND ATTITUDES OF CURRICULUM DIRECTORS OF LARGE SCHOOL DISTRICTS IN THE UPPER MIDWEST REGARDING RESEARCH AND EVIDENCE-BASED READING PROGRAMS

By

Jill Hansen

B.S., University of South Dakota, 2003
M.A., University of South Dakota, 2005

A Dissertation Submitted in Partial Fulfillment of
the Requirements for the Degree of Education

Division of Curriculum and Instruction

Reading Program
In the Graduate School
The University of South Dakota
May 2024

The members of the Committee appointed to examine
the Dissertation of Jill Renee Hansen
find it satisfactory and recommend that it be accepted.

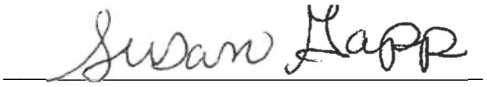
DocuSigned by:
Susan Gapp
FDF235B325774DB...

DocuSigned by:
GARY CHEESEMAN
E1A6DB1D61E846E...

DocuSigned by:
Lisa Newland
D88A8C7A8EA947A...

ABSTRACT

This study investigates the influence of knowledge, utilization, and attitudes of research on the choices made by K-5 curriculum directors in large Upper Midwest school districts when selecting reading programs and practices. A survey, sent to curriculum directors, addresses their knowledge, use, and attitudes towards research and evidence-based reading programs. The study explores demographic differences and reviews the historical context of educational policies. Findings reveal a mixed level of knowledge, positive trends in research use, and overall positive attitudes. Differences between master's and post-master's groups highlight the impact of advanced education. The study emphasizes the importance of ongoing professional development to bridge gaps on research utilization among curriculum directors.

Dissertation Advisor 
Dr. Susan Gapp

ACKNOWLEDGEMENT

I would like to express my deepest gratitude to Dr. Gapp, Dr. Newland, and Dr. Cheeseman for their time, invaluable expertise, and insightful feedback throughout this long journey. Your kindness, encouragement, and willingness to take extra time to meet with me has been instrumental in shaping the outcome of this research. You have inspired and empowered me to grow as a researcher and mentor. I am truly fortunate to have had the privilege of learning from such esteemed scholars.

Dr. Gapp, thank you for sticking it out with me. Your consistent patience, unwavering support, and strong guidance have been the pillars that sustained me throughout this academic journey. Your mentorship has been a beacon of inspiration, and I am truly grateful for the wisdom you imparted.

A special thank you has to go out to my sons, Jonathan and Zach, who have been my constant motivation and driving force. Jonathan, you have been on this academic journey with me far longer than anyone else. I could not have done this without your strength and love all of these years. You're a warrior, and warriors don't quit. I needed that reminder. Zach, your youthful spirit and love for adventure is what I needed to stay balanced in order to cross the finish line. Everything I have accomplished is for you both. I love you dearly.

I also want to express my gratitude to my little sister, Olivia, who was partner in everything. You always believed in me and that was more than enough. To all those who played a role in my academic and personal journey, thank you for your unwavering support, encouragement, and belief in my potential. This dissertation would not have been possible without the collective influence of each person mentioned above.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

Introduction

Concern over the reading achievement of K-12 students in public schools within the United States has been present since educational legislation began (Anderson et al., 2018). The primary focus has always been on identifying "best practices" educators can use in order to help students become better readers and on how to define what a "best practice" is. Through decades of educational legislation, evidence provided through research has become the gold standard in identifying a "best practice" or simply termed "evidence-based practice" (O'Keefe et al., 2012; Osburne et al., 2011). Once those evidence-based practices in reading are identified through research, it is essential for educators to have access to information, materials, research, and training on how to implement those practices with fidelity in order to impact reading achievement (T. Shanahan, 2003). How do educators access that information, training, materials, and research? They rely heavily on school curriculum directors, typically administrators and/or curriculum directors, to supply them with these essentials, specifically those curriculum directors with the capability of making the decision to purchase and implement a reading program or practice. The role of the decision maker can vary based on the district's size, but in larger districts with increased funding, the individual in charge is commonly positioned as the curriculum director. If teachers are relying on curriculum directors to provide them with evidence-based reading programs and practices, then identifying how those curriculum directors' knowledge, use, and attitudes towards research and evidence-based programs becomes essential (Penuel, et al., 2016).

The launching of Sputnik during the Cold War, an event which forever changed the educational system in the United States, serves as a reminder for Americans as to the importance of the education of its K-12 population (Johanningmeier, 2010; Steeves, et al., 2009). This single

event put a spotlight on education and the need for highly educated citizens who could compete and lead at the global level. Meeting high academic standards, especially in STEM, is necessary if the United States is to continue as a global curriculum director. To maintain this position, the need for students in the science, technology, engineering, and math fields, is greater than ever (McMillen et al., 2018; Wallender, 2014). The academic demands for success in these fields cannot be achieved with students who are incapable of reading the content texts which are typically written at higher lexile levels. What is now called disciplinary literacy, or an ability to read informational texts unique to a content area, is placing a higher demand on students to read materials at higher lexile levels with complex vocabulary (Goldman et al., 2016; Shanahan & Shanahan, 2017). The demands for more advanced disciplinary reading skills and strategies are essential for the future. Anticipating a higher need for more students to graduate from high school able to read, comprehend, and tackle texts at a higher lexile level, educational curriculum directors from 48 states came together to create the Common Core Standards as a reform effort to provide consistent, robust learning expectations reflecting the knowledge and skills necessary for college and career readiness (T. Shanahan, 2003; Wallender, 2014).

Academic achievement is also essential for the continued economic growth at the global, national, and state levels (Cavanagh, 2007; Johanningmeier, 2010). The economic growth at the national and state level is directly correlated to the academic achievement of its students (Hanushek et al., 2016). Hanushek et al. (2016) stated, "The fact that the [academic] achievement level of a state's workers is a key driver of its economic performance suggests that the gains from improved school quality could be essential" (p.58). Increasing academic achievement through increased literacy skills would strengthen the economy of the United States (Johanningmeier, 2010). It can be inferred then, that higher levels of reading achievement would

further increase South Dakota's economic growth.

Clearly, improving academic achievement in reading is necessary for sustaining America's position as a global leader and for the economic growth of the country. How then does the United States ensure that more of its students graduate from high school with the reading skills necessary to be successful at the collegiate level and/or workforce? A myriad of government funded studies, grants, innovative programs, and legislation sought to identify evidence-based practices and programs in reading instruction (Garrison-Mogren et al., 2012; Heise, 2006; Wallender, 2014).

State and local governments, who typically control education in their states, received pressure from the federal government to adopt state standards, give and report on standardized test scores, incorporate reading interventions, and hire highly qualified teachers (Elgart, 2016; McGuinn, 2016; No Child Left Behind, 2002; Weiss & McGuinn, 2016). Curriculum directors responsible for selecting reading programs also felt the pressure to improve reading achievement by finding the "best practices" in reading instruction (Torres et al., 2012).

The term "best practices" became a common term used to describe a preferred reading intervention, program, or practice (O'Keeffe et al., 2012; Osburn et al., 2011). Without a strong definition as to what a "best practice" actually was, the term was often applied by whomever to whatever practice or program they personally felt worked best (Cross & Conn-Powers, 2014; Haecker et al., 2017; Osburn et al., 2011).

In order to understand what a "best practice" in reading instruction is, it is necessary to review the history of the term itself. Federal legislation aimed to improve the academic achievement of K-12 students in the United States was heavily involved in defining and redefining what a best practice in education was and is today. This, and an evaluation of how the

medical field identifies best practices, led to the development of a federally funded system aimed at defining and identifying "best practices" in several content areas, especially in reading and math (Haecker et al., 2017; R. Slavin, 2008). Through the progression of federal legislation aimed towards identifying "best practices" in education, the term was replaced with "evidence-based practices" in order to emphasize that which makes a practice or program "best" or "better" than others as supported by evidence provided by research (Ellis, 2007; Smith, 2003). Therefore, the term "evidence-based practice" will be used in place of "best practice" in keeping with current trends.

As the state and federal government continues to search for what works best in educating its youth, the emphasis on using scientifically based research has not wavered. Although legislation has changed its terminology and definitions on reading research beginning with No Child Left Behind Act of 2001 to the current Every Student Succeeds Act of 2015, the importance of using quantitative research in the selection of reading programs is still paramount (Almasi et al., 2006; Anderson et al., 2010; Every Student Succeeds Act, 2015).

Purpose of the Study

The purpose of this study is to examine the knowledge, use, and attitudes of research and evidence-based programs and practices among K-5 curriculum directors in large districts in the Upper Midwest. Due to evidence-based reading programs being defined by legislation as being backed by research, only those identified as proven effective through the What Work's Clearinghouse will be identified.

This study is an extension of research conducted in a study by Penuel et al. (2016) for the National Center for Research in Policy and Practice titled "Findings from a National Study on Research Use Among School and District Curriculum Directors." While Penuel et al. (2016)

surveyed curriculum directors from large to mid-sized districts in 45 different states in the United States, the purpose of this study is to focus primarily on large districts in the Upper Midwest. The purpose of this study is to investigate the knowledge, utilization, and attitudes of research and evidence-based programs among K-5 curriculum directors in large districts in the Upper Midwest. Additionally, this study will examine how curriculum directors' level of education further impact their knowledge, use, and attitudes towards research and evidence-based programs.

Research Questions

1. To what extent are K-5 curriculum directors knowledgeable of research and evidence-based reading programs?
2. To what extent do K-5 curriculum directors use research and evidence-based reading programs?
3. What are K-5 curriculum directors' attitudes towards reading research and evidence-based reading programs?
4. What differences are there in K-5 curriculum directors' knowledge, use, and attitude of research and evidence-based reading programs based on their level of education?

Significance of the Study

K-5 curriculum directors who select evidence-based reading programs are placed with an important task that could positively or negatively impact reading achievement based on their selection. This study will investigate trends on the knowledge, use, and attitudes of research and evidence-based reading programs among K-5 curriculum directors in large districts in the Upper Midwest. Information from this study could influence and encourage K-5 curriculum directors to use research in selecting evidence-based reading programs in the future. Understanding how

school and district curriculum directors' educational background, as well as use, knowledge, and attitudes towards research in identifying evidence-based programs, would be influential in designing professional development for curriculum directors.

Definition of Terms

The following boldface definitions are provided to aid in the understanding of these terms throughout the study. Definitions that are not referenced have been developed by the researcher and pertain to the research completed.

Evidence-Based Programs: Program that is supported by both qualitative and quantitative research that was completed according to standards established by the Every Student Succeeds Act (Cross & Conn-Powers, 2014; Every Student Succeeds, 2015).

Large School District: School districts serving 15,000 or more students in K-12.

Reading Program: Programs is used to encompass reading interventions, curriculum, programs, and policies used to teach reading to K-12 students.

Curriculum director: educational professional responsible for overseeing and coordinating the development, implementation, and evaluation of educational curriculum within a school district (Penuel, et al., Findings from a national study on research use among school and district leaders, 2016).

Scientifically Based Research: Quantitative research that is rigorous, systematic, and objective as set forth by No Child Left Behind (NCLB) (Trybus, 2007).

Title I: Federal aid for schools serving students living in low-income areas and/or with special needs (Liu, 2008).

Upper Midwest: Iowa, Nebraska, Minnesota, and South Dakota

What Works Clearinghouse: Organization created in 2002 as a result of the No Child Left Behind Act through the Institute of Education Sciences to identify and report on reading interventions and programs that are deemed as evidenced based through quantitative studies meeting specific criteria (Hitchcock et al., 2014; O'Keeffe et al., 2012; Smith, 2003; Trybus, 2007).

Limitations and Delimitations

The following limitations were considered during the study:

1. Data is limited to large districts in the Upper Midwest that respond to the survey. The sample is not generalizable beyond the sample being studied.
2. Only those school districts submitting a completed survey are represented.

Organization of the Study

Chapter 1 contained the introduction, statement of the problem, research questions, significance of the study, definition of terms, and limitations of the study. Chapter 2 presents a review of literature focusing the history of the term "best practices" and "evidence-based" through significant historical events and development of federal educational legislation, review of evidence-based reading programs, and research on K-5 school and district curriculum directors' knowledge, use, and perceptions of reading research and evidence-based reading programs. Chapter 3 contains details about the methodology including procedures for gathering data for the study. The results of the findings are in Chapter 4. The summary of the findings and conclusions drawn from the research are included in Chapter 5.

CHAPTER 2

Review of Related Literature

Chapter 2 presents a review of literature focusing on the history of the term "best practices" and "evidence-based" through significant historical events and development of federal educational legislation, review of evidence-based reading programs, and research on K-5 school and district curriculum directors' knowledge, use, and attitudes of research and evidence-based reading programs. This chapter is divided into three sections: (a) Government Reform Efforts; (b) School and District Curriculum Directors' Use, Attitudes, and Knowledge of Educational Research; (c) Evidence-Based Reading Programs.

Government Reform Efforts

Governmental involvement in educational reform has been ongoing as early as the late 1950's with the "Race to Space" between the U.S. and the Soviet Union resulting in the enactment of the National Defense Education Act to improve the quality of K-12 education (Ellis, 2007; Wallender, 2014). Over the years, other governmental reform efforts like the Elementary and Secondary Education Act (ESEA), A Nation at Risk, The Reading Excellence Act, and Goals 2000 Educate America Act placed continued attention and focus on school improvement, specifically in the areas of reading and math (Ellis, 2007; Gross & Hill, 2016; Heise, 2006; O'Keeffe et al., 2012; T. Shanahan, 2015; Sharp, 2016; U.S. Department of Education, 2017; Wallender, 2014).

Defining "Best Practices"

The term "best practice" is used across many different professional fields to label a practice, policy, or program as being more effective compared to others in that field. In the field of education specifically, the term "best practice" has been used to label an intervention or

program as being more effective than others in the field (Osburn et al., 2011). Educators, administrators, politicians, parents, and the general public often refer to an intervention or program as being effective without mentioning how that label was assigned. By not following or offering specific criteria for what makes an intervention or program a "best practice," it loses its credibility, and reliability comes into question (Anderson et al., 2010). Without being more specific in definition or criteria, the term was too encompassing and overused (Dudley-Marling, 2005; Spooner et al., 2017).

Prior to legislation of the Elementary and Secondary Education Act (ESEA), and its reauthorized forms referred to as No Child Left Behind Act (NCLB) and Every Student Succeeds Act (ESSA), the criteria for identifying a "best practice" was most often determined by one of the following: an educator or school curriculum director and their personal belief system based and/or experiences, intervention/curriculum companies' marketing propaganda, or from testimonials from other professionals in the field (Dudley-Marling, 2005; Greenlaw et al., 1973; Osburn et al., 2011; Smith, 2003; Spooner et al., 2017). These criteria for identifying "best practices" in education were often determined without quantitative evidence to support the claim, making them too subjective (Osburn et al., 2011). It was not uncommon for one to find a variety of "best practices" being used in classrooms across the United States. Lacking in definition or criteria, academic interventions and programs were loosely labeled "best practice" without a solid explanation or evidence to support its adoption into the classroom (Spooner et al., 2017). Throughout the history of the United States, the federal government fluctuated in its involvement in education by passing several pieces of legislation around increasing academic achievement and federal funding (Hale et al., 2017). It became essential to identify what made a program or practice a "best practice" in order to increase academic achievement in all content areas, with

special attention on mathematics and reading. Because reading skills are essential to learning in all content areas and for being a productive member of society, educators, politicians, and the general public are always looking for and debating over "best practices" for teaching those skills (Goldman, et al., 2016). The "reading wars," or debates over how to best teach reading, have waged on since the 19th century (T. Shanahan, 2003). With reading skills being essential to learning in all content areas, and for being a productive, employed citizen, understanding the history of educational legislation in the United States is essential to understanding of the term "best practices" and its evolution.

National Defense Education Act – 1958. In the early 1900's, the United States federal government, for the most part, left the education of students to state and local curriculum directors to determine. As already established, that would all change with the launching of the Soviet Union's Sputnik on October 4, 1957, which effectively began the "Race to Space" between the U.S. and the Soviet Union (Ellis, 2007). This significant event served to increase the American public's fear of losing its status as being the world's curriculum director during the Cold War (Johanningmeier, 2010). In order to compete with the Soviet Union, to ensure the safety of its people, and to continue being identified as a world curriculum director, the nation sought a solution (Ellis, 2007; Pratt, 2016). That solution was improving the education of its youth, specifically in the areas of reading, math, and science (Johanningmeier, 2010; Steeves et al., 2009). To make this a reality, the first wave of significant federal legislation and federal involvement in education began with President Eisenhower's National Defense Education Act. The National Defense Education Act (NDEA) of 1958 supplied schools with funds t]o improve academic achievement in mathematics, science, and literacy, and to encourage students to pursue

post-secondary education (Johanningmeier, 2010; McGuinn, 2016; Steeves et al., 2009; Wallender, 2014).

Elementary and Secondary Education Act – 1965. The Civil Rights movement of the 1960's briefly shifted the focus from educating students to compete in a global economy to providing equal access to education and educational materials (Steeves et al., 2009). In 1965, President Johnson enacted the Elementary and Secondary Education Act (ESEA) which sought to end segregation in schools and provide funds through Title I to bolster those schools serving low income and special education populations (Johanningmeier, 2010; Liu, 2018; Wallender, 2014). This act was monumental in education because it signified a major change in the federal government's involvement in education as educating K-12 students was primarily the state government's job. ESEA is also still in effect at the time of this publication after being reauthorized and/or renamed 42 times (Hauptli & Cohen-Vogel, 2013; Gross & Hill, 2016; McGuinn, 2016; Sharp, 2016).

A Nation at Risk – 1983. On October 17th, 1979, President Jimmy Carter signed a bill that officially established the Department of Education as a separate entity. By 1981, President Ronald Reagan was in office and unsupportive of the Department of Education (Johanningmeier, 2010). In an effort to abolish the Department of Education, he asked Secretary of Education Terrell Bell to review the nation's K-12 academic achievement. To accomplish this, the National Commission on Excellence in Education was given the task to report on whether the nation's K-12 students were able to compete with their foreign peers (Johanningmeier, 2010).

By 1983, the National Commission on Excellence in Education had completed its research which it presented in a report named "A Nation at Risk." It was then presented to President Reagan who in turn presented it to the public. In "A Nation at Risk," the commission

reported that all of the gains made in education after Sputnik had been lost (Harris & Miller, 2005; Johanningmeier, 2010). According to the report, American students' test scores typically came in last when compared to their peers in seven other industrialized countries. Scores on standardized tests like the SAT had significantly dropped to below what they were before the launching of Sputnik (Steeves et al., 2009). Gifted students were not being challenged to work to their ability and enrollment into remedial classes had increased (Heise, 2006; Johanningmeier, 2010). The findings on literacy in the United States were also highlighted. According to the report, "Some 23 million American adults are functionally illiterate by the simplest tests of every day reading, writing, and comprehension… About 13 percent of all 17-year-olds in the United States can be considered functionally illiterate. Functional illiteracy among minority youth may run as high as 40 percent" (National Commission on Excellence in Education, 1983, Nation at Risk section).

President Reagan, feeling the federal government was overreaching through the Department of Education, felt the solution lie in returning control to the states in educating its students (Peterson, 2016). Subsequently, the Elementary and Secondary Education Act was amended to loosen restrictions on how states could utilize federal funds provided through Title I (Gross & Hill, 2016; Liu, 2008). The need to improve literacy skills meant a need to identify best or effective practices as a way for states to develop and implement content standards and assessments that would lead to increased literacy rates that would prepare students for a post-secondary education (Heise, 2006; T. Shanahan, 2015; Steeves et al., 2009). This in turn would lead to students better equipped to handle the rigor of college and increase graduation rates. These college graduates would support the United States in leading the world in technological

advancements that would both defend the country and allow the U.S. to compete in the global economy (T. Shanahan, 2015).

With the "Nation at Risk" emphasizing the need for identifying "best practices" in teaching literacy, President Reagan identified a need for educational institutions to focus on equity and equality – an amalgamation of NDEA's excellence focus and ESEA's focus on equality (Heise, 2006; Sharp, 2016).

Goals 2000 Educate America Act. In 1994, President Bill Clinton signed the Goals 2000 Educate America Act in March and reauthorized the Elementary and Secondary Education Act in October. The Goals 2000: Educate America Act was the federal government's way of holding states accountable for the academic achievement of its students. To do this, the act provided funding to help states create and adopt content standards, assessments, and accountability systems (Superfine, 2005). The reauthorization of the Elementary and Secondary Education Act following Goals 2000 allowed the federal government to require states to develop standards, assessments, and accountability systems as a condition to receiving Title I funding (Gross & Hill, 2016).

Reading Excellence Act of 1998. The Reading Excellence Act of 1998 brought continued attention to "best practices," specifically to reading instruction, and called for scientifically research based practices and interventions in reading for grades K-3 (Hauptli & Cohen-Vogel, 2013; Pennycuff, 2007; R. Slavin, 2008). Scientifically based research was defined as practices, "supported by studies using systematic methods, rigorous data analyses, valid and reliable measures, and peer-reviewed publications" (Congressional Research Service [CRS], 1997; Mesmer & Karchmer, 2003; Pennycuff, 2007). In addition to the adoption of

scientifically based research reading practices, state and local standards were introduced along with accountability systems and standardized assessments.

National Reading Panel Report 1997 – 2000. In 1997, the National Reading Panel was formed by congress to identify "best practices" in teaching reading skills based on evidence. The "reading wars" or debate over how to best teach reading, up until this point, was often over methods, programs, and interventions endorsed by educational experts and companies (T. Shanahan, 2003).

The subjectivity in determining "best practices" in reading led educators, politicians, and the public in general, to look to the medical field for a model on how "best practices" were identified (Hale et al., 2017). In the medical field, a practice, treatment, or medication wasn't termed a "best practice" unless there was empirical evidence from scientific, quantitative randomized controlled studies (R. Slavin, 2008). The medical field often used science and research to diagnose and treat patients with a variety of maladies. In order to treat a patient, doctors and other medical practitioners look to science and research studies to identify those therapies, treatments, and medications that have been proven as effective aka "best practice" (Haecker et al., 2017). New medications alone typically go through clinical trials for 10 to 15 years before being approved for widespread use (Wrigley, 2018). These clinical trials give doctors and medical professionals information about the safety, effectiveness, and side effects of medications. Medication, treatments, and therapies are all approved based off this long-term, evidence-based research.

Educators and politicians recognized the significance of how the medical field identified their "best practices" through scientifically based research and sought to apply the same standard to education (Haecker et al., 2018). Identifying practices and interventions based on quantitative

scientific research, like the medical field, meant identifying practices that were proven at being effective in classrooms (O'Keeffe et al., 2012).

The National Reading Panel's goal was to identify "best practices" in reading instruction. The National Reading Panel, in following suit with the medical field, determined that the "best practices" in developing essential reading skills and instruction would be through quantitative research. The term "best practice" was effectively replaced with "scientifically-based" practice to reflect this change (National Reading Panel (U.S.) & National Institute of Child Health and Human Development (U.S.), 2000; O'Keeffe et al., 2011).

The National Reading Panel, which was comprised of 14 researchers and educators, examined the research and released its report on scientifically-research based reading instruction. In its report "Teaching Children to Read" in April 2000, the National Reading Panel identified skills that children must learn in order to become successful readers, which was all based on scientifically-based research: phonemic awareness, phonics, fluency, comprehension, and vocabulary (National Reading Panel (U.S.) & National Institute of Child Health and Human Development (U.S.), 2000). Review of scientifically-based research identified phonemic awareness, phonics, fluency, comprehension, and vocabulary, as critical skills needed to become a successful reader. Using only quantitative randomized control studies, the panel identified research-based instructional practices to effectively educate young readers into becoming proficient readers: phonemic awareness, phonics, fluency, comprehension, and vocabulary (Coffee et al., 2014; T. Shanahan., 2003; R. Slavin., 2008). This was the first time research was used to identify scientifically-based practices in reading instruction and became the foundation for President Bush's reauthorization of ESEA, known as No Child Left Behind, which included the Reading First initiative (Shanahan T. , 2003).

No Child Left Behind 2001. In 2001, President Bush, Jr. effectively reauthorized ESEA under the new title No Child Left Behind using the National Reading Panel's report as a foundation for Reading First. Reading First was a program mandated by NCLB that required schools receiving Title I funding to use scientifically-based reading programs (Smith, 2003). The involvement of the federal government in the education of students was again increased through the No Child Left Behind Act as it forced states to develop state standards, adopt high risk standardized tests, identify schools at risk or in need of improvement, placed stipulations on spending of federal funds, and established accountability systems that reported math and reading scores (Heise, 2006; Wallender, 2014). Under NCLB, states were required to use scientifically-based reading programs in order to receive Title I funding.

The reauthorization of ESEA in 2001 by President Bush, Jr., known as No Child Left Behind (NCLB), acknowledged the importance of referring to "best practices" as "scientifically-based practice" 117 times (Liston et al., 2007). It defined scientifically-based research as "…research that involves the application, of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education and activities" (No Child Left Behind, 2002, p. 126). What wasn't specifically defined was the objective procedures for obtaining reliability and validity (Barger-Anderson et al., 2004; Hitchcock et al., 2014; Maggin, 2015).

The No Child Left Behind Act of 2002 recognized the importance of using research to select effective reading practices and programs based in science enough to mention scientifically-based research more than 100 times. No Child Left Behind (2002) also defined a practice as being "scientifically-based" as "…using experimental or quasi-experimental designs in which individuals, entities, programs, or activities are assigned to different conditions and with appropriate controls to evaluate the effects of the condition of interest, with a preference for

random-assignment experiments, or other designs to the extent that those designs contain within-condition or across-condition controls" (p. 541). The experimental, quasi-experimental, and randomly assigned experiments are examples of quantitative research where results are based on objective scientific data (Trybus, 2007).

Concerns over the preference for randomly assigned studies arose. Randomized controlled studies tend to be more difficult in education due to the fact that it's usually a select group of students who are in need of a reading intervention and therefore cannot be randomly assigned unless the intervention is being taught by a different instructor than the control group (Barger-Anderson et al., 2004). Validity of the results then comes into question since the teachers and teaching styles become a variable and a possible reason for the findings. This leads to questioning whether it was the intervention or the teaching style that led to the rise in academic achievement scores in the randomized or controlled group (Liston et al., 2007). The validity of the results undermines the reliability of the program and whether generalization can occur. With education being a field in which human behaviors and cognitive concerns were being observed and addressed, there was a lack in rigorous, objective data in *quantitative* studies (Hitchcock et al., 2014; Maggin, 2015; O'Keeffe et al., 2012).

No Child Left Behind (2002) specified that in order for research to be considered scientifically based research it had to be rigorous, valid, generalizable, and be accepted by a peer-reviewed journal or panel of experts using a scientific review (No Child Left Behind, 2002). It did not recognize qualitative research as being scientifically based research as it was too subjective, thus seen as lacking in reliability. With education being a field where the focus is on improving behaviors and academic achievement, observations through qualitative research tended to be more prevalent. Many experts in the field argued that while quantitative research

was important in identifying successful reading programs, qualitative data could expand on that information in providing that subjective findings (Almasi et al., 2006; T. Shanahan, 2003).

Identifying reading practices based on scientifically based programs led several companies and experts to develop software and/or online search tools leading educators to evidence-based practices (Anderson et al., 2010). These resources included: The University of Missouri's Evidence-Based Intervention Network (EBI), John Hopkins University's Best Evidence Encyclopedia (BEE), Promising Practices, RAND Corporation's Promising Practices, Comprehensive School Reform Quality Center (CSRQ), Campbell Collaboration (C2), and the Britain's Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) (R. Slavin, 2008; Torres et al., 2012). The term evidence-based meant that a practice was founded on research, but how that research was determined as being based on evidence, varied. The most comprehensive resource for finding scientifically based research practices would be the United States Department of Education's What Works Clearinghouse (WWC) (O'Keeffe et al., 2012).

Education Sciences Reform Act. In November of 2002, the Education Sciences Reform Act was signed by President Bush. This act established the Institute of Education Sciences (IES) within the Department of Education. The purpose of the IES was to establish a nonpartisan group that would provide the public, politicians, and educators with research on evidence-based practices, statistics on NAEP (National Assessment of Educational Progress) scores of K-12 students in the U.S., fund research and studies, offer professional development on in statistics and research in education, and evaluate federal education programs and policies (U.S. Department of Education, 2018). From the IES, the What Works Clearinghouse was established to review and identify scientifically based research that supported the use of effective practices,

practices that were later called evidence-based practices. Once scientifically-based research was identified, the strength of the studies would earn a particular practice or program a rating of either negative effectiveness, potentially negative effectiveness, no discernible effectiveness, potentially positive effectiveness, and positive effectiveness (O'Keeffe et al., 2012; Smith, 2003). These effectiveness levels were then correlated to one or more of the reading skills needed to be a good reader as determined by the National Reading Panel's Report in 2000. Considered to be more comprehensive and strict in its requirements for identifying scientifically-based research, the What Works Clearinghouse became the largest go-to resource for identifying evidence-based practices in education (Hitchcock et al., 2014).

Every Student Succeeds Act 2015. The No Child Left Behind Act of 2002 continued until 2015 when President Barack Obama successfully reauthorized ESEA at the end of his second term. The reauthorization effectively changed the name from No Child Left Behind (NCLB) to the Every Student Succeeds Act (ESSA). One major difference between the two acts was the reduction of information, strict requirements for school improvement, and the near elimination of the term "scientifically based research." Eliminating the term "scientifically based research" did not diminish the importance or need for using scientifically based research practices. The importance of using practices that were proven as being effective through research was still supported (Herman et al., 2016; Penuel et al, 2017). However, the Every Student Succeeds Act (2015) also recognized that the lack of actual research meeting the strict randomized controlled and quasi-experimental criteria of "scientifically based research" in educational practices resulted in very few practices being identified and supported by research from which states could draw from (Ellis, 2007; Gamse et al., 2008; R. Slavin, 2015). The Every Student Succeeds Act (2015) recognized that quantitative research was still in its infancy and in

need of time to develop. It also recognized that although scientifically based research through randomized controlled studies was the preferred method, it was not the only method that could provide evidence to the effectiveness of a program (Dudley-Marling, 2005; Herman et al., 2016). Through No Child Left Behind (2002), research providing evidence to the effectiveness of a program was either good or it wasn't. The opposite is true with Every Student Succeeds Act (2015); it recognizes that there is a lack of research in the educational field, yet still identifies randomized controlled studies as the standard, but still wants to encourage the use of innovative and promising programs (Gross & Hill, 2016). Instead of a yes or no system through No Child Left Behind (2002), Every Student Succeeds Act (2015) created a tiered system in which a program would fall under one of four tiers based off of the research or evidence available (Herman et al., 2016). The term scientifically based research was not accurate to fit this tiered system, so Every Student Succeeds Act (2015) chose to replace the term "scientifically based" with "evidence-based" (Herman et al., 2016). The term "evidence-based" reinforces the idea that a program being adopted by a school should be supported by evidence provided through research studies or aid in providing research findings on a promising practice.

Evidence-based programs was defined through Every Student Succeeds Act (2015) as: "…an activity, strategy, or intervention that—(i) demonstrates a statistically significant effect on improving student outcomes or other relevant out-comes based on—(I) strong evidence from at least 1 well-designed and well-implemented experimental study; (II) moderate evidence from at least 1 well-designed and well-implemented quasi-experimental study; or (III) promising evidence from at least 1 well-designed and well-implemented correlational study with statistical controls for selection bias; or (ii)(I) demonstrates a rationale based on high-quality research findings or positive evaluation that such activity, strategy, or intervention is likely to improve student

outcomes or other relevant outcomes; and (II) includes ongoing efforts to examine the effects of such activity, strategy, or intervention" (p. 290). Tiers one and two match the requirements set forth through NCLB in that at tier one (the strongest level of evidence) includes randomized controlled studies and tier two includes programs supported by moderate or quasi-experimental studies. Tiers three and four are really where scientifically based research shifts to evidence-based because these programs are supported by research that was not accepted as evidence by NCLB (Every Student Succeeds Act, 2015; Herman et al., 2016). Tier three includes "promising" or correctional studies as evidence to support the use of a program. Tier four includes programs that show a rationale for using them in the K-12 classrooms. There needs to be a strong reason for using a tier four program, and it is strongly encouraged that the program be assessed and studied in order to add information the educational field. Tier four is also where school districts can add information, conduct their own studies, and share what they have learned about a particular program. They can add to the field of educational research, which is in need (Every Student Succeeds Act, 2015).

Due to the vague nature of the term "best practices," and with the medical field's process in mind, the term "scientifically based research" and "evidence-based research" became more accurate terms to identify best practices in education. The term "evidence-based research" will be used in this study to reflect current trends in educational research (O'Keeffe, Slocum, Burlingame, Snyder, & Bundock, 2012).

With the change of terminology and requirements for supported programs in the Every Student Succeeds Act (2015), the What Works Clearinghouse too had to change. The What Works Clearinghouse has remained as a resource for reviewing, identifying, and supplying research on educational programs (Penuel, et al., 2017). Although the Every Student Succeeds

Act (2015) changed the criteria for evidence-based programs, the WWC still reports programs through its levels of effectiveness (Herman et al., 2016). Furthermore, the What Works Clearinghouse still continues to only review randomized controlled studies and quasi-experimental studies to base their effectiveness levels. In regards to literacy, the What Works Clearinghouse reviews programs in regards to their effectiveness in promoting the reading skills identified by the National Reading Panel, so major changes to What Works Clearinghouse were not made due to the passage of Every Student Succeeds Act (2015) (U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, 2018; Sparks, 2016).

There were several other changes that were made with Every Student Succeeds Act (2015). Under ESSA, only schools in improvement, the schools with the lowest 5% of performing students in the state or schools where 33% or less of high school students graduate, were required through Title I funding to adopt and implement an evidence-based program (Liu, 2008; Sharp, 2016; Ujifusa, 2017). Schools that were not in improvement were allowed to receive federal funding, including Title I funding and federal grants, through a point system that included receiving points based on attendance rates, graduation rates, adoption of state standards or common core standards, and adopting an evidence-based program (Liu, 2008; McGuinn, 2016). Reading and math continue to be a major focus when it comes to adopting an evidence-based program, so when a school is looking for funding in adopting and implementing a new reading or math program, taking one from tier one or two will earn more points towards funding.

As a requirement through the Every Student Succeeds Act (2015), state education agencies must submit a plan identifying goals; implementing standards and assessments; developing accountability systems; administering, implementing, and overseeing state and

federal funding programs; and involving stakeholders (Weiss & McGuinn, 2016). Although ESSA retains many of NCLB's features, it does loosen the requirements on Title I funding (Herman et al., 2016).

Knowledge, Use, and Attitudes of Educational Research

The Department of Education's Institute of Education Sciences (IES) was created to further the creation and use of research to aid in making informed educational choices, including reading programs. Funded by the IES, the National Center for Research in Policy and Practice (NCRPP) created a study titled "National Study on Research Use Among School and District Curriculum directors" that investigated school and district curriculum directors' knowledge, use, and attitudes toward educational research (Penuel et al., 2016). According to Penuel, et al. (2016), the purpose was "Developing knowledge about when curriculum directors seek out research, where curriculum directors find it, and the purposes for which they use it is critical if education research is to inform policy and practice. Such knowledge is especially important for supporting efforts focused on evidence-based policymaking at the local level" (p. 5). Federal legislation has provided funding to support entities like IES and the What Works Clearinghouse to aid educators and state/district curriculum directors in finding research that is scientifically based with the intention that research will be made more readily accessible to educators and school leaders when making instructional, policy, and program decisions (Davidson & Nowicki, 2012; Penuel et al., 2016; Penuel, et al., 2017).

Curriculum Directors' Knowledge of Research. The National Center for Research in Policy and Practice (NCRPP) reported that school and district leaders' knowledge of research methodology varied greatly with less than half of leaders being able to identify random assignment, threats to internal validity, and case studies. However, the majority were able to

understand purposeful sampling in qualitative research and how to interpret effect sizes. Curriculum directors' knowledge of quantitative and qualitative research is an important factor in whether or not the research is utilized effectively or utilized at all.

In Nelson and Macheck's (2007) study, school psychologists responsible for assessing students for reading disabilities and placement in special education rated their knowledge of evidence-based reading programs as being low, an issue that could lead to incorrect placement, diminished fidelity within a reading program, and/or missing out on adopting more appropriate reading programs (Nelson & Machek, 2007; Haecker, Lane, & Zientek, 2017). Davidson and Nowicki (2012) found that lack of knowledge led to "inadequate dissemination of research" which diminishes the power of the research and its effectiveness in the classroom (p. 338). Louis et al. (2005) found when curriculum directors were able to disseminate research and make sense of it for staff, teachers' attitudes towards research greatly improved leading to more implementation and use of a reading strategy or program. Having and using educational research also leads to a culture of research use within their districts (Anderson et al., 2010).

A barrier to using educational research is curriculum directors' lack of knowledge of terminology and statistics used in research (Davidson & Nowicki, 2012). This could lead to effective research being misused, affecting the fidelity and overall effectiveness of a program. It could also keep curriculum directors from utilizing research because the amount of time it would take to disseminate the information and make it applicable for their schools or districts would be too great (Commeyras & Degroff, 1998; Davidson & Nowicki, 2012). When reading research becomes an issue, leaders may seek out curriculum companies and experts who may be biased in interpreting or conducting research. According to Haecker et al. (2017) "A working knowledge

and confidence in statistics [i.e., statistics self-efficacy) among school district administrators may be essential to avoid blind reliance on manufacturers' claims" (p. 863).

Curriculum Directors' Use of Research. The National Center for Research in Policy and Practice reported in their findings that school and district leaders responsible for the selection of reading programs were more likely to use research in creating professional development for educators than in the selection of reading programs. In fact, using research to select and support the adoption of a reading program was reported as the least common reason for using research in their building or district (Penuel et al., 2016). School and district leaders reported using research more to support and defend those reading programs that had already been established within their buildings and/or district. Similarly, teachers were more likely to read literature not founded on rigorous research, that provided activities and lessons (Commeyras & Degroff, 1998). They were also less likely to use evidence-based research in selecting reading programs. School and district leaders were also far less likely to use research to re-evaluate, eliminate, or adopt evidence-based programs, interventions, and policies (Penuel et al., 2016). They were also less likely to use research to discover new ideas or programs even though they had positive attitudes towards doing so (Davidson & Nowicki, 2012; Penuel et al., 2016).

When it came time to identify types of research used, school and district leaders most often identified books as research (58%), followed by research or policy reports (17%), and peer-reviewed journal articles (14%), research-based tools or programs (6%), educator magazines (4%), online media (1%), and dissertations (1%). Without knowing the specific titles or types of books used as research, it cannot be inferred that those resources included evidence-based research. It is possible that those books used as "research" could have information based on educational curriculum/textbook company's marketing propaganda, experts in the fielding

sharing their opinions and experiences that may or may not be supported by research, etc. (Greenlaw et al., 1973; Penuel et al., 2016).

The NCRPP's report also indicated that school and district leaders accessed research through their professional organizations, by attending professional conferences, and through people in other districts (Commeyras & Degroff, 1998). It was found that curriculum directors were less likely to use the federal government's funded programs: What Works Clearinghouse, National Center for Education Statistics, and Regional Education Laboratories. Specifically, in regards to the What Works Clearinghouse, 57% of curriculum directors said they either never (37%) used it or rarely (20%) used the federal program for identifying research (Penuel et al., 2016).

Curriculum Directors' Attitude Towards Research. A positive attitude towards educational research is likely to increase the curriculum directors' intrinsic motivation and interest in accessing and using educational research when adopting new, evidence-based reading programs (Commeyras & Degroff, 1998). The NCRPP found that most school and district leaders found educational research and researchers to be important and relevant to education. The positive attitude towards research was only minimized by leaders' concern over the time lapse between research findings being published and when they were utilized. The idea that research has an expiration date was a concern for school and district leaders. The study also reported an overwhelming positive response to the value of research to improve educational outcomes, help make decisions, identify solutions, change minds, and aid teachers. Of the curriculum directors surveyed, 99% felt that education research wasn't a waste of money (Penuel, et al., 2016). Davidson and Nowicki (2012) also found in their study that curriculum directors, specifically administrators and specialized teachers, had a positive attitude towards

research, more so than general teachers in the classroom. Although school and district leaders were reported to have a positive attitude as to the value and credibility of educational research, Davidson and Nowicki (2012) discovered that curriculum directors did not feel that teachers felt similarly towards educational research. Curriculum directors surveyed shared that they felt teachers were not as likely or comfortable with both finding research and in using it. Despite the reported positive attitude held by school and district leaders in regards towards educational research, there remains a discrepancy between their attitudes towards educational research and their use of it (Davidson & Nowicki, 2012; O'Keeffe et al., 2012; Penuel et al., 2016).

While leaders were primarily found to have positive attitudes towards research, the issue of quality and relevancy was not as positive. Penuel et al. (2016) found that leaders felt that researchers could be biased. Whereas Davidson and Nowicki (2012) found that an issue of quality was whether or not a study could be replicated based on the population of the study.

Evidence-Based Reading Programs

The What Works Clearinghouse places reading programs into categories based on their evidence of effectiveness: positive or potentially positive, mixed effects, no discernible effect, potentially negative, and negative (U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, 2018). There are reading programs designed for elementary (Kindergarten – 5th grade), middle (6th – 8th grade), and high school (9th – 12th) grade levels. Some reading programs are targeted specifically for one of the three levels, while others may cover grade levels in both elementary and middle school or middle and high school. For the purpose of this study, reading programs serving preschool and high school grade levels exclusively have been excluded in order to focus on elementary and middle school programs. Reading programs falling in the "no evidence" category

will be listed but not reviewed as they do not currently have evidence to support their effectiveness in the classroom, thus not making them an evidence-based program (Sparks, 2016). Reading programs targeting English language learners are also excluded. A brief description of each K-5 evidence-based reading program identified by the What Works Clearinghouse can be found in Appendix A.

Organization of the Study

Chapter two provided a review of relevant literature and research associated with the history of evidence-based practices (best practices); curriculum directors' knowledge, use, and attitudes towards research; and a review of evidence-based reading programs that have been identified as having a positive, or potentially positive, effect on a reading skill or skills through the What Works Clearinghouse. Chapter three will include a discussion of the methodology and procedures used for the collection of data. The findings of the study and the results of analysis will be discussed in chapter four. Chapter five will address the summary of the study and the findings, conclusions drawn from the findings, a discussion, and recommendations for further study and practice.

CHAPTER 3

Methodology

This chapter provides a discussion of the methods and procedures used to investigate how K-5 curriculum directors identify and adopt evidence-based reading programs by analyzing their knowledge, use, and attitudes towards research and whether their educational background influences this. This chapter includes a description of the methodology used for the review of related literature, the research design, the process for identifying participants, a description of how the survey was developed, and the proedures for data collection and analysis.

For the study, nonexperimental, quantitative survey research methods will be used to present the data. To obtain data, K-5 curriculum directors were surveyed using an online surey. Dillman's tailored design method was utilized to design this survey to minimize survey errors and increase response rates (Dillman et al., 2014).

Research Questions

The study will be guided by the following research questions:

1. To what extent are K-5 curriculum directors knowledgeable with evidence-based reading programs?
2. To what extent do K-5 curriculum directors use research and evidence-based reading programs?
3. What are K-5 curriculum directors' attitudes towards reading research and evidence-based reading programs?
4. What differences are there in K-5 curriculum directors' knowledge, use, and attitude of research and evidence-based reading programs based on their level of education?

Review of Related Literature

The resources used in the literature search are from the Educational Resources Information Center (ERIC), Education Research Complete, PsychoINFO, EBSCO-Host on I.D. Weeks Library System, What Works Clearinghouse, U.S. Department of Education – Institute of Education Sciences, Regional Education Laboratories, Other resources used are government documents on educational laws, the What Works Clearinghouse, and the Internet. These resources were obtained from the I.D. Weeks Library at the University of South Dakota.

Population

The population for this study consisted of K-5 curriculum directors of public schools in large districts throughout the Upper Midwest. Curriculum directors were defined as educational professionals responsible for overseeing and coordinating the development, implementation, and evaluation of educational curriculum within a school district. Curriculum directors were surveyed for this study because they make the majority of decisions in the selection and adoption of reading programs. Upper Midwest school districts were selected based on their geographical location (Iowa, Minnesota, Nebraska, and South Dakota) and similar population size of 15,000 or more students during the 2022 – 2023 academic school year.

Research Design

A tailored design, cross-sectional survey research method was used to examine the knowledge, use, and attitudes towards research and evidence-based reading programs among K-5 curriculum directors of large districts in the Upper Midwest. Survey data was also used to determine if curriculum directors' experiences, education, and demographics impacted their knowledge, use, and attitudes of research and evidence-based reading programs. The researcher consulted the book, *Internet, Phone, and Mail, and Mixed-Mode Surveys: The Tailored Design*

Method (Dillman et al., 2014) to design questions to assist in the understanding of the questions and encourage completion of the survey. The study examined any differences between knowledge, use, and attitudes towards research and evidence-based reading programs based on curriculum directors' level of education. Data from the survey was collected during the 2022-2023 school year.

Instrumentation

A seventeen-item survey was created by the researcher based upon a review of relevant research used. There were six research studies used to develop parts of the survey instrument. The items on the survey instrument were primarily taken from the research provided by Penuel et al. (2016) and Strecker (2018) with their permission. This research purpose is to build on their research in regards to large districts in the Upper Midwest with a focus on curriculum directors.

The National Center for Research in Policy and Practice created and conducted a survey in which curriculum directors were asked how they accessed educational research, as well as, their attitudes, knowledge, and use of such research. Penuel et al. (2016) surveyed school and district curriculum directors from large school districts across the United States. With the increased demands placed on curriculum directors to select, adopt, and implement evidence-based programs through the Every Student Succeeds Act (2015), they sought to understand how school and district leaders were responding to these demands. Penuel et al. (2016) hypothesized that curriculum directors' attitudes and knowledge of research would affect their use of educational research when selecting evidence-based programs. The survey also included several items that looked at how curriculum directors accessed research, with specific items referring to how often they used federally funded programs like the What Works Clearinghouse, Regional Educational Laboratories (REL), and the National Center for Education Statistics. The current

survey used several of the response items from the Penuel et al. survey with the specific reference to how often and to what extent educational research was accessed and the attitudes, knowledge, and use of educational research.

Zalud et al. (1992) conducted a survey of reading programs and practices used in South Dakota school districts and the theoretical orientation of the teachers utilizing those programs and practices. The survey asked participants to identify the reading programs being used in their district. The current study modified this question to address school and district curriculum directors and programs listed were changed to evidence-based reading programs identified by the What Works Clearinghouse.

Strecker (2018) conducted a survey of K-6 Nebraska educators on their knowledge, use, and perceptions of research-proven reading programs and practices. The survey asked participants to identify their roles within their districts, years of experience, and level education prior to answering questions regarding their knowledge, use, and perceptions of research and research-proven programs. The current study used and/or modified questions from this study addressing roles, years of experience, education levels, and understanding of NCLB.

Haecker et al. (2017) conducted a survey of school leaders with the capacity to make decisions and use federal funds to purchase programs in the state of Texas. School leaders were surveyed to see how their knowledge, attitude, and use of research impacted their decisions when adopting, replacing, or supporting an evidence-based program as prescribed by Every Student Succeeds Act (2015). The question relating to the extent to which respondents agree or disagree about their abilities to identify and access reading research was used in this survey and appears as item number ten.

Anderson et al. (2010) conducted a survey in which principals and teachers were asked how they used data and research in making decisions and what they felt were limitations in doing so. Specifically, principals were questioned on how they used data and research to make decisions, how they shared that information with teachers, and how they encouraged teachers to do the same. Teachers, on the other hand, were asked how they felt those principals did in encouraging them to use data when making educational decisions. No questions were taken from this study as many of the questions applicable to the current study were already found in other research studies used to create the current instrument.

Commeyras and DeGroff (1998) conducted a survey on literacy professionals' perspectives on professional development and pedagogy. One focus of the study was on how literacy professionals' perceptions, familiarity (knowledge), and use of research and correlating that with the professionals' years of experience, education, and role within the district. No questions were taken from this study as many of the questions applicable to the current study were already found in the other research studies used to create the current survey. However, the current survey includes demographic questions relating to education for correlational analysis as it was used in this study.

Nelson and Macheck (2007) conducted a survey amongst school psychologists to see if their age, education, and years of experience correlated with their use, knowledge, and perception of evidence-based reading programs and research, specifically in identifying reading disabilities and reading interventions.

Other researcher-created items were included in the current study. A copy of the survey is in Appendix B.

Table 1

Matrix of Survey Items to Related Source

Related Source	Survey Item(s)
Commeryas and DeGroff (1998)	1-3
Haecker et al. (2017)	10
Penuel et al (2016)	4, 5, 8, 13-15
Strecker (2018)	7, 11-12
Zalud et al. (1992)	6, 9

The survey for this study is comprised of 17 survey items. Items 1-4 asked basic demographic questions such as their highest level of education (bachelor's degree, master's degree, specialist's degree, or doctoral degree), area of study of highest completed degree (Curriculum and Instruction, Educational Administration, Elementary Education, and Special Education), years of experience (1-5, 6-10, 11-15, or 15+), and if they are a decision maker when adopting new programs (yes or no).

Items 5-8 asked questions concerning curriculum directors' use of research and evidence-based reading programs in their districts. Item 5 asked directors to identify how often (never, sometimes, frequently, all of the time, not applicable) they used research for a particular activity (conducted a major adoption of curriculum materials, considered purchasing a particular intervention or program targeted at a specific student population [e.g. low-achieving students], considered scaling up a pilot program, redesigned a program, designed professional development for school and district curriculum directors, considered eliminating a program or policy, considered directing new or additional resources [funds and/or people] to a particular program). Item 6 asked curriculum directors to identify reading practices, programs, or interventions currently within their district. Item 7 asked curriculum directors how often they were called upon to read evidence-based reading research in their job (never, occasionally, often, all of the time). Item 8 asked curriculum directors identify how often (never, rarely, sometimes, often, all of the

time) they sought out or acquired research in the past twelve months from the following resources: professional associations; university contacts and/or courses; academic journals; professional books; professional development; within their districts or schools (specialized teachers, other teachers, staff meetings, administration, literacy coaches); other disciplines or consultants (speech and language pathologist, psychologist, school board consultants); Regional Education Laboratories; South Dakota Board of Education; National Center for Education Statistics (NCES); Professionals in other school districts; What Works Clearinghouse; Social media (Twitter, Facebook, other); Newspapers or magazines; curriculum / textbook vendors; and Wikipedia.

Items 9-13 ask questions relating to curriculum directors' knowledge of research, evidence-based reading programs, and resources. Item 9 asks curriculum directors to identify which evidence-based reading practices, programs, or interventions they are familiar with and how familiar (very familiar, somewhat familiar, not familiar) they are with each one. Item 10 asks curriculum directors to identify to what extent they would agree (strongly disagree, disagree, neutral, agree, strongly agree) with the following statements relating to their knowledge of research: when reading research studies I can differentiate strong from weak evidence, I can identify an effective program by analyzing the published research, I know I am capable of evaluating the quality of research, I know how to locate research on programs I want to implement, I feel confident in reading evidence-based reading research, my professional preparation trained me to read evidence-based reading research, it is easy to access evidence-based reading research. Items 11-12 ask curriculum directors questions relating to their knowledge of evidence-based research. Item 13 asks curriculum directors to rate how familiar (very familiar, somewhat familiar, not familiar) they are with the What Works Clearinghouse.

Items 14-17 ask questions relating to curriculum directors' attitudes towards research. Item 14 asks curriculum directors to answer to what extent they agree (strongly disagree, disagree, neutral, agree, strongly agree) with the following statements relating to research: research helps identify solutions to problems facing schools; there is a disconnect between the research world and the educational world; research addresses questions that help us make better decisions about schools; when confronted with a new problem or decision, it is valuable to speak with education researchers; education research is too narrow to be useful to district and school curriculum directors; education researchers work in an ivory tower and are isolated from practice; by the time research findings are published, they are no longer useful to me; research can address practical problems facing schools; researchers provide a valuable service to education practitioners; and education researchers are unbiased. Item 15 also asks curriculum directors to answer to what extent they agree (strongly disagree, disagree, neutral, agree, and strongly agree) with the following statements: education research is a waste of money; education research provides results that can help curriculum directors improve educational outcomes; the claims that research studies make are trustworthy; education research can support any opinion; education research is generally conducted to improve the careers of researchers, not to improve schools; a well-designed study with strong findings can change people's minds; researchers frame their results to make political points; I can find evidence to contradict the findings of any education research study. Item 16 asks curriculum directors to rate how practical (useful) they feel evidence-based reading research is (not practical at all, not very practical, somewhat practical, very practical). Item 17 asks curriculum directors how applicable (relevant and appropriate) they felt evidence-based reading research is (not applicable at all, not very applicable, somewhat applicable, very applicable).

The survey instrument included closed-ended, selected response questions to gather school and district curriculum directors' knowledge, use, and attitudes towards research and evidence-based reading programs. Scaled questions to gather information were also used.

Table 2

Matrix of Research Questions to Survey Items

Research Questions	Items
1 Demographics	1-4
2 Use of research and evidence-based reading programs	5-8
3 Knowledge of research and evidence-based reading programs	9-13
4 Attitudes towards research and evidence-based reading programs	14-17

Data Collection

Prior to the collection of data, the survey questions were reviewed and evaluated in conjunction with the University of South Dakota's School of Education's Research Center. The researcher obtained Institutional Review Board (IRB) approval upon approval of the proposal. The survey was completed online utilizing Google Forms. The survey is in Appendix B. An email explaining the purpose of the study, directions for completing the survey, and the link to the online survey was sent to K-5 school and district curriculum directors in public school districts within the Upper Midwest and can be found in Appendix C. The email with the explanation of the survey, informed consent, and link to the survey is in Appendix D. A follow-up reminder email was sent one week after the initial email. The follow up email is in Appendix E. A final follow-up email and reminder was sent the following week and is in Appendix F.

Responses to the survey were all anonymous. Google Forms displayed survey responses in graphs and tables for analysis. The significance level of .05 was used for all statistical analyses unless otherwise noted.

Data Analysis

This study was a nonexperimental, quantitative study utilizing self-reporting through closed-ended survey questions. Descriptive statistics were used to explain the population as it relates to school and district curriculum directors' knowledge, use, and attitudes towards research when selecting evidence-based reading programs. Statistical analysis was applied to determine whether there were significant differences among respondents based on their levels of education and their knowledge, use, and attitudes of research and evidence-based reading programs. The independent variable in this analysis was directors' level of education. The dependent variables were educator knowledge, use, and attitudes of research and evidence-based reading programs. Significance was determined using a two-tailed t-test with the p value = .05.

Responses from research questions 1-3 sought to determine Upper Midwest K-5 school and district curriculum directors' knowledge, use, and attitudes towards research and evidence-based reading programs. Data from the survey was collected, presented, and analyzed using Google Forms. Descriptive statistics showed frequency, distributions of responses, and the central tendencies of the data to include the means and standard deviations. Frequency distributions were reported as percentages.

Research question 4 sought to determine if any differences exist in the Upper Midwest's K-5 curriculum directors' knowledge, use, and attitudes of research and evidence-based programs based on their level of education. For the first comparison, curriculum directors were divided into two groups according to their level of education. The first group included curriculum directors with a master's degree. The second group included curriculum directors with a post-master's degree. The significance level of .05 on a two-tailed t test was used.

Summary

Chapter 3 included a discussion of the methodology and procedures used in this study, instrumentation, and data analysis techniques. Chapter 4 includes the findings of the study and the results of the analysis. Chapter 5 includes the summary of the study and findings, conclusions drawn from the findings, discussions, and recommendations for further study and practice.

CHAPTER 4

Findings

This chapter provides the results of the data analyses and findings of this study. The chapter is organized according to the four research questions. It begins with a description of the response rate to the survey instrument followed by the demographic data of the survey participants. Next, the results of the data analyses for each of the research questions are presented in tables, including narrative descriptions of the relevant findings. Finally, a summary of the results can be found at the end of the chapter.

The purpose of this study was to investigate the knowledge, use, and attitudes of research and evidence-based reading programs and practices among K-5 curriculum directors in large districts in the Upper Midwest. The following research questions were addressed in this study:

1. To what extent are K-5 curriculum directors knowledgeable of research and evidence-based reading programs?
2. To what extent do K-5 curriculum directors use research and evidence-based reading programs?
3. What are K-5 curriculum directors' attitudes towards research and evidence-based reading programs?
4. What differences are there in K-5 curriculum directors' knowledge, use, and attitude of research and evidence-based reading programs based on their level of education?

Response Rate

The population for this study included all K-5 curriculum directors in large districts throughout the Upper Midwest. For the purpose of this study, the Upper Midwest represents Iowa, Minnesota, Nebraska, and South Dakota. Large school districts in this area were defined as having 15,000 or more students within the district. A total of 15 surveys were emailed to the K-5

curriculum directors in 15 school districts. There were eight responses to the survey, but only six completed the survey in its entirety which placed the response rate at 40%. The two incomplete survey responses were eliminated, therefore, not used in data analysis.

Demographic Data

The analysis of the demographic data revealed certain patterns within the sample of curriculum directors who responded to the survey. While the sample size was limited to six respondents, some initial insights could be drawn.

All participants (100%) held advanced degrees beyond a bachelor's degree (n = 3). Of these participants, half (50%) had degrees beyond a master's degree (n = 3). Given the limited number of responses, the researcher simplified the categories for the highest completed level of education. In terms of the highest level of education completed, participants were grouped into two categories: those with master's degrees and those with post-master's degrees, which included those with doctorates and specialist degrees.

Table 3

Survey Participant Demographic Information

Demographic Characteristic	Current Sample % (n)
Highest Level of Education	
Bachelor's Degree	0.0 (0)
Master's Degree	50 (3)
Doctoral Degree	33.3 (2)
Specialist Degree	16.7 (1)

Findings

The findings for research questions 1 – 3 are presented below in order. Research question 4 findings are presented within each section of questions 1 – 3.

Knowledge of Research. Survey questions 9 – 13 were designed to investigate the extent to which K-5 curriculum directors were familiar with research and evidence-based reading programs identified by the What Works Clearinghouse (research question 1). Survey question 9 asked participants to identify all of the evidence-based reading programs that they were familiar with (see Table 4). Of the 34 evidence-based reading programs, all (100%) of participants were familiar with the following reading programs: Accelerated Reader, Read 180, Reading Recovery, and Leveled Literacy Intervention. In contrast, programs like ClassWide Peer Tutoring, Cooperative Integrated Reading Composition (CIRC), DaisyQuest, Failure Free Reading, Lindamood Phoneme Sequencing, Reading Mastery, Sound Partners, SMART, and Waterford Early Reading Programs were unfamiliar to the participants. Achieve3000 had a 33.3% familiarity rate, while Lexia Reading, Read Naturally, and the Wilson Reading System exhibited relatively high familiarity rates (83.3%), suggesting widespread recognition. The overall percentage of participants familiar with evidence-based reading programs was 35.8% (M = 1.7).

Table 4

Familiar Reading Practices, Programs, and Interventions

Evidence-Based Reading Program/Practice/Intervention	% Very Familiar /Somewhat Familiar	% Not Familiar	*M* (SD)
Accelerated Reader	100	0	3 (0)
Achieve3000	33.3	66.7	1.7 (1.03)
ClassWide Peer Tutoring	0	100	1 (0)
Cooperative Integrated Reading Composition	0	100	1(0)
Corrective Reading	33.3	66.7	1.7 (1.03)
DaisyQuest	0	100	1 (0)
Earobics	16.7	83.3	1.3 (.82)
Early Intervention in Reading	33.3	66.7	1.7 (1.03)
Failure Free Reading	0	100	1 (0)
Fast ForWord	33.3	66.7	1.7 (1.03)
Fluency Formula Read, Write, and Type!	16.7	83.3	1.3 (.82)
Instructional Conversations & Literature Logs	16.7	83.3	1.3 (.82)
Knowledge is Power Program / KIPP	16.7	83.3	1.3 (.82)
Leveled Literacy Intervention	100	0	3 (0)
Lexia Reading	83.3	16.7	2.7 (.82)
Lindamood Phoneme Sequencing (LIPS)	50	50	2 (1.10)
Little Books	16.7	83.3	1.3 (.82)
Open Court Reading	33.3	66.7	1.7 (1.03)
Peer-Assisted Learning Strategies (PALS)	66.7	33.3	2.3 (1.03)
Read, Write, & Type	33.3	66.7	1.7 (1.03)
Read 180	100	0	3 (0)
Read Naturally	83.3	16.7	2.7 (.82)
Reading Mastery	0	100	1 (0)
Reading Plus	16.7	83.3	1.3 (.82)
Reading Recovery	100	0	3 (0)
Sound Partners	0	100	1 (0)
SpellRead	0	100	1 (0)
Start Making a Reader Today (SMART)	0	100	1 (0)
Stepping Stones to Literacy	16.7	83.3	1.3 (.82)
Success for All	66.7	33.3	2.3 (1.03)
Voyager Universal Literacy System	33.3	66.7	1.7 (1.03)
Waterford Early Reading Program	0	100	1 (0)
Wilson Reading System	83.3	16.7	2.7 (.82)

Question 10 on the survey asked participants to indicate how strongly they agreed or disagreed with statements about their knowledge on finding, analyzing, and evaluating effective evidence-based research. Out of the 7 statements, all participants (100%) either agreed or

strongly agreed that they could differentiate strong from weak evidence, identify an effective program by analyzing the published research, and felt confident in reading evidence-based reading research. Most of the participants (66.7%) indicated being capable of evaluating the quality of research (M = 3.2) agreed or strongly agreed that they felt capable of evaluating quality research. One hundred percent of the participants with post-master's degrees reported feeling more knowledgeable in being able to locate research programs in contrast to 33.3% of master's group (M = 2.3). A majority of the post-master's group (66.7%) also indicated that their professional preparation trained them for reading evidence-based reading research (M = 3) compared to 33% of the master's group (M = 2.3). A majority of participants (66.7%) indicated that they felt it was easy to access evidence-based reading research (M = 3.2) (see Table 5).

Table 5

Finding, Analyzing, and Evaluating Research

Statement	% Strongly Disagree/ Disagree	% Neutral	% Agree/ Strongly Agree	*M* (SD)
When reading research studies, I can differentiate strong from weak evidence.				
Master's Degree	0.0	0.0	100.0	4 (0)
Post-Master's Degree	0.0	0.0	100.0	4 (0)
All	0.0	0.0	100.0	4 (0)
I can identify an effective program by analyzing the published research.				
Master's Degree	0.0	0.0	100.0	4 (0)
Post-Master's Degree	0.0	0.0	100.0	4 (0)
All	0.0	0.0	100.0	4 (0)
I know I am capable of evaluating the quality of research.				
Master's Degree	0	33.3	66.7	3.3 (1.15)
Post-Master's Degree	33.3	0	66.7	3 (1.73)
All	16.7	16.7	66.7	3.2 (1.33)
I know how to locate research programs I want to implement.				
Master's Degree	33.3	33.3	33.3	2.3 (1.5)
Post-Master's Degree	0	0	100.0	4 (0)
All	16.7	16.7	66.7	3.2 (1.33)
I feel confident in reading evidence-based reading research.				
Master's Degree	0.0	0.0	100.0	4.0 (0)
Post-Master's Degree	0.0	0.0	100.0	4.0 (0)
All	0.0	0.0	100.0	4.0 (0)
My professional preparation trained me to read evidence-based reading research.				
Master's Degree	33.3	33.3	33.3	2.3 (1.5)
Post-Master's Degree	33.3	0.0	66.7	3 (1.73)
All	33.3	16.7	50	2.7 (1.51)
It is easy to access evidence-based reading research	33.3	0.0	66.7	3 (1.73)
Master's Degree	0.0	33.3	66.7	3.3 (1.15)
Post-Master's Degree	16.7	16.7	66.7	3.2 (1.33)
All				

Note: ⅑ = Strongly Disagree/Disagree; 2 = Neutral; ¾ = Agree/Strongly Agree

Question 11 on the survey asked participants to identify whether quantitative, qualitative, or both types of research were evidenced-based research; 83.3% correctly identified that both quantitative and qualitative research would be considered evidence-based research. Survey question 12 asked participants how Every Student Succeeds Act (ESSA) replacing No Child Left Behind (NCLB) impacted scientifically-based research, and 50% correctly identified that scientifically-based reading research is still a part of ESSA legislation (see Table 6).

Table 6

Curriculum Director Research Knowledge

Item	% Correct Responses (*n*)
Question 11	
Master's Degree	100 (3)
Post-Master's Degree	66.7 (3)
All	83.3 (6)
Question 12	
Master's Degree	66.7 (3)
Post-Master's Degree	33.3 (3)
All	50 (6)

Question 13 asked participants to indicate how familiar they were with the What Works Clearinghouse, and 100% of the post-master's group indicated that they were very familiar, while 33% of master's group indicated being very familiar with 66.7% being somewhat familiar ($M = 1.33$).

Use of Evidence-Based Research. Survey questions 5 – 8 were designed to investigate the extent K-5 curriculum directors use research and evidence-based reading programs (research question 2). Survey question 5 gave participants a list of tasks (adopted curriculum materials, purchased interventions, scaled up a pilot program, redesigned a program, designed professional development for teachers, considered eliminating a program or policy, and considered directing new or additional resources to a program) frequently given to curriculum directors and asked

them to rate how often they used quantitative or qualitative research to complete those tasks. Eighty percent of the participants indicated that they used research in the tasks applicable to them ($M = 3.8$). The six participants of the master's group ($M = 2.5$, $SD = .71$) compared to the six post-master's group ($M = 4$, $SD = 0$) demonstrated significantly higher use of research in their job tasks $t(4) = 3.6$, $p = .0002$ (see Table 7).

Table 7

Use of Research Frequency

Task	% Never	% Sometimes	% Frequently	% All of the Time	*M* (SD)
Adoption of curriculum materials					
Master's Degree	0.0	0.0	33.3	66.7	3.7 (.58)
Post-Master's Degree	0.0	0.0	0.0	100	4 (0)
All	0.0	0.0	16.7	83.3	3.8 (.41)
Purchasing a particular intervention or program for specific populations					
Master's Degree	0.0	0.0	50.0	50.0	3.5 (.71)
Post-Master's Degree	0.0	0.0	0.0	100.0	4 (0)
All	0.0	0.0	20.0	80.0	3.8 (.44)
Scaling up a pilot program					
Master's Degree	0.0	0.0	0.0	100.0	4 (0)
Post-Master's Degree	0.0	0.0	0.0	100.0	4 (0)
All	0.0	0.0	0.0	100.0	4 (0)
Redesigned a program					
Master's Degree	0.0	0.0	0.0	100.0	4 (0)
Post-Master's Degree	0.0	0.0	0.0	100.0	4 (0)
All	0.0	0.0	0.0	100.0	4 (0)
Designed professional development for teachers					
Master's Degree	0.0	0.0	33.3	66.7	3.7 (.58)
Post-Master's Degree	0.0	0.0	0.0	100.0	4 (0)
All	0.0	0.0	16.7	83.3	3.8 (.41)
Considered eliminating a program or policy					
Master's Degree	0.0	0.0	100.0	0.0	3 (0)
Post-Master's Degree	0.0	0.0	0.0	100.0	4 (0)
All	0.0	0.0	40.0	60.0	3.6 (.55)
Considered directing new or additional resources to a program					
Master's Degree	0.0	50.0	50.0	0.0	2.5 (.71)
Post-Master's Degree	0.0	0.0	0.0	100.0	4 (0)
All	0.0	20.0	20.0	60.0	3.4 (.89)

Survey question 6 presented participants with a roster of evidence-based reading programs endorsed by the What Works Clearinghouse and were tasked with indicating the programs implemented in their district. Out of the 35 evidence-based reading programs listed,

respondents identified seven, constituting 20% of the total, as being utilized. Notably, the breakdown indicated that 50% of participants indicated using Leveled Literacy Intervention and Wilson Reading System; 33% indicated using Lexia Reading and Read Naturally; and 17% indicated using Read 180, Reading Recovery, and Early Intervention in Reading.

Survey question 7 asked participants to indicate how often they are called upon to read evidence-based research in their current jobs (see Table 8). One hundred percent of master's degree participants indicated that they are called upon often (M =3). All participants (100%) in the post-master's group also reported being called upon to read evidence-based research in their jobs, but at varying degrees (33% occasionally, 33% often, and 33% all the time) than the master's degree group (M = 3).

Table 8

Expectation to Read Research

Item	% Never	% Occasionally	% Often	% All the Time	M (SD)
Question 7					
Master's Degree	0.0	0.0	100.0	0.0	3 (0)
Post-Master's Degree	0.0	33.3	33.3	33.3	3 (1)
All	0.0	16.7	66.7	16.7	3 (.63)

Survey question 8 asked participants where they located research information and how often they look for it. A majority of participants reported using professional associations (100%), professional books (83.3%), and What Works Clearinghouse (66.7%). All participants (100%) reported that they did not use Wikipedia at all. Participants with their master's degree (100%) reported using professional organizations often/all of the time, 66.7% used academic journals often/all of the time (M = 3.7) , and 66.7% used professional books often/all of the time (M = 3.7). The participants in the post-master's group (100%) reported using professional

organizations often/all of the time, 100% used professional books often/all of the time, 66.7% used professional development often/all of the time (M = 3.7), 100% used professional books often/all of the time (M = 4.3), and 66.7% used What Works Clearinghouse often/all of the time (M = 3.7) to locate research.

Half of the participants (50%) indicated that they never/rarely obtained information from university contacts and/or courses (M = 2.8), while those in the post-master's degree group reported a higher use (M = 3).

Participants' use of other disciplines or consultants varied. Of the master's degree group, 66.7% indicated that they never or rarely used this source while the remaining 33.3% reported sometimes using this as a source for evidence-based research (M = 2). In comparison, the post-master's group reported a more varied response where 33.3% never/rarely, 33.3% sometimes, and 33.3% often/all the time used consultants or other disciplines for evidence-based research (M = 3).

Participants reported a varied use of the Regional Education Laboratories (REL) as a resource for finding information and evidence-based research. The master's group reported a more diversified response: 33.3% utilized REL for information and research often/all the time, 33.3% sometimes used REL, and 33.3% never/rarely used REL (M = 2.7). In comparison, the post-master's group reported 66.7% sometimes utilized REL and 33.3% never/rarely utilized REL for information and research (M = 2.7).

The utilization of the State Board of Regents for information and research also varied between the master's and post-master's group. Among those in the master's degree group, 66.7% reported never/rarely using their State Board of Regents as a source, while 33.3% claimed to often/always use it (M = 2.3). In contrast, those with post-master's degrees exhibited a different

trend with 66.7% reporting sometimes using it, and the remaining 33.3% often/always using it ($M = 3.3$).

Both the master's and post-master's groups reported little to no use of the National Center for Education Statistics (NCES) with 66.7% of both groups reporting never/rarely using this source and 33.3% sometimes using this source ($M = 2.2$).

Participant responses varied in the use of professionals in other school districts. Among those with master's degrees, 66.7% reported never/rarely utilizing professionals from other districts, while 33.3% indicated often/always using them for information and research ($M = 2.7$). In comparison, participants with post-master's degrees displayed a more evenly distributed pattern with 33.3% reporting never/rarely using professionals from other districts, 33.3% sometimes using them, and the other 33.3% often/always using them ($M = 3$).

Participant responses again varied when reporting on whether or not they had used social media as a source for information and/or research and to what extent they did so. Among those with master's degrees, 33.3% reported never/rarely using social media for this purpose, while 66.7% reported sometimes using it ($M = 3.3$). In contrast, participants in the post-master's degree group showed a reverse trend, with 66.7% reporting never/rarely using social media and 33.3% often/always using it ($M = 3$).

In regards to using newspapers and magazines as a source of information, participant responses again varied. Among those with master's degrees, there was a balanced distribution with 33.3% reporting that they never/rarely used these print sources, 33.3% sometimes used them, and the remaining 33.3% often/always relied on them ($M = 3$). On the other hand, participants in the post-master's degree group exhibited a different trend with 66.7% indicating

they sometimes used these print sources and 33.3% reporting they never/rarely used them (M = 2.7).

Most participants (66.7%) reported sometimes using curriculum and textbook as a source for information and research. 100% of the participants in the master's degree group reported sometimes using curriculum/textbook vendors as a source (M = 3) while 66.7% of participants in the post-master's degree group also reported sometimes using this as a source (M = 2.7). The remaining 33.3% of the post-master's group participants reported never/rarely using this particular source for information and research (see Table 9).

Table 9

Where Curriculum Directors Obtain Information and Research

Source	% Never/Rarely	% Sometimes	% Often/All the Time	*M* (SD)
Professional associations				
Master's Degree	0.0	0.0	100.0	4 (0)
Post-Master's Degree	0.0	0.0	100.0	4 (0)
All	0.0	0.0	100.0	4 (0)
University contact and/or courses				
Master's Degree	66.7	0.0	33.3	2.7(1.2)
Post-Master's Degree	33.3	33.3	33.3	3 (1)
All	50.0	16.7	33.3	2.8 (.98)
Academic journals				
Master's Degree	0.0	33.3	66.7	3.7 (.58)
Post-Master's Degree	0.0	66.7	33.3	3.3 (.58)
All	0.0	50.0	50.0	3.5 (.55)
Professional books				
Master's Degree	0.0	33.3	66.7	3.7 (.58)
Post-Master's Degree	0.0	0.0	100.0	4.3 (.58)
All	0.0	16.7	83.3	4 (.63)
Professional development				
Master's Degree	0.0	66.7	33.3	3.3 (.58)
Post-Master's Degree	0.0	33.3	66.7	3.7 (.58)
All	0.0	50.0	50.0	3.5 (.55)
School District I Work At				
Master's Degree	66.7	33.3	0.0	2.3 (.58)
Post-Master's Degree	0.0	100.0	0.0	3 (0)
All	33.3	66.7	0.0	2.7 (.52)
Other disciplines or consultants				
Master's Degree	66.7	33.3	0.0	2 (0)
Post-Master's Degree	33.3	33.3	33.3	3 (1)
All	50.0	33.3	16.7	2.5 (1.04)
Regional Education Laboratories				
Master's Degree	33.3	33.3	33.3	2.7 (1.52)
Post-Master's Degree	33.3	66.7	0.0	2.7 (.58)
All	33.3	50.0	16.7	2.7 (1.03)
State Board of Regents				
Master's Degree	66.7	0.0	33.3	2.3 (1.52)
Post-Master's Degree	0.0	66.7	33.3	3.3 (.58)
All	33.3	33.3	33.3	2.8 (1.17)
National Center for Education Statistics (NCES)				
Master's Degree	66.7	33.3	0.0	2 (1)

Source	% Never/Rarely	% Sometimes	% Often/All the Time	*M* (SD)
Post-Master's Degree	66.7	33.3	0.0	2.3 (.58)
All	66.7	33.3	0.0	2.2 (.75)
Professionals in other school districts				
Master's Degree	66.7	0.0	33.3	2.7 (1.15)
Post-Master's Degree	33.3	33.3	33.3	3 (1)
All	50.0	16.7	33.3	2.8 (.98)
What Works Clearinghouse				
Master's Degree	33.3	0.0	66.7	3.3 (1.15)
Post-Master's Degree	0.0	33.3	66.7	3.7 (.58)
All	16.7	16.7	66.7	3.5 (.84)
Social Media				
Master's Degree	33.3	66.7	0.0	3.3 (1.17)
Post-Master's Degree	66.7	0.0	33.3	3 (1.73)
All	50.0	33.3	16.7	3.2 (1.17)
Newspapers or magazines				
Master's Degree	33.3	33.3	33.3	3 (1)
Post-Master's Degree	33.3	66.7	0.0	2.7 (.58)
All	33.3	50.0	16.7	2.8 (.75)
Curriculum / Textbook Vendors				
Master's Degree	0.0	100.0	0.0	3 (0)
Post-Master's Degree	33.3	66.7	0.0	2.7 (.58)
All	16.7	83.3	0.0	2.8 (.41)
Wikipedia				
Master's Degree	100.0	0.0	0.0	1 (0)
Post-Master's Degree	100.0	0.0	0.0	1 (0)
All	100.0	0.0	0.0	1 (0)

Note: ½ Never/Rarely; ₃ = Sometimes; ⅘ = Often/All of the time

Attitudes Towards Evidence-Based Research. Survey questions 14 – 17 were designed to investigate K-5 curriculum directors' attitudes towards reading research and evidence-based reading programs (research question 3). Question 14 gave participants 10 statements about research, research in education, and researchers (6 positive, 4 negative) and asked them to what extent they agreed or disagreed with those statements (see Table 10). All participants (100%) agreed with the positive statements that research helps identify solutions to problems facing schools, addresses questions that help make better decisions about schools, can address practical problems facing schools, and provides a valuable service to education practitioners. While all

participants agreed to those statements, the master's degree and post-master's degree groups varied in how strongly they agreed with the statements "Research helps identify solutions to problems facing schools" and "Research addresses questions that help us make better decisions about schools." While 100% of the post-master's group agreed with the statement ($M = 4$) "Research helps identify solutions to problems facing schools," 66.7% of the master's group also agreed with the statement and 33.3% strongly agreed with it ($M = 4.3$). The master's group also reported a stronger agreement with the statement, "Research addresses questions that help us make better decisions about schools," with 66.7% agreeing with the statement and 33.3% strongly agreeing ($M = 4.3$) as compared to the post-master's group reporting 100% agreeing with the statement ($M = 4$).

Responses from participants varied in response to the positive statement, "When confronted with a new problem or decision, it is valuable to speak with education researchers." Participants in the master's degree group varied more in their attitudes towards this statement than those in the post-master's degree group. Within the master's degree group, 33.3% of participants disagreed with the statement, 33.3% felt neutral, and 33.3% agreed ($M = 3$). In comparison, the post-master's group reported more positive attitudes towards this statement with 66.7% agreeing and 33.3% feeling neutral ($M = 3.7$).

In response to the statement, "Education researchers are unbiased," 83.3% of all participants felt neutral about the statement ($M = 3.2$). While 100% of the post-master's degree group reported feeling neutral about this statement ($M = 3$), 66.7% of the master's group reported feeling neutral and 33.3% reported disagreeing with statement ($M = 3.3$).

Participant responses to the negative statements about research and evidence-based reading programs varied. In response to the statement, "There is a disconnect between the

research world and educational world," 66.7% of participants (M = 2.3) indicated agreeing with the statement with the master's degree group reporting a stronger level of agreement than the post-master's degree group. Of the master's degree group, 66.7% of the participants either agreed or strongly agreed with the statement and 33.3% reported feeling neutral (M = 2). In comparison, 66.7% of the post-master's degree group reported agreeing with the statement with 33.3% disagreeing with it (M = 2.7).

All participants (100%) either disagreed or strongly disagreed with the statement "Education research is too narrow to be useful to district and school curriculum directors," with the master's degree and post-master's degree groups reporting varying levels of disagreement in regards to the statement. Of the participants in the master's degree group, 66.7% disagreed with the statement and 33.3% strongly disagreed with it (M = 4.3). Participants in the post-master's degree group reported a stronger disagreement with the statement with 66.7% of the participants (M = 4.7) indicating they strongly disagreed and 33.3% indicating they disagreed with the statement.

The majority of participants (88.3%) either disagreed or strongly disagreed with the statement, "By the time research findings are published, they are no longer useful to me," (M = 4) with 100% of the post-master's group either disagreeing or strongly disagreeing (M = 4.7) as opposed to 66.7% of the master's group disagreeing or strongly disagreeing (M = 3.3).

In response to the statement, "education researchers work in an ivory tower and are isolated from practice," 66.7% of the master's group indicated disagreeing with the statement (M = 3.3) whereas 100% of the post-master's group indicated either disagreeing or strongly disagreeing (M = 4.7). The master's group (M = 3.3, SD = .58) compared to the post-master's

group (M = 4.7, SD = .58) had a significantly stronger disagreement to this statement $t(4) = 4.18$, $p = .04$)

Table 10

Attitudes Towards Research

Statement	% Strongly Disagree	% Disagree	% Neutral	% Agree	% Strongly Agree	*M* (SD)
Positive Statements [a]						
Research helps identify solutions to problems facing schools.						
Master's Degree	0.0	0.0	0.0	66.7	33.3	4.3 (.58)
Post-Master's Degree	0.0	0.0	0.0	100.0	0.0	4 (0)
All	0.0	0.0	0.0	83.3	16.7	4.2 (.37)
Research addresses questions that help us make better decisions about schools.						
Master's Degree	0.0	0.0	0.0	66.7	33.3	4.3 (.58)
Post-Master's Degree	0.0	0.0	0.0	100	0.0	4 (0)
All	0.0	0.0	0.0	83.3	16.7	4.2 (.41)
When confronted with a new problem or decision, it is valuable to speak with education researchers.						
Master's Degree	0.0	33.3	33.3	33.3	0.0	3 (1)
Post-Master's Degree	0.0	0.0	33.3	66.7	0.0	3.7 (.58)
All	0.0	16.7	33.3	50.0	0.0	3.3 (.37)
Research can address practical problems facing schools.						
Master's Degree	0.0	0.0	0.0	100.0	0.0	4 (0)
Post-Master's Degree	0.0	0.0	0.0	100.0	0.0	4 (0)
All	0.0	0.0	0.0	100.0	0.0	4 (0)
Researchers provide a valuable service to education practitioners.						
Master's Degree	0.0	0.0	0.0	100.0	0.0	4 (0)
Post-Master's Degree	0.0	0.0	0.0	100.0	0.0	4 (0)
All	0.0	0.0	0.0	100.0	0.0	4 (0)
Education researchers are unbiased.						
Master's Degree	0.0	33.3	66.7	0.0	0.0	3.3 (.58)
Post-Master's Degree	0.0	0.0	100.0	0.0	0.0	3 (0)
All	0.0	16.7	83.3	0.0	0.0	3.2 (.41)
Total						
Master's Degree	0.0	11.1	16.7	61.1	11.1	3.7 (.83)
Post-Master's Degree	0.0	0.0	22.2	77.8	0.0	3.8 (.43)
Total	0.0	5.6	16.7	69.4	5.6	3.8 (.87)

Statement	% Strongly Disagree	% Disagree	% Neutral	% Agree	% Strongly Agree	*M* (SD)
Negative Statements [b]						
There is a disconnect between the research world and educational world.						
Master's Degree	0.0	0.0	33.3	33.3	33.3	2 (1)
Post-Master's Degree	0.0	33.3	0.0	66.7	0.0	2.7(1.2)
All	0.0	16.7	16.7	50.0	16.7	2.3 (1)
Education research is too narrow to be useful to district and school curriculum directors.						
Master's Degree	33.3	66.7	0.0	0.0	0.0	4.3(.58)
Post-Master's Degree	66.7	33.3	0.0	0.0	0.0	4.7(.58)
All	50.0	50.0	0.0	0.0	0.0	4.5(.55)
Education researchers work in an ivory tower and are isolated from practice.						
Master's Degree	0.0	33.3	66.7	0.0	0.0	3.3(.58)
Post-Master's Degree	66.7	33.3	0.0	0.0	0.0	4.7(.58)
All	33.3	33.3	33.3	0.0	0.0	4 (.89)
By the time research findings are published, they are no longer useful to me.						
Master's Degree	0.0	66.7	0.0	33.3	0.0	3.3(1.2)
Post-Master's Degree	66.7	33.3	0.0	0.0	0.0	4.7(.58)
All	33.3	50.0	0.0	16.7	0.0	4(1.1)
Total						
Master's Degree	8.3	41.7	25.0	33.3	8.3	3.3(1.1)
Post-Master's Degree	50.0	33.0	0.0	41.7	0.0	4.2(1.1)
All	29.2	75.0	12.5	37.5	4.2	3.7(1.2)

[a] ½ = Strongly disagree/Disagree; 3 = Neutral, ⅘ = Agree/Strongly Agree
[b] ½ = Strongly Agree/Agree; 3 = Neutral; ⅘ = Disagree/Strongly Disagree

Survey question 15 asked participants to what extent they agree or disagree with statements about education research. Of the 8 statements, half of them were negative statements while the remaining half were positive statements (see Table 11). In regards to the positive statements, 100% of the participants either "agreed" or "strongly agreed" with a majority of the positive statements about research. The exception was the statement, "The claims that research

studies make are trustworthy," with 100% of the master's degree group and 66.7% of the post-master's degree group (M = 3.3) indicated feeling "neutral."

In regards to the negative statements about research, all participants (100%) indicated that they disagreed with the statement "Education research is a waste of money." Participant responses varied in response to the statement "education research can support an opinion" with 66.7% of the post-master's group indicated that they disagreed with the statement (M = 3.3) while none of the master's group either disagreed or strongly disagreed (M = 2.7). A majority of the participants (M = 3.7; 66.7%) disagreed with the statement, "education research is generally conducted to improve the careers of researchers, not to improve schools." While 100% of the post-master's group indicated disagreeing with that statement (M = 4.3), only 33.3% of the master's group indicated disagreeing (M = 3). In response to the statement, "researchers frame their results to make political points," 83.3% of participants felt neutral (M = 2.8) with 100% of the post-master's group indicating feeling neutral (M = 3) and 66.7% of the master's group feeling neutral (M = 2.7).

Table 11

Attitudes Towards Education Research

Statement	% Strongly Disagree	% Disagree	% Neutral	% Agree	% Strongly Agree	*M* (SD)
Positive Statements [a]						
Education research provides results that can help curriculum directors improve educational outcomes.						
Master's Degree	0.0	0.0	0.0	66.7	33.3	4.3 (.58)
Post-Master's Degree	0.0	0.0	0.0	66.7	33.3	4.3 (.58)
All	0.0	0.0	0.0	66.7	33.3	4.3 (.52)
The claims that research studies make are trustworthy.						
Master's Degree	0.0	0.0	100.0	0.0	0.0	3 (0)
Post-Master's Degree	0.0	0.0	66.7	33.3	0.0	3.3 (.58)
All	0.0	0.0	83.3	16.7	0.0	3.2 (.41)

Statement	% Strongly Disagree	% Disagree	% Neutral	% Agree	% Strongly Agree	*M* (SD)
A well-designed study with strong findings can change people's minds.						
Master's Degree	0.0	0.0	0.0	100.0	0.0	4 (0)
Post-Master's Degree	0.0	0.0	0.0	100.0	0.0	4 (0)
All	0.0	0.0	0.0	100.0	0.0	4 (0)
School and district curriculum directors should regularly read evidence-based reading research.						
Master's Degree	0.0	0.0	0.0	66.7	33.3	4.3 (.58)
Post-Master's Degree	0.0	0.0	0.0	100.0	0.0	4 (0)
All	0.0	0.0	0.0	83.3	0.0	4 (0)
Total						
Master's Degree	0.0	0.0	25.0	58.3	16.7	3.9 (.67)
Post-Master's Degree	0.0	0.0	16.7	75.0	8.3	3.9 (.52)
Total	0.0	0.0	20.8	66.7	12.5	3.9 (.58)
Negative Statements [b]						
Education research is a waste of money.						
Master's Degree	66.7	33.3	0.0	0.0	0.0	4.7 (.58)
Post-Master's Degree	100.0	0.0	0.0	0.0	0.0	5 (0)
All	83.3	16.7	0.0	0.0	0.0	4.8 (.41)
Education research can support any opinion.						
Master's Degree	0.0	0.0	66.7	33.3	0.0	2.7 (.58)
Post-Master's Degree	0.0	66.7	0.0	33.3	0.0	3.3(1.2)
All	0.0	33.3	33.3	33.3	0.0	3 (.89)
Education research is generally conducted to improve the careers of researchers, not to improve schools.						
Master's Degree	0.0	33.3	33.3	33.3	0.0	3 (1)
Post-Master's Degree	33.3	66.7	0.0	0.0	0.0	4.3 (.58)
All	16.7	50.0	16.7	16.7	0.0	3.7 (1.03)
Researchers frame their results to make political points.						
Master's Degree	0.0	0.0	66.7	33.3	0.0	2.7 (.58)
Post-Master's Degree	0.0	0.0	100.0	0.0	0.0	3(0)
All	0.0	0.0	83.3	16.7	0.0	2.8 (.41)
Total						
Master's Degree	16.7	16.7	41.7	25.0	0.0	3.3 (1.1)
Post-Master's Degree	33.3	33.3	25.0	8.3	0.0	3.9 (.99)
All	25.0	25.0	33.3	16.7	0.0	3.6 (1.1)

[a] ½ = Strongly disagree/Disagree; 3 = Neutral, ⅘ = Agree/Strongly Agree

[b] ½ = Strongly Agree/Agree; 3 = Neutral; ⅘ = Disagree/Strongly Disagree

Survey question 16 asked participants how practical they felt evidence-based reading research was. All participants (100%) indicated that they felt evidence-based reading research was practical on some level. While the master's degree group (100%) indicated that they felt it was "somewhat practical" while the post-master's group (100%) indicated that they felt it was "very practical" (see Table 12). Survey question 17 asked participants how relevant and appropriate they felt evidence-based reading research was. All participants (100%) indicated that evidence-based reading research was applicable. The master's degree group (100%) indicated that it was "somewhat applicable" while the majority of post-master's group favored "very applicable" ($M = 3.7$). The participants of the master's group ($M = 3$, $SD = 0$) compared to the participants of the post-master's group ($M = 3.8$, $SD = .41$) demonstrated significantly more positive attitudes towards the practicality and applicability of evidence-based research $t(4) = 3.38$, $p = .0005$.

Table 12

Practicality and Applicability of Evidence-Based Reading Research

Item	% Likert ½	% Likert ¾	*M* (SD)
Question 16[a]			
Master's Degree	0.0	100.0	3 (0)
Post-Master's Degree	0.0	100.0	4 (0)
All	0.0	100.0	3.5 (.55)
Question 17[b]			
Master's Degree	0.0	100.0	3 (0)
Post-Master's Degree	0.0	100.0	3.7 (.58)
All	0.0	100.0	3.3 (.52)
Total			
Master's Degree	0.0	100.0	3 (0)
Post-Master's Degree	0.0	100.0	3.8 (.41)
All	0.0	100.0	3.4 (.52)

[a] ½ = Not practical at all/Not very practical; ¾ = Somewhat practical/Very practical
[b] ½ = Not applicable at all/Not very applicable; ¾ = Somewhat applicable/Very applicable

Summary

The purpose of this study was to investigate how the knowledge, utilization, and perceptions of research by curriculum directors in large Upper Midwest districts influenced their choices when it came to selecting reading programs and practices. A researcher-created survey was used to answer the study's research questions.

Knowledge of Research. The first research question asked to what extent K-5 curriculum directors are knowledgeable of research and evidence-based reading programs. Five questions on the survey investigated knowledge of evidence-based reading programs, types of research, where to locate research, and its relation to federal law.

All participants were familiar with various evidence-based reading programs, including Accelerated Reader, Read180, Reading Recovery, and Leveled Literacy Intervention. Participants demonstrated strong agreement on their ability to differentiate strong from weak evidence and analyze published research to identify effective programs. Participants with post-master's degrees demonstrated higher confidence in locating and reading evidence-based research compared to those with master's degrees.

Use of Evidence-Based Research. The second research question asked to what extent K-5 curriculum directors use research and high-quality sources of research in the selection of reading programs and practices. Four questions on the survey investigated the use of quantitative and qualitative research, use of evidence-based reading programs and practices, use of evidence-based research in the job, and sources used to locate research.

Curriculum directors reported using research frequently or all of the time in tasks such as adopting curriculum materials, purchasing interventions, and designing professional development. There was a significant difference between the master's degree group and the post-

master's degree group in the frequency of using research in their roles, with the post-master's degree group indicating more consistent use. A subset of evidence-based reading programs, including Leveled Literacy Intervention and Wilson Reading System, were identified as being utilized in participating districts.

Attitudes Towards Evidence-Based Research. The third research question asked what K-5 curriculum directors' attitudes towards research and evidence-based reading programs were. Four questions on the survey investigated attitudes towards evidence-based research.

Participants generally held positive attitudes toward research, acknowledging its role in identifying solutions, aiding decision-making, and addressing practical problems in schools. While most participants disagreed with negative statements about research, there was a notable difference in perceptions of whether there is a disconnect between the research world and the educational world with post-master's degree participants disagreeing more strongly.

CHAPTER 5

Summary, Conclusions, Discussion, and Recommendations

Chapter 5 provides the summary, conclusions, discussions, and recommendations of this study. The chapter begins with a summary of the study. It is followed by the conclusions drawn from the findings and results of the data analysis. Next, there is a discussion of the results of the data analysis and relevant findings and conclusions that emerged from the study. Finally, there are recommendations for practice and further study to conclude the chapter.

Summary

The purpose of this study was to investigate how the knowledge, utilization, and perceptions of research by curriculum directors in large Upper Midwest districts influenced their choices when it came to selecting reading programs and practices. A researcher-created survey was sent to the K-5 curriculum directors in large school districts in the Upper Midwest. The study also examined if there were differences based on levels of education.

The following research questions were addressed in this study:

1. To what extent are K-5 curriculum directors knowledgeable of research and evidence-based reading programs?
2. To what extent do K-5 curriculum directors use research and evidence-based reading programs?
3. What are K-5 curriculum directors' attitudes towards research and evidence-based reading programs?
4. What differences are there in K-5 curriculum directors' knowledge, use, and attitude of research and evidence-based reading programs based on their level of education?

Review of the Literature. The literature review began with a history of the terms "best practices" and "evidence-based programs and practices" through significant historical events and

the development of federal education legislation. It concluded with a review on how curriculum directors' use, knowledge, and attitudes towards evidence-based research impacted their ability to select evidence-based reading programs, practices, and interventions.

The historical narrative of government intervention in American education, initiated by the National Defense Education Act (NDEA) in the late 1950's has been a continuous process shaped by subsequent legislations such as the Elementary and Secondary Education Act (ESEA), A Nation at Risk, and Goals 2000 Educate America Act (Ellis, 2007; Gross & Hill, 2016; Heise, 2006; O'Keeffe et al., 2012; T. Shanahan, 2015).

The term "best practice" has undergone transformation, transitioning from subjective opinions to an evidence-based approach, inspired by the empirical model of the medical field (Anderson et al., 2010; Dudley-Marling, 2005; Spooner et al., 2017).

No Child Left Behind (NCLB), enacted in 2001, represented a pivotal moment in educational policy, emphasizing the significance of scientifically-based research in reading programs and mandating their use for schools receiving Title I funding (Heise, 2006; Smith, 2003). The following Every Student Succeeds Act (ESSA) in 2015 introduced changes in terminology, replacing "scientifically based research" with "evidence-based" and implemented a tiered system for evaluating programs based on research evidence (Every Student Succeeds Act, 2015; Herman et al., 2016).

The What Works Clearinghouse (WWC), an important resource for evaluating evidence-based programs and practices, continues to play a significant role in the educational landscape (Penuel et al., 2017). The Education Sciences Reform Act, establishing the Institute of Education Science (IES), further contributed to the research infrastructure supporting evidence-based practices (U.S. Department of Education, 2018).

The Institute of Education Sciences (IES), under the Department of Education, is integral in promoting evidence-based decision-making in education, specifically in reading programs. The National Center for Research in Policy and Practice (NCRPP), funded by IES, conducted a comprehensive study on School and District curriculum directors' knowledge, use, and attitudes toward educational research (Penuel et al., 2016). This investigation aimed to understand the circumstances under which curriculum directors seek research, the sources they consult, and the purposes for which they utilize it (Penuel et al., 2016).

The knowledge of research methodology among school and district leaders varied, with a notable deficiency in identifying elements such as random assignment and threats to internal validity. However, there was a better understanding of qualitative research methods, emphasizing the important role of directors' research knowledge in effective research utilization (NCRPP; Nelson & Manchek, 2007). Insufficient knowledge, as evidenced by school psychologists assessing reading disabilities, led implementation (Davidson & Nowicki, 2012; Haecker et al., 2017; Nelson & Macheck, 2007). Conversely, effective dissemination by curriculum directors improved teachers' attitudes towards research, fostering a culture of research use (Anderson et al., 2010; Louis et al., 2005).

A significant barrier identified was the lack of familiarity with research terminology and statistics among curriculum directors (Davidson & Nowicki, 2012). This knowledge gap could result in misusing effective research, diminishing program fidelity, and discouraging directors from engaging with research due to perceived time constraints (Commeyras & Degroff, 1998; Davidson & Nowicki, 2012). In such cases, there is a risk of turning to biased sources for information, as highlighted by Haecker et al. (2017), emphasizing the importance of statistical self-efficacy to avoid blind reliance on manufacturers' claims.

The use of research by curriculum directors revealed a preference for supporting established reading programs over selecting or adopting evidence-based programs. Furthermore, leaders were more likely to use research for professional development rather than program selection (Penuel et al., 2016). The types of research accessed included books, research or policy reports, and peer-reviewed journal articles, through the specific content and evidence-based nature of these evidence-based nature of these resources were not clarified (Penuel et al., 2016).

Attitudes toward research were generally positive among school and district leaders, with an acknowledgment of its importance and relevance to education; however, concerns were raised about the time lag between research findings and utilization, reflecting an apprehension about leaders and teachers regarding comfort and likelihood of engaging with research (Davidson & Nowicki, 2012; Penuel et al., 2016). Quality and relevancy concerns were also noted, with leaders expressing skepticism about potential researcher bias and the replicability of studies (Davidson & Nowicki, 2012; Penuel et al., 2016).

The landscape of educational research and its utilization by school and district curriculum directors is closely tied to the evaluation and selection of evidence-based reading programs. The What Works Clearinghouse, an important resource supported by the U.S. Department of Education's IES, categorizes reading programs based on their effectiveness (U.S. Department of Education, IES, National Center for Education Evaluation and Regional Assistance, 2018).

Methodology. Descriptive and inferential statistics were used to investigate the research questions in this study. A survey research method was used to examine K-5 curriculum directors' knowledge, use, and attitudes of research and evidence-based programs. Data from an online survey was collected during the 2022-2023 school year. Of the 15 surveys sent, 6 curriculum directors completed the survey, which placed the response rate 40%. The online survey data was

collected using Google Forms and analyzed using Google Sheets. Descriptive statistics were used to describe the population. Inferential statistics were used to determine whether there were significant differences amongst participants based on their highest degree earned and their knowledge, use, and attitudes of research and evidence-based programs and practices. Significance was determined using a two-tailed t-test with the *p* value =.05.

Research Findings. The purpose of this study was to investigate K-5 curriculum directors' knowledge, use, and attitudes of research and evidence-based programs and practices. The major findings for each question are as follows:

While both groups exhibited 100% familiarity with specific evidence-based reading programs such as Accelerated Reader, Read180, Reading Recovery, and Leveled Literacy Intervention, the overall familiarity rate was at 35.8%.

When asked about their knowledge and confidence in finding, analyzing, and evaluating evidence-based research, the post-master's group displayed higher levels of knowledge, confidence, and agreement (100%) in differentiating strong from weak evidence, analyzing research for effective programs, and feeling confident in reading evidence-based research. In comparison, the master's group, while generally positive, indicated a slightly lower level of agreement (66.7%) in their capability to evaluate the quality of research. Both groups shared a majority perception (66.7%), that it was easy to access evidence-based reading research. This similarity suggests a commonality in the perceived ease of accessing relevant research among curriculum directors, despite their degree levels.

Both groups demonstrated a solid understanding of research methodologies, with 83.3% correctly identifying that both quantitative and qualitative research could be considered

evidence-based. This common understanding highlights a shared foundation in research principles among K-5 curriculum directors of large districts in the Upper Midwest.

Regarding legislative awareness, 50% of participants in both groups correctly identified that evidence-based reading research was still a part of ESSA legislation. This similarity demonstrates a shared recognition of the continued relevance of research in the context of changing educational policies.

When asked about their level of familiarity with the What Works Clearinghouse, participants in the master's group and post-master's group exhibited differences in familiarity. Specifically, 100% of participants in the post-master's group claimed to be very familiar, whereas only 33% of the master's group shared the same level of familiarity. This difference suggests potential variations of knowledge on where to locate evidence-based reading research and programs using the What Works Clearinghouse based on educational background.

When asked about the frequency of research use, 80% of participants indicated engagement in applying research in their roles as curriculum directors. However, a significant difference emerged based on educational level. Participants in the master's group reported a 52% usage rate, while the post-master's group reported a 100% usage rate, indicating a significant correlation between higher educational levels and more frequent use of research tasks (p = .0002).

Regarding the adoption of evidence-based reading programs, participants identified 20% of the listed evidence-based reading programs as programs currently being used within their district. Both the master's group and post-master's group indicated utilization of specific evidence-based reading programs, with Leveled Literacy Intervention and Wilson Reading System being prevalent among both.

When asked how often they are called upon to read evidence-based research in their current positions, all participants (100%) reported being frequently called upon to read evidence-based research. However, participants in the post-master's group reported more varied responses in terms of frequency with 33% indicating occasional demand, 33% indicating frequent demand, and 33% indicating constant demand.

When participants were asked where they located research information and how often they sought it out, professional associations were the most frequently used source (100%), followed by professional books (83.3%), and the What Works Clearinghouse (66.7%). Participants with master's degrees tended to rely on professional organizations, academic journals, and professional books more frequently. Conversely, the post-master's group heavily relied on professional organizations and books, but also made substantial use of professional development resources, What Works Clearinghouse, and professional books, demonstrating a more diversified approach.

Overall, the research findings suggest more positive attitudes towards research than negative. Participants were presented with statements related to research, research in education, and researchers. All participants (100%) agreed with positive statements, indicating a shared belief that research helps identify solutions to problems facing schools, addresses questions for better decision-making, can address practical problems, provides a valuable service to educators, provides results that can help curriculum directors improve educational outcomes, can change people's minds, and should be read on a regular basis. However, differences emerged between the master's and post-master's groups concerning the strength of agreement. While 100% of the post-master's group agreed with the statement, "Research helps identify solutions to problems facing schools," 66.7% of the master's group agreed, with 33.3% strongly agreeing. Similar

variations were observed for the statement, “Research addresses questions that help us make better decisions about schools.” Responses to the statement, “When confronted with a new problem or decision, it is valuable to speak with education researchers,” revealed differences between groups. The master’s group reported more varied attitudes, with 33.3% disagreeing, 33.3% feeling neutral, and 33.3% agreeing, while the post-master’s group predominantly agreed (66.7%) with the statement.

Participants also reported a positive attitude towards research when disagreeing to several negative comments about education research. All participants disagreed with the negative statement, “Education research is a waste of money.” They also largely disagreed with the negative statement, “Education research is generally conducted to improve the careers of researchers, not to improve schools.” While 100% of the post-master’s group disagreed, only 33.3% of the master’s group did so.

Neutral attitudes towards bias in education research were reported. A significant number (83.3%) of all participants felt neutral about the statement, “Education researchers are unbiased.” While 100% of all participants reported neutrality, 66.7% of the master’s group felt neutral, and 33.3% disagreed with it. They (83.3%) also felt neutral regarding the statement, “Researchers frame their results to make political points.”

Negative attitudes towards research were reported when participants were asked to respond to the statement, “There is a disconnect between the research world and educational world.” Overall, participants (66.7%) agreed with the statement, with the master’s group reporting a stronger agreement than the post-master’s group.

The majority of participants reported positive attitudes on the timeliness of research findings. Overall, participants (83.3%) disagreed with the statement, “By the time research

findings are published, they are no longer useful to me." Differences emerged between the master's and post-master's groups with 100% of the post-master's group disagreeing, as opposed to 66.7% of the master's group.

Participants' perceptions of researchers' engagement and their ability to connect research and practice were positive. Regarding the statement, "Education researchers work in an ivory tower and are isolated from practice," 66.7% of the master's group disagreed, while 100% of the]post-master's group either disagreed or strongly disagreed. The difference was found to be significant (p = .04), highlighting varying strength of perceptions between the two groups.

All participants indicated that evidence-based reading research was practical and applicable to some extent. The master's group predominantly considered it "somewhat practical" and "somewhat applicable," whereas the post-master's group leaned towards "very practical" and "very applicable." Significant differences were found between the master's and post-master's groups, indicating varied perspectives on the overall practicality and applicability of evidence-based reading research (p = .0005).

Conclusions

The following conclusion have been drawn based on the analyses of data from this study:

1. K-5 curriculum directors of large districts in the Upper Midwest, overall, demonstrate a mixed level of knowledge regarding evidence-based reading programs. While specific programs are well known, the overall familiarity rate is relatively low (35.8%). Post-master's participants exhibit higher levels of knowledge and confidence in finding, analyzing, and evaluating evidence-based research compared to the master's group.

2. There is a positive trend in the use of research among K-5 curriculum directors of large districts in the Upper Midwest. About 80% of participants engage in applying research in their roles, with a significant correlation between higher educational levels and more frequent use of research tasks. Both master's and post-maser's group participants identify professional organizations, professional books, and the What Works Clearinghouse as frequent sources. However, differences exist in the sources relied upon, suggesting varied approaches based on educational background.
3. Overall, K-5 curriculum directors of large districts in the Upper Midwest hold positive attitudes towards research and evidence-based reading programs. All participants agree with positive statements about the value of research in identifying solutions to educational problems and providing valuable services to educators. However, differences emerge between master's and post-master's groups regarding the strength of agreement, indicating variations in attitudes based on educational level.

Discussion

The response rate for the survey conducted among K-5 curriculum directors in large, public school districts throughout the Upper Midwest was 40%. This rate, while not exceptionally high, provides a basis for analysis. In total, fifteen surveys were sent out. The fact that only six out of eight respondents completed the survey in its entirety suggests that some participants may have found certain sections challenging or too time-consuming. The two incomplete survey responses were eliminated from data analysis. The exclusion of these responses could potentially introduce bias if the reasons for not completing the survey are related to specific characteristics or perspectives. The response rate should be considered when

generalizing findings to the entire population of K-5 curriculum directors in large districts in the Upper Midwest. The limited response may impact the overall representativeness of the study's results.

All participants (100%) held advanced degrees beyond a bachelor's degree, with 50% holding degrees beyond a master's degree. The decision to simplify categories into master's and post-master's degrees (doctorates and specialist degrees), allows for a clearer classification but reduces specificity amongst those with their doctoral degrees and specialist degrees. Educational administration was the predominant area of study for half of the participants. While educational administration covers various aspects of school leadership, it may not provide the same depth of expertise in curriculum design and instructional strategies as a more specific field like curriculum and instruction or teaching and learning. Further research is needed to find out if there is a correlation between areas of study and the use of research and subsequent selection of reading programs.

The majority (83.3%) of participants had fifteen years or more of experience in education. This indicates a highly experienced sample, aligning with the expectations for curriculum directors. The limited variation in years of experience limits the ability to analyze the impact of varying experience levels on survey responses. Due to the nature of the data, some comparisons, such as those related to areas of study and years of experience, were not possible. This limitation hinders a more in-depth understanding of how educational backgrounds influence perspectives on research and selection of reading programs.

All of K-5 curriculum directors surveyed in this study (100%) either agreed or strongly agreed that they could differentiate strong evidence from weak evidence, identify effective programs through analyzing published research, and felt confident in reading evidence-based

reading research. This indicates a high level of self-reported competence among K-5 curriculum directors in understanding and interpreting evidence-based research. The majority (66.7%) reported being capable of evaluating the quality of research, indicating a strong confidence level ($M = 3.2$).

Interestingly, participants with poster-master's degrees reported feeling more knowledgeable about locating research programs when compared their master's counterparts. A majority of the post-master's group (66.7%) also felt that their professional preparation sufficiently trained them for reading evidence-based research ($M = 3$). This aligns with research by Penuel et al. (2016) where curriculum directors' knowledge of reading evidence-based research methodology was considered crucial for effective use of research. The findings suggest that higher education and professional development contribute to curriculum directors' confidence and competence in navigating evidence-based research. Furthermore, participants reported ease in accessing evidence-based reading research with 66.7% reporting that they found it easy ($M = 3.2$). This positive belief may be attributed to the efforts of organizations like the Institute of Education Sciences (IES) and the What Works Clearinghouse in providing accessible resources for educators (Davidson & Nowicki, 2012).

K-5 curriculum directors' knowledge of research types was also surveyed, with 83.3% correctly identifying that both quantitative and qualitative research could be considered evidence-based as it is identified by Every Student Succeeds Act (ESSA) legislation. This demonstrates strong awareness among K-5 currciulum directors regarding the diverse nature of evidence-based research in relation to current legislation. However, only 50% correctly recognized that scientifically-based reading research remains a part of ESSA legislation

suggesting a need for constant professional development on the ever-changing legislative landscape.

When curriculum directors were asked about their familiarity with the What Works Clearinghouse, 100% of the post-master's group indicated being very familiar, while 33% of the master's group reported the same ($M = 1.33$). These discrepancies may highlight the impact of advanced education on knowledge of resources like the What Works Clearinghouse.

Survey results revealed that a significant majority (80%) of K-5 curriculum directors use research in various tasks related to their roles, such as adopting curriculum materials, implementing interventions, and designing professional development. Interestingly, those with post-master's degrees reported using research for these tasks 100% of the time, while those with master's degrees used research 52% of the time. This difference was statistically significant ($p = .0002$), highlighting the impact of advanced education on the frequency of research utilization. This finding also aligns with literature emphasizing the importance of curriculum directors' knowledge of research methodology (Penuel et al., 2016). The study by Penuel et al. (2016) emphasizes that a lack of understanding of research methods can hinder effective use of research. The higher frequency of research use among post-master's participants suggests that advanced education may enhance the ability to apply research to practical tasks.

Survey results indicated that participants primarily use professional associations, professional books, and the What Works Clearinghouse to locate research. Furthermore, participants showed a reluctance to use Wikipedia, reinforcing the importance of relying on credible sources. The literature supports this, highlighting the significance of federal programs, such as the What Works Clearinghouse, in providing evidence-based research to inform educational choices (Davidson & Nowicki, 2012; Penuel et al., 2016).

There was a difference between master's and post-master's participants regarding the use of university contacts/course, consultants, and social media. Post-master's participants demonstrated a higher reliance on these sources, suggesting that advanced education may broaden the range of resources utilized. This aligns with findings from the National Center for Research in Policy and Practice (NCRPP), which reported that curriculum directors often access research through professional organizations and by interacting with professionals in other districts (Penuel et al., 2016).

The survey also examined the attitudes and perceptions of K-5 curriculum directors of large districts in the Upper Midwest. The results reveal intricate attitudes among K-5 currciulum directors towards research. A unanimous agreement was observed on the positive impact of research, yet disaprities emerged between the master's and post-master's degree groups. The master's group exhibited slightly lower levels of agreement on statements related to research's ability to identify solutions and improve decision-making compared to the post-master's group (66.7% agreeing vs. 100% agreeing). This finding identifies a potential correlation between advanced education levels and a more positive outlook on research efficacy.

Furthermore, variations were noted in responses to statements about consulting with education researchers. The master's group demonstrated more diverse attitudes, with some disagreement and neutrality; whereas, the post-master's group exhibited predominantly positive attitudes (33.3% disagreeing vs. 66.7% agreeing). This discrepancy indicates a need for targeted efforts to engage curriculum directors with varying educational backgrounds in collaborative research endeavors.

Regarding the perception of education researchers' bias, 83.3% of K-5 curriculum directors felt neutral, with differences between the master's and post-master's groups. The post-

master's group (100%) tended to be more neutral, while the master's group showed a mix of neutrality and disagreement with 66.7% feeling neutral and 33.3% disagreeing. This finding suggests that curriculum directors may perceive a level of bias among researchers which aligns with Penuel et al.'s (2016) findings that education leaders, like curriculum directors, felt that researchers could be biased. Further research is needed is needed to further explore the factors influencing this perception.

The survey also delved into negative statements about research and evidence-based reading programs. There was a significant agreement that there is a disconnect between the research world and the educational world with 66.7% of participants agreeing. Specifically, the master's degree group exhibited a stronger level of agreement compared to the post-master's group. This implies a potential need for bridging the gap between researchers and practitioners.

All participants strongly disagreed with the idea that educational research is too narrow to be useful. However, variations were observed between the two groups, with 66.7% of the post-master's group expressing a stronger disagreement in comparison to the 33.3% of the master's group strongly disagreeing. This aligns with Davidson and Nowicki's (2012) findings emphasizing the importance of research relevance and applicability in educational settings through replication.

The majority of participants disagreed with the idea that research findings become obsolete upon publication. The post-master's group demonstrated stronger disagreement with 100% disagreeing/strongly disagreeing, suggesting a more proactive stance in utilizing timely research findings versus the master's group with 66.7% disagreeing/strongly disagreeing. Additionally, the perception that education researchers work in an ivory tower and are isolated from practice showed a significant difference ($p = .04$) between the post-master's group with

100% disagreeing/strongly disagreeing in comparison to the master's group with 66.7% disagreeing.

Positive statements garnered unanimous agreement, except for the claim that research studies' claims are trustworthy. The master's group (100%) showed a level of neutrality on this claim while the post-master's group unanimously agreed. This implies a level of skepticism among K-5 curriculum directors, especially those with master's degrees, highlighting the need for transparency and credibility in research studies.

Negative statements about research faced disagreement from all participants, with the exception of the statement that education research can support an opinion. Interestingly, it was the post-master's group (66.7%) that disagreed with this statement, suggesting a more critical evaluation of the role of research in forming educational opinions.

K-5 curriculum directors also generally perceived evidence-based reading research as practical and applicable. However, significant differences emerged between the master's and post-master's groups. The post-master's group exhibited a stronger belief in the practicality and applicability of evidence-based reading research ($M = 3.8$ vs. $M = 3$), emphasizing the potential impact of advanced education on the perception of research relevance ($p = .0005$).

The findings on K-5 curriculum directors' attitudes and perceptions on research and evidence-based reading programs resonate with the literature, particularly with studies conducted by the Department of Education's Institute of Education Sciences (IES) and the National Center for Research in Policy and Practice (NCRPP). Similar to the NCRPP's study, curriculum directors in this survey demonstrated positive attitudes towards the value of research in education (99% felt that education research wasn't a waste of money). However, concerns over the time lapse between research findings and application were apparent, similar to the findings of Penuel

et al. (2016). Consistent with the studies by Nelson and Manchek (2007) and Davidson and Nowicki (2012), the survey findings emphasize the significance of advanced knowledge in evidence-based reading programs. The disparities in attitudes and perceptions between master's and post-master's groups further stresses the need for targeted professional development to enhance knowledge and understanding.

Recommendations for Practice

In general, the findings of this study indicate a positive stance among K-5 curriculum directors in large districts in the Upper Midwest regarding their knowledge, use, and attitudes towards research and evidence-based reading programs. Some of the findings suggest that ongoing professional development programs tailored to the educational background of curriculum directors would be useful. Specifically, professional development programs should focus on enhancing knowledge of evidence-based reading programs, promoting diverse sources of research information, and addressing negative attitudes towards research. The positive correlation between higher education and research utilization highlights the potential benefits of encouraging advanced degrees among curriculum directors, necessitating a comprehensive approach to ensure that those with varying levels of education receive adequate support for effective research integration. Fostering a research-oriented culture within educational leadership, promoting positive attitudes, and enhancing the practical application of evidence-based practices are important for advancing the field and increasing student achievement.

Recommendations for Future Study

Building on the insights gained from this study, future research could expand the scope by including a more diverse participant pool from different regions and by including curriculum directors serving small school districts in order to enhance generalizability. Incorporating

additional methodologies such as interviews or observations would provide a more comprehensive understanding of curriculum directors' knowledge, use, and attitudes towards evidence-based reading programs. Further investigation into the specific content and evidence-based nature of resources accessed by curriculum directors could offer insights into the effectiveness of different sources. Exploring the impact of professional development initiatives on curriculum directors' knowledge, use, and attitudes over time could provide valuable insights into the effectiveness of ongoing training programs.

REFERENCES

Almasi, J. F., Garas-York, K., & Shanahan, L. (2006). Qualitative research on text comprehension and the report of the National Reading Panel. *Elementary School Journal, 107(1)*, 37-67.

Anderson, S., Leithwood, K., & Strauss, T. (2010). Leading data use in schools: Organizational conditions and practices at the school and district levels. *Curriculum directorship and Policy in Schools*, 292-327.

Barger-Anderson, R., Domaracki, J. W., Kearney-Vakulick, N., & Kubina Jr., R. M. (2004). Multiple baseline designs: The use of a single-casse experimental design in literacy research. *Reading Improvement, 41*(4), 217-225.

Casey, L. B., Meindl, J.N., Frame, K., Elswick, S., Hayes, J., & Wyatt, J. (2012). Current trends in education: How single-subject research can help middle and high school educators keep up with the zeitgeist. *Clearing House, 85*(3), 109-116.

Cavanagh, S. (2007). Lessons drawn from Sputnik 50 years later. *Education Week*, pp. 31-34.

Chenoweth, K. (2016). ESSA offers changes that can continue learning gains. *Phi Delta Kappan, 97*(8), 38-42.

Cheung, A. K., & Slavin, R. E. (2013). Effects of educational technology applications on reading outcomes for struggling readers: A best-evidence synthesis. *Reading Research Quarterly*, 48(3), 277-299.

Coalition for Evidence-Based Policy. (2014). Can using rigourous evidence to guide federal education funds improve student achievement? Randomized trials show encouraging initial results for DoED's Investing in Innovation fund. *Coalition for Evidence-Based Policy: A Nonprofit, Nonpartizan Organization.* http://coalition4evidence.org/wp-

content/uploads/2014/01/i3-Fund-new-evaluation-findings-for-the-scale-up-grants-Jan-2014.pdf

Congressional Research Service. (1997, October 6). Summary: H.R. 2614 – Reading Excellence Act. https://www.congress.gov/bill/105th-congress/house-bill/2614?q=%7B%22search%22%3A%5B%22hr2614+105th+congress%22%5D%7D&s=4&r=1

Coffee, G., Newell, M. L., & Kennedy, A. S. (2014). Supporting collaborative efforts in implementing evidence-based reading intervention: The role of online databases. *Journal of Educational & Psychological Consultation*, 24(2), 81-95

Commeryas, M., Degroff, L. (1998). Literacy professionals' perspectives on professional development and pedagogy: A United States survey. *Reading Research Quarterly.* 33(4), 434-472

Cross, A., & Conn-Powers, M. (2014). Making the intentional decision to use an effective curriculum to promote children's learning. *Early Childhood Education Journal, 42*(6), 361-366

Darrow, A. (2016). The Every Student Succeeds Act (ESSE). *General Music Today*, 30(1), 41-44

Davidson, K. (2013). Teacher's reported utilization of reading disabilities research. *Alberta Journal of Educational Research,* 487-502

Davidson, K., & Nowicki, E. (2012). An exploration of the utility of a knowledge utilization framework to study the gap between reading disabilities research and practice. *Alberta Journal of Educational Research,* 58(3), 330-349

Diehl, S. F. (1999). Listen and learn? A Software review of Earobics. *Language, Speech, & Hearing Services in Schools*, 30(1), 108-117

Dillman, D., Smyth, J., & Christian, L. (2014). *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method*. Wiley

Dudley-Marling, C. (2005). The complex relationship between reading research and classroom practice. *Research in the Teaching of English, 40*(1), 127-130

Elgart, M. (2016). Creating state accountability systems that help schools improve. *Phi Delta Kappan, 98*(1), 26-30

Ellis, C. (2007). No Child Left Behind – A Critical analysis. *Curriculum & Teaching Dialogue, 9*(1/2), 221-233

Every Student Succeeds Act, 20 U.S.C. § 6301 (2015). https://www.congress.gov/114/plaws/publ95/PLAW-114publ95.pdf

Fischer, B. B. (2008). *A Cold War Conundrum: The 1983 Soviet Union Scare.* https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books-and-monographs/a-cold-war-conundrum/source.htm

Gamse, B. C., Jacob, R. T., Horst, M., Boulay, B., Unlu, F., & Institute of Education Sciences. (2008). *Reading First Impact Study. Final Report. Executive Summary. NCEE 2009-4039.*

Gardner, D. P. (1983). *A Nation at Risk: The Imperative for Educational Reform. An Open Letter to the American People. A Report to the Nation and the Secretary of Education.* https://www.edreform.com/wp-content/uploads/2013/02/A_Nation_At_Risk_1983.pdf

Garrison-Mogren, R., &Gutmann, B. (2012). *State and District Receipt of Recovery Act Funds. A Report from Charting the Progress of Educational Reform: An Evaluation of the Recovery Act's Role. NCEE 2012-4057.* https://files.eric.ed.gov/fulltext/ED535324.pdf

Goldman, S. R., Britt, M.A., Brown, W., Cribb, G., George, M., Greenleaf, C., & Shanahan, C. (2016). Disciplinary literacies and learning to read for understanding: A conceptual framework for disciplinary literacy. *Educational Psychologist, 51*(2), 219-246

Greenlaw, J. M., Jerrolds, B. W., & Benton, S. (1973). A study of the influence of advertising techniques on the selection of instructional reading materials by prospective teachers. https://files.eric.ed.gov/fulltext/ED127550.pdf

Greenwood, C. R., Tapia, Y., Abbott, M., & Walton, C. (2003). A building-based case study of evidence-based literacy practices: Implementation, reading behavior, and growth in reading fluency, K-4. *Journal of Special Education, 37*(2), 95

Gross, B., & Hill, P.T. (2016). The state role in K-12 education: From issuing mandates to experimentation. *Harvard Law & Policy Review, 10*(2), 299-326.

Haecker, B. M., Lane, F. C., & Zientek, L. R. (2017). Evidence-based decision making: Influences on central office administrators' decision-making practices. *Journal of School Curriculum directorship,* 27, 860-882.

Hale, S., Dunn, L., Filby, N., Rice, J., & Van Houten, L. (2017). *Evidence-based Improvement: A Guide for States to Strengthen Their Frameworks and Supports Aligned to the Evidence Requirements of ESSA.* WestEd.

Hamilton, L., Halverson, R., Jackson, S. S., Mandinach, E., Supovitz, J. A., & Wayman, J. C. (2009). *Using Student Achievement Data to Support Instructional Decision Making.* IES.

What Works Clearinghouse. https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/dddm_pg_092909.pdf

Hanushek, E. A., Ruhose, J., & Woessmann, L. (2016). It pays to improve school quality. *Education Next, 16*(3), 53-60.

Harris, M. M., & Miller, J. R. (2005). Needed: Reincarnation of National Defense Act of 1958. *Journal of Science Education & Technology, 14*(2), 157-171

Hauptli, M. V., & Cohen-Vogel, L. (2013). The federal role in adolescent literacy from Johnson through Obama: A policy regimes analysis. *American Journal of Education*, 119(3), 373-404

Heise, M. (2006). The political economy of education federalism. *Emory Law Journal, 56*(1), 125-157.

Herman, R., Gates, S. M., Chavez-Herrarias, E. R., & Harris, M. (2016). *School Curriculum directorship Interventions under the Every Student Succeeds Act.* https://www.rand.org/content/dam/rand/pubs/research_reports/RR1500/RR1550-3/RAND_RR1550-3.pdf

Hitchcock, J. H., Horner, R. H., Kratochwill, T. R., Levin, J. R., Odom, S. L., Rindskopf, D. M., & Shadish, W. (2014). The What Works Clearinghouse single-case design pilot standards: Who will guard the guards. *Remedial & Special Education, 35*(3), 145-152

Howell, W. (2015). Results of President Obama's Race to the Top. *Education Next*, 58-66

Johanningmeier, E. V. (2010). A Nation at Risk and Sputnik: Compared and reconsidered. *American Educational History Journal, 37*(2), 347-365

Kane, T. (2017). Making evidence locally. *Education Week, 17*(2), 52-58

Klein, A. (2017). Ed. Dept. demands more detail from states' ESSA plans. *Education Week, 36*(36), 18

Klingner, J. K., Boardman, A. G., & McMaster, K. L. (2013). What does it take to scale up and sustain evidence-based practices. *Exceptional Children, 79*(2), 195-211.

Kohler, T., Landis, E. S., & Cortina, J. M. (2017). From the editors: Establishing methodological rigor in quantitative management learning and education research: The role of design, statistical methods, and reporting standards. *Academy of Management Learning & Education, 16*(2), 173-192

Krochanek, J. R., Scholz, C., & Garcia, A. N. (2015). Mapping the collaborative research process. *Education Policy Analysis Archives, 23*(121)

Liston, D., Whitcomb, J., & Borko, H. (2007). NCLB and scientifically based research. *Journal of Teacher Education, 58*(2), 99-107.

Liu, G. (2008). Improving Title I funding equity across states, districts, and schools. *Iowa Law Review, 56*(1), 973-1013

Louis, K. S., Febey, K., & Schroeder, R. (2005). State-mandated accountability in high schools: Teachers' interpretation of a new era. *Educational Evaluation and Policy Analysis, 27*(2), 177-204

Maggin, D. M. (2015). Considering generality in the systematic review and meta-analysis of single-case research: A response to Hitchcock et al. *Journal of Behavioral Education, 24*(4), 470-482.

Marchand-Martella, N. E., Martella, R. C., Nelson, J. R., Waterbury, L., Shelley, S. A., Cleanthous, C., & Hatfield, D. (2002). Implementation of the Sound Partners Reading Program. *Journal of Behavioral Education, 11*(2), 117-130

Martin, K. (2012). In search of "best practice": A professional journey. *Odyssey: New Direction in Deaf Education,* 1332-1335

McGill-Franzen, A. (2005). In the press to scale up, what is at risk? *Reading Research Quarterly, 40*(3), 366-370

McGuinn, P. (2016). From No Child Left Behind to the Every Student Succeeds Act: Federalism and the education legacy of the Obama Administration. *Plubius: The Journal of Federalism, 46*(3), 392-415

McMillen, C. M., Graves-Demario, A., & Kieliszek, D. (2018). Tackling Literacy: A Collaborative approach to developing materials for assessing science literacy skills in content classrooms through a STEM perspective. *The Language and Literacy Spectrum, 28*(1)

Mehta, J. (2015). Escaping the Shadow: "A Nation at Risk" and its far-reaching influence. *American Educator, 39*(2), 20-26

Mesmer, H. A., & Karchmer, R. A. (2003). Reality: How the Reading Excellence Act took form in two schools. *The Reading Teacher, 56*(7), 636-645

National Commission on Excellence in Education. (1983). *A Nation at Risk*. United States Department of Education. https://www2.ed.gov/pubs/NatAtRisk/risk.html

National Reading Panel (U.S.) & National Institute of Child Health and Human Development (U.S.). (2000). *Report of the National Reading Panel: Teaching Children to Read: An Evidence-based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction: Reports of its Subgroups.* Washington, D.C.: National Institute of Health and Human Development, National Institutes of Health

Nelson, J. M., & Macheck, G. R. (2007). A Survey of training, practice, and competence in reading assessment and intervention. *School Psychology Review, 36*(2), 311-327

No Child Left Behind Act of 2001, 20 U.S.C. § 6301 (2002). https://www2.ed.gov/policy/elsec/leg/esea02/107-110.pdf

O'Keeffe, B. V., Slocum, T. A., Burlingame, C., Snyder, K., & Bundock, K. (2012). Comparing results of systematic reviews: Parallel reviews of research on repeated reading. *Education & Treatment of Children, 35*(2), 333-366

Osburn, J., Caruso, G., & Wolfensberger, W. (2011). The concept of the "best practice": A brief overview of its meanings, scope, uses, and shortcomings. *International Journal of Disability, Development & Education, 58*(3), 213-222

Pennycuff, K. R. (2007). *The Impact of Policy Driven Professional Development on Emergent Literacy Instruction.* https://files.eric.ed.gov/fulltext/EJ1098564.pdf

Penuel, W. R., Briggs, D. C., Davidson, K. L., Herlihy, C., Sherer, D., Hill, H.C., & Allen. (2016). *Findings from a National Study on Research Use Among School and District Leaders.* National Center for Research in Policy and Practice. http://ncrpp.org/assets/documents/NCRPP_Technical-Report-1_National-Survey-of-Research-Use.pdf

Penuel, W. R., Briggs, D. C., Davidson, K. L., Herlihy, C., Sherer, D., Hill, H.C., & Allen. (2017). How school and district leaders access, perceive, and use research. *AERA Open*, 3(2), 1-17

Peterson, P. (2016). The end of the Bush-Obama regulatory approach to school reform. *Education Next, 16*(3), 23-32

Pratt, T. (2016). Inside ESSA. *Scholastic Administrator, 15*(2), 53-55

Results for America. (2016). *Results for America.* http://results4america.org/wp-content/uploads/2016/11/ESSA-Evidence-Provisions-Standalone-version-071916.pdf

Shanahan, T. (2003). Research-based reading instruction: Myths about the National Reading Panel Report. *Reading Teacher, 56* (7)

Shanahan, T., & Shanahan, C. (2017). Disciplinary Literacy: Just the FAQs. *Educational Curriculum directorship,* 18-22

Sharp, L. (2016). ESEA Reauthorization: An overview of the Every Student Succeeds Act. *Texas Journal of Education, 4*(1), 9-13

Slavin, R. (2008). Education reform requires teachers to apply research-proven methods. *Education Journal* (110), 7-10

Slavin, R. (2008). Perspectives on evidence-based research in education – What works? Issues in synthesizing educational program evaluations. *Educational Researcher 37*(1), 5-14

Slavin, R. (2015). *Evidence and the ESSA.* Huffington Post. https://www.huffingtonpost.com/Robert-e-slavin/evidence-and-the-essa_b_8750480.html

Smith, A. (2003). Scientifically based research and evidence-based education: A federal policy context. *Research & Practice for Persons with Severe Disabilities, 28*(3), 126-132

South Dakota Department of Education. (2017). *Extraordinary cost funds, May 2017 Minutes*. http://doe.sd.gov/ofm/documents/0517-mins2.pdf

South Dakota Department of Education (2017). *Revised State Template for the Consolidated State Plan: The Elementary and Secondary Education Act of 1965, as amended by the Every Student Succeeds Act.* http://doe.sd.gov/secretary/documents/0517-StatePlan.pdf

South Dakota Department of Education. (2019). *Every Student Succeeds Act South Dakota State Plan Summary.* http://doe.sd.gov/secretary/documents/0517-ESSAPlan.pdf

Spark, S. (2016). Finding evidence-based fixes for schools. *Education Week, 36*(6), 8-9

Spies, T. (2011). Pedagogical considerations in a world of best practice. *Journal of Curriculum & Pedagogy, 8*(2), 120-123

Spooner, F., McKissick, B. R., & Knight, V. F. (2017). Establishing the state of affairs for evidence-based practices in students with severe disabilities. *Research & Practice for Persons with Severe Disabilities*, *42*(1), 8-18

Steeves, K. A., Bernhardt, P. E., Burns, J. P., & Lombard, M. K. (2009). Transforming American educational identity after Sputnik. *American Educational History Journal, 36*(1), 71-87

Strecker, J. (2018). *K-6 educator knowledge, use, and perceptions of research-proven reading programs and practices* (Order No. 10935447). Available from Dissertations & Theses @ University of South Dakota. (2470889118). Retrieved from https://usd.idm.oclc.org/login?url=https://www-proquest-com.usd.idm.oclc.org/dissertations-theses/k-6-educator-knowledge-use-perceptions-research/docview/2470889118/se-2?accountid=14750

Superfine, B. M. (2005). The Politics of accountability: The rise and fall of Goals 2000. *American Journal of Education,* 10-43

Torres, C., Farley, C. A., & Cook, B.G. (2012). A special educator's guide to successfully implementing evidence-based practices. *Teaching Exceptional Children, 45*(1), 64-73

Trybus, M. (2007). Understanding scientifically based research: A mandate or decision making tool? *Delta Kappa Gamma Bulletin, 73*(4), 5-8

U. S. Department of Education (2018). *About IES: Connecting research, policy and practice.* https://ies.ed.gov/aboutus/

U. S. Department of Education. (2020). *Find What Works Based on the Evidence.* https://ies.ed.gov/ncee/wwc

U. S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. (2018). https://ies.ed.gov/ncc/wwc

Ujifusa, A. (2017). ESSA rules rollback complicates states' planning process. *Education Week, 36*(25), 16-18

Wallender, J. (2014). The common core state standards in American public education: Historical underpinnings and justifications. *Delta Kappa Gamma Bulletin, 80*(4), 7-11

Weiss, J., & McGuinn, P. (2016). States as change agents under ESSA. *Kappan,* 28-33

Whitehouse. (2015). *Fact Sheet: Congress Acts to Fix No Child Left Behind.* https://obamawhitehouse.archives.gov/the-press-office/2015/12/03/fact-sheet-congress-acts-fix-no-child-left-behind

Wrigley, T. (2018). The power of "evidence": Reliable science or a set of blunt tools? *British Research Journal, 44*(3), 359-376

Zalud, G. G., & And, O. (1992). *A Survey of Reading Program Materials, Methods, and Teacher Theoretical Orientation in South Dakota Public, Non-Public, and Bureau of Indian Affairs Schools*

Appendix A

What Works Clearinghouse's Evidence-Based Programs & Practices

Accelerated Reader (K-12). Accelerated Reader is a supplementary computerized program in which students are given guided reading instruction, practice, and frequent feedback to improve the reading skills of students in grades K-12. Students are also given blocks of time for silent reading, and upon completing a book, given a test to check the reading comprehension and vocabulary understanding from that particular book. Teachers are then able to use these AR test results to provide them with information on reading skills lacking by that particular student. Evidence from studies show mixed results in reading comprehension for grades 1-4, but do show potentially positive effects in grades 3-8. Studies show no discernible effects in reading fluency for grades 3-5 (U.S. Department of Education, 2020).

Achieve3000 (2-9). Achieve3000 is a whole class, online reading program. It is meant to be a supplemental reading program focusing on nonfiction. The classroom teacher assigns a nonfiction piece to the whole class to work on individually via the online program; however, each student is given a different version of the text and activity based on their reading abilities and needs. Activities work on phonics, comprehension, fluency, phonemic awareness, vocabulary, and writing skills. Teachers are able to track student progress to see growth and areas of concern. Evidence from studies show no discernible effect on reading fluency for grades 2-3, potentially positive effects on comprehension for grades 2-5, and potentially positive effects in literacy achievement in grades 2-8 (U.S. Department of Education, 2020).

ClassWide Peer Tutoring (1-4). ClassWide Peer Tutoring is not a reading program, but an instructional strategy that can be adopted in any reading curriculum. The idea behind ClassWide Peer Tutoring is to have reading teachers put students in peer tutor-tutee partnerships

to practice teaching, reteaching, and using reading skills and strategies. The teacher creates materials for the tutor to use in teaching or reteaching their partner. Evidence from studies show a potentially positive effect in reading achievement in grades 1-4 (U.S. Department of Education, 2020).

Cooperative Integrated Reading and Composition/CIRC (2-6). Cooperative Integrated Reading and Composition or CIRC is a combined reading and writing program for grades 2 through 8. Through this program, students are placed into partnerships which are in turn placed in groups where students work collaboratively on a variety of reading, writing, and language arts activities. The program follows a cycle in which students are give teach led direct instruction that leads into group and partner practice and that takes on a tutoring type of scenario where students evaluate and support one another. The program began as a whole class program but eventually evolved to include two reading programs: Reading Roots for beginning readers and Reading Wings for upper elementary. Both of these programs contain an element of the reading program Success for All. Evidence from studies show a potentially positive effect on reading comprehension in grades 3-4 with no discernible affect on reading achievement. In regards to grades 2-6, studies provide evidence for potentially positive effects in reading comprehension and in literacy achievement (U.S. Department of Education, 2020).

Corrective Reading (3). Corrective Reading is a reading program for strugging readers. Once identified, through this program students focus heavily on vocabulary, word identification, and decoding skills in order to aid in reading comprehension and fluency. Typically used a small group instruction, students are given direct instruction for about 45 minute periods of time for four to five days out of the week. Evidence from studies show no discernible effects in

alphabetics and comprehension for grades three and five; however, studies do show a potentially positive effect in reading fluency at the third grade level (U.S. Department of Education, 2020).

DaisyQuest (K-1). DaisyQuest is a computer game/app that has students work on phonics, rhyming, and word recognition tasks as a way to guide the student through a mysterious land in search of a dragon named Daisy. Evidence from studies show a positive effects in alphabetics for preschool through first grade (U.S. Department of Education, 2020).

Earobics (K-3). Earobics is an adaptive, interactive computer program that individualizes reading instruction based on assessment scores provided prior to beginning the lessons. Earobics can be used for all students from kindergarten to grade three, but is especially useful for struggling readers in the 2nd and 3rd grades. Lessons work on phonemic awareness, reading fluency, auditory skills, and vocabulary (Diehl, 1999). Evidence from studies report a positive effect on alphabetics and potentially positive effect on reading fluency in grades K-3 (U.S. Department of Education, 2020).

Early Intervention in Reading (EIR) (1). Early Intervention in Reading (EIR) is a program offered by McGraw Hill that serves as more of an intervention. Once at-risk readers are identified, a teacher will use the EIR program to help develop the fluency, comprehension, phonemic awareness, phonic, and word identification skills of those struggling readers to help them becomre proficient. The program consists of a teacher book with CD-ROM tutorials, student books, flash cards, and other reading materials. Teachers work with these students in a small group on a daily basis until they demonstrate proficiency. Evidence from studies show potentially pisitive effects in both alphabetics and comprehension at the first grade level (U.S. Department of Education, 2020; McGraw Hill, 2020).

Failure Free Reading (3). Failure Free Reading is a reading program for struggling readers who haven't found success with other reading interventions. This program focuses heavily on vocabulary, word identification, fluency, and reading comprehension for students in grades K-12. Key elements of this program are repeat readings that require little prior knowledge. Instruction and practice are given through scripted teacher instruction, independent work, workbooks, and an online computer program. Evidence from studies show a potentially positive effect in raeding comprehension and no discernible effects in alphabetics and reading fluency at the third grade level (U.S. Department of Education, 2020).

Fast ForWord (K-10). Fast ForWord is a computer based reading intervention for grades K – 10 that focuses on improving the brain's cognitive processing and memory through interactive and engaging activities. Through the improvement of cognitive processes that include sequencing, memory, and attention, reading skills are more effectively taught. Reading skills addressed are phonics, vocabulary, and comprehension. Evidence from studies meeting the WWC's standards show mixed effects in alphabetics in grades K-3, but not discernible effects in grades K-10 as a whole. Studies showed mixed effects in comprehension for grades K-3, yet found potentially positive effects in comprehension for grades 4-10. Evidence from studies also showed no discernible effects in reading fluency in second grade and literacy achievement for grades K-10. Evidence from studies did find positive effects in readign fluency for grades 7-10 (U.S. Department of Education, 2020).

Fluency Formula Read, Write, & Type! (2). Fluency Formula is an supplemental reading program that is used in the classroom grades 1 -6, but also has an at home component. Students work on skills through workbooks, CD's, and flunecy activities in whole class, small group, and individual lessons every day for 10 to 15 minutes. Evidence from studies show

potentially negative effects on reading comprehension in 2nd grade and potentially positive effects on reading fluency in 2nd grade (U.S. Department of Education, 2020).

Leveled Literacy Intervention (K-2). Leveled Literacy Intervention was established by Fountas and Pinnell to supplement **l**iteracy instruction in the classroom for grade K – 12. The teacher works with students in small groups using leveled texts to develop literacy skills. The program aims to develop writing and reading fluency, phonics, phonoligcal awareness, and reading comprehension. The What Works Clearinghouse was only able to find studies meeting their standards for grades K – 2. Evidence from the studies report no effect on alphabetics, positive effects on reading achievement, and potentially positive effects on reading fluency for grades K-2 (U.S. Department of Education, 2020).

Lexia Reading (K-1). Lexia Reading, now called Lexia Core5 Reading, provides students in grades K-5 independent reading practice through a game-like computer program. Teachers are able to provide students with this independent practice and are also given direct instruction activities that are based off of the individual needs of students. The program provides activities that work on developing reading skills in the five areas of reading instruction as they were identified by the National Reading Panel. Evidence from studies reviewed show potentially positive effects in alphabetics for grades K-1 and in comprehension for kindergarten. No discernible effects to reading acheivement and reading fluency have been found in grades K-1 (U.S. Department of Education, 2020).

Lindamood Phoneme Sequencing (LiPS) (1-4). Lindamood Phoneme Sequencing or LiPS is a reading intervention program that works on reading and spelling through phonemic awareness. Students learn how to decode words by first focusing on how their mouths form individual sounds, then sound patterns, and eventually words. Students eventually are provided

with direct instruction in reading and spelling that include sequencing, identifying patterns and site words, and using context clues in decoding word meaning. The WWC has identified studies meeting standards that provide evidence that shows mixed results in alphabetics in first grade and potentially positive effects in reading comprehension also in first grade (U.S. Department of Education, 2020).

Little Books. Little Books written by Christine McCormick, are a series of books that provides beginning readers in kindergarten a simple book aimed towards assisting students with decoding while providing illustrations as a support. The first few books focus on words with a particular vowel sound and adds on with each book. Evidence from studies show potentially positive effects in kindergarten (McCormick; U.S. Department of Education, 2020).

Open Court Reading (1-5). Open Court Reading is a reading program for kindergarten through 6th grade. The program is broken down into three separate units. The first unit focuses on decoding words, phonics, phonemic awareness, and reading fluency. Students then move on to the second unit which focuses on reading comprehension and developing reading skills. The third and final unit branches out into language arts by having students develop writing, grammar, punctuation, and spelling skills. Evidence from studies show a potentially positive effect on comprehension in grades 1-3, potentially positive effect in reading achievement in grades 2-3, and no discernible effect on comprehension in adolescent literacy for grades 1-5 (U.S. Department of Education, 2020).

Peer-Assisted Learning Strategies (K-6). Peer-Assisted Learning Strategies (PALS) was created for struggling readers in grades K-6. PALS provides teachers with lessons where they pair students together for 30 – 35 minute lessons where one teacher acts as a tutor to their partner. The tutor will identify and support their partner by correcting errors and solving

problems during lessons revolving around literacy skills. Students take turns being the tutor during lessons. The WWC has identified studies meeting standards for beginning readers K-1. The evidence reports potentially positive effects in alphabetics in grades K-1, mixed results in comprehension for first grade, and no discernible effect in reading fluency in first grade. In regards to adolescent literacy, WWC identified one study which leads to potentially positive effects in reading comprehension for grades 2 – 6 (U.S. Department of Education, 2020).

Read 180 (4-10). Read 180 is a reading intervention for students who are two or more years behind their peers in reading. During 90 minute sessions, students rotate through whole small group teacher instruction, independent silent reading, and individualized lessons via a computer program. Evidence from studies report a positive effect in comprehension in grades 4-9 and literacy achievement in grades 4-10, a potentially positive effect in reading fluency for grades 4-6, and no effect in alphabetics in grades 4-6 (U.S. Department of Education, 2020).

Read Naturally (2-6). Read Naturally is an individualized reading program for elementary and middle school students. The program includes books, audio, and computer software that allows students to work at their own pace in the classroom, and for the most part, on their own. In addition to individualized reading lessons, teachers model reading, and have students monitor their own progress. In regards to beginning readers, evidence from studies show no discernible effects in alphabetics in third grade. Evidence from studies do show potentially negative effects on reading comprehension, potentially positive effects in reading achievement, and mixed results in reading fluency in grades 2-4. In regards to adolescent readers, studies showed no discernible effect in literacy achievement in grades 3-5 (U.S. Department of Education, 2020).

Read, Write, & Type. Read, Write, & Type is a computer software for beginner readers that focuses on phonics, spelling, writing, and keyboarding. The program emphasizes using writing as a means for learning how to read. Evidence from studies shows potentially positive effects on alphabetics and no discernible effects on reading comprehension (U.S. Department of Education, 2020).

Reading Mastery (K-5). The Reading Mastery program is used in kindergarten through five. This program can be used as a supplemental program, reading intervention, or stand alone reading program. Students will first take a screening test that places them into leveled groups based on skills. Teachers provide direct, explicit instruction on literacy skills and strategies. They also model these reading skills and strategies. Student groups are provided opportunities to accel through guided practice, individual work, continuous monitorying, and orthography system for identifying word sounds. Evidence from studies show potentially negative effects on reading comprehension in grades 4-5 and potentially positive effects on reading fluency in 4th grade (Reading Mastery Signature Edition, n.d.; U.S. Department of Education, 2020).

Reading Plus (5-9). Reading Plus is a reading intervention to improve silent reading for struggling readers in grades 3 – 12. Thr program uses technology in a different way than most reading programs. First, Reading Plus's program tracks the eye movement of students with reading struggles. If a student's eyes have problems moving along in a text, their words per minute drops along with their comprehension. This program aims to improve those eye movements. Secondly, Reading Plus works to improve the cognitive skills of students by working on reading strategies to increase comprehension and knowledge of domain specific vocabulary. Finally, Reading Plus engages students' emotional needs by providing reading materials based on the individual student's interests. Student monitoring and offline resources

are also included. Evidence from studies shows a potentially positive effect on reading comprehension in grades 5 – 9 (U.S. Department of Education, 2020).

Reading Recovery (1). Reading Recovery is a reading intervention where students get one-on-one instruction in reading and writing with a specially trained teacher. Students meet with the Reading Recovery teacher every day for thirty minute sessions until services are no longer needed or at the end of 20 weeks when other recommendations for literacy support will be made. Evidence from studies report a positive effect in alphabetics and reading acheivement and a potentially positive effect in comprehension and reading fluency at the first grade level (U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, 2018).

Sound Partners (K-1). The Sound Partners Reading Program is another one-on-one tutoring program for K-3 students with reading and behavioral concerns that can be delivered by a teacher or parent. This phonics based program can easily be conducted by any adult with little training time needed. Although the program was designed for K-3, evidence supports positive effects amongst kindergarten and first graders (Marchand-Martella et al., 2002). Evidence from studies report a positive effect in alphabetics and in reading fluency for grades K-1, a potentially positive effect on comprehension for K-1, and no dicernible effects on reading achievement in 1st grade (U.S. Department of Education, 2020).

SpellRead (5-6). SpellRead is a reading program that can be used in grades 2 – 12 for readers who are two or more years below their reading grade level. Teacherse rely on expicit instruction on reading strategies and making visual and auditory connections. Lessons are typically delivered in small groups and incorporate speed reading, writing connections, discussions, phonics, and games. Evidence from studies report a positive effect on alphabetics

for grades 5-6 and potentially positive effects in comprehension and reading fluency for grades 5-6 (U.S. Department of Education, 2020).

Start Making a Reader Today / SMART (1-2). Start Making a Reader Today is a reading program for schools where over 40% of the student population is on free and reduced lunches. Students who are already showing signs of being a struggling reader work with a volunteer tutor two times a week for thirty minutes. These volunteers usually work with two to four students reading to them, rereading with them, and asking questions to improve comprehension. Evidence from studies show a potentially positive effects in alphabetics, comprehension, and fluency for grades 1-2 (U.S. Department of Education, 2020).

Stepping Stones to Literacy (K). Stepping Stones to Literacy is a supplemental reading program for grades K-2. Through this program, struggling readers work with the teacher either individually or in small groups developing phonological and phonemic awareness through activities involving listening skills, serial processing, and phonics instruction. This program comes with twenty-five lessons where students meet daily for ten to twenty minutes working on literacy skills. Although designed for K-2, the What Works Clearinghouse has only identified studies meeting standards for kindergarten. The evidence reports positive effects in alphabetics at the kindergarten level (U.S. Department of Education, 2020)

Success for All (K-4). Success for All is a whole school reading program, so the emphasis is not solely on struggling readers. The reason for this is prevent students from becoming struggling readers in the first place. This program relies on assessing and monitoring students every eight weeks to track their progress or identify areas of need in order to assign individualized tutoring or activities. Success for All does group students according to reading levels and incomporates direct instruction in phonics, partner reading, self-monitoring, computer

programs, self-monitoring, and cooperative learning (Freeman, 1996). Evidence from studies report a positive effect on alphabetics in grades K-4, potentially positive effects on reading fluency, and mixed effects on comprehension and reading achievement for grades K-4 (U.S. Department of Education, 2020).

Voyager Universal Literacy System. The Voyager Universal Literacy System is designed for whole classroom use. The goal is to help students read at or above grade level by the time the reach the third grade. This program consists of whole classroom, small group, and individual instruction and activities through a variety of activities and computer software. Students work on phonics, comprehension, reading fluency, vocabulary, and writing. Evidence from studies shows a potentially positive effect in alphabetics and a potentially negative effect in comprehension at the kindergarten level (U.S. Department of Education, 2020).

Waterford Early Reading Program (K). Waterford Early Reading Program is a web-based computer program that differentiates instruction and activities based on the needs of the indvidual learner. Students work on phonics, comprehension, fluency, writing, and vocabulary skills. The program can be used as a supplemental program at school or at home. Evidence from studies show a potentially positive effect in alphabetics but no discernible effectin reading comprehension at the kindergarten level (U.S. Department of Education, 2020).

Wilson Reading System (3). The Wilson Reading System is a program/curriculum that focuses heavily on phonics instruction in order to increase reading comprehension and fluency. Evidence from studies show a potentially positive effect in alphabetics but no discernible effects in comprehension and reading fluency at the third grade level (U.S. Department of Education, 2020).

Appendix B

Survey Instrument

Evidence-Based Survey

Welcome! You are being asked to take this survey as part of a research study conducted by the University of South Dakota's School of Education. This survey will take you about 20 minutes to complete and will help us understand when and how district and school curriculum directors use research.

Before you begin, please note that your participation in this research is voluntary. You may skip questions that you do not want to answer and stop the survey at any time. Your answers will be kept confidential, and your personal information will not be shared with anyone outside the research team.

Survey Questions

1. What is your highest completed level of education? Mark only one oval.
- O Bachelor's degree
- O Master's degree
- O Specialist's degree
- O Doctoral degree

2. What area of study is your highest completed degree in? Mark only one oval.
- O Curriculum and Instruction
- O Educational Administration
- O Elementary Education
- O Special Education
- O Other:

3. How long have you been in education?
- O 1-5 years
- O 6-10 years
- O 11-15 years
- O 15 years or more

4. When your building or district adopts a new curriculum or program, are you the decision maker?
- O Yes
- O No

5. For each activity below, please indicate how often you have used quantitative or qualitative research as part of that activity. Mark only one box per row.

	Never	Sometimes	Frequently	All of the time	Not applicable
Conducted a major adoption of curriculum materials					
Considered purchasing a particular intervention or program targeted at a specific student population (e.g. low-achieving students)					
Considered scaling up a pilot program					
Redesigned a program					
Designed professional development for teachers					
Designed professional development for school and district curriculum directors					
Considered eliminating a program or policy					
Considered directing new or additonal resources (funds and/or people) to a particular program					

6. Which of the following are reading practices, programs, or interventions that you know are used in the district where you supervise, coach, or serve? Check all that apply.

- ☐ Accelerated Reader
- ☐ Achieve3000
- ☐ ClassWide Peer Tutoring
- ☐ Cooperative Integrated Reading and Composition (CIRC)
- ☐ Corrective Reading
- ☐ DaisyQuest
- ☐ Earobics
- ☐ Early Intervention in Reading
- ☐ Failure Free Reading
- ☐ Fast ForWord
- ☐ Fluency Formular Read, Write, and Type!
- ☐ Instructional Conversations & Literature Logs
- ☐ Knowledge is Power Program / KIPP
- ☐ Leveld Literacy Intervention
- ☐ Lexia Reading
- ☐ Lindamood Phoneme Sequencing (LIPS)
- ☐ Little Books
- ☐ Open Court Reading

- ☐ Peer-Assisted Learning Strategies (PALS)
- ☐ Read, Write, & Type
- ☐ Read 180
- ☐ Read Naturally
- ☐ Reading Mastery
- ☐ Reading Plus
- ☐ Reading Recovery
- ☐ Sound Partners
- ☐ SpellRead
- ☐ Start Making a Reader Today / SMART
- ☐ Stepping Stones to Literacy
- ☐ Student Team Reading
- ☐ Success for All
- ☐ Voyager Universal Literacy System
- ☐ Waterfor Early Reading Program
- ☐ Wilson Reading System
- ☐ Other

7. How often are you called upon to read evidence-based research in your job? Mark only one.

- O Never
- O Occasionally
- O Often
- O All of the time

8. During the past twelve months, how often have you sought out or acquired research from the following sources?

	Never	Rarely	Sometimes	Often	All of the time
Professional associations (including conferences, list serves, and publications)					
University contact and/or courses					
Academic journals					
Professional books					
Professional development					
Within school (specialized teachers, other teachers, staff meetings, administration, instructional coaches)					

Other disciplines or consultants (speech and language pathologist, psychologist, school board consultants)					
Regional Education Laboratories					
South Dakota Board of Education					
National Center for Education Statistics (NCES)					
Professionals in other school districts					
What Works Clearinghouse					
Social media (Twitter, Facebook, other)					
Newspapers or magazines					
Curriculum / Textbook Vendors					
Wikipedia					

9. Which of the following reading practices, programs, or interventions are familiar to you? Mark only one per row.

	Very familiar	Somewhat familiar	Not familiar
Accelerated Reader			
Achieve3000			
ClassWide Peer Tutoring			
Cooperative Integrated Reading and Composition (CIRC)			
Corrective Reading			
DaisyQuest			
Earobics			
Early Intervention in Reading			
Failure Free Reading			
Fast ForWord			
Fluency Formula Read, Write, and Type!			
Instructional Conversations & Literature Logs			
Knowledge is Power Porgram / KIPP			
Leveled Literacy Intervention			

Lexia Reading			
Lindamood Phoneme Sequencing (LIPS)			
Little Books			
Open Court Reading			
Peer-Assisted Learning Strategies (PALS)			
Read, Write, & Type			
Read 180			
Read Naturally			
Reading Mastery			
Reading Plus			
Reading Recovery			
Sound Partners			
SpellRead			
Start Making a Reader Today (SMART)			
Stepping Stones to Literacy			
Studetn Team Reading			
Success for All			
Voyager Universal Literacy System			
Waterford Early Reading Program			
Wilson Reading System			

10. To what extent would you agree with the following statements?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
When reading research studies I can differentiate strong from weak evidence.					
I can identify an effective program by analyzing the published research.					
I know I am capable of evaluating the quality of research.					
I know how to locate research programs I want to implement.					
I feel confident in reading evidence-based reading research.					
My professional preparation trained me to read evidence-based reading research.					
It is easy to access evidence-based reading research.					

11. Evidence-based research includes…

- O Quanitative research only
- O Qualitative research only

- O Both quantitative and qualitative research
- O Any research that includes quantitative research, qualitative research, experiences, and personal beliefs.

12. No Child Left Behind (NCLB) has been replaced with Every Student Succees Act (ESSA). Please indicate which statement is true of ESSA in regard to evidence-based reading research? *Mark only one.*

- O Scientifically-based reading research is still a part of ESSA legislation.
- O Scientifically-based reading research is no longer a part of ESSA legislation.
- O I do not know if scientifically-based reading research is still a part of ESSA legislation.

13. How familiar are you with the What Works Clearinghouse?

- O Very familiar
- O Somewhat familiar
- O Not familiar

14. To what extent do you agree or disagree with each of the following statements? *Mark only one per row.*

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Research helps identify solutions to problems facing schools.					
There is a disconnect between the research world and the educational world.					
Research addresses questions that help us make better decisions about schools.					
When confronted with a new problem or decision, it is valuable to speak with education researchers.					
Education research is too narrow to be useful to district and school curriculum directors.					
Education reseawrchers work in an ivory tower and are isolated from practice.					
By the time research fidings are published, they are no longer useful to me.					
Research can address practical problems facing schools.					
Researchers provaide a valuable service to education practitioners.					
Education researchers are unbiased.					

15. To what extent do you agree or disagree with each of the following statements?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Education research is a waste of money.					
Education research provides results that can help curriculum directors improve educational outcomes.					
The claims that research studies make are trustworthy.					
Education research can support any opinion.					
Education research is generally conducted to improve the careers of researchers, not to improve schools.					
A well-designed study with strong findings can change people's minds.					
Researchers frame their results to make political points.					
School and district curriculum directors should regularly read evidence-based reading research.					

16. How practical (useful) is evidence-based reading research?

- O Not practical at all
- O Not very practical
- O Somewhat practical
- O Very practical

17. How applicable (relevant and appropriate) is evidence-based reading research?

- O Not applicable at all
- O Not very applicable
- O Somewhat applicable
- O Very applicable

Appendix C

Pre-Notification of Survey

Dear K-5 School/District Curriculum Director,

My name is Jill Hansen, and I am pursuing my doctoral degree and am in need for a few minutes of your time in the future. I know your time is limited and valuable, so I greatly appreciate your attention.

The revision of the No Child Left Behind Act (2001) to Every Student Succeeds Act (2015) carried forth the call for public schools across the nation to continue implementing research proven instructional programs and strategies. While No Child Left Behind specificed valuable research as being quantitative and research proven programs as "scientifically-based," the Every Student Succeeds Act supported this finding but extended research to include qualitative studies as well. Furthermore, ESSA recognizes the importance of innovation in developing and implementing reading programs and strategies that have yet to be proven as effective by research studies. ESSA developed a tiered system identifying the strengths of each type of research and assigned a points system in which districts could receive more or less funding based on the use of evidence-based programs found on the tiers.

One of the challenges South Dakota school and district curriculum directors face is identifying the defintions of these tiers, locating research on evidence-based reading programs, and sharing that complex information to teachers. I am writing to ask for your help in improving how school and district curriculum directors access and share research and evidence-based programs.

I will be sending out a short survey for you to complete. Please consider using a few minutes of your time to assist me in my research. I thank you in advance for your consideration.

Sincerely,
Jill Hansen

Appendix D

Informed Consent

Dear K-5 Curriculum Director,

I would like to invite you to participate in a research study entitled, "An Examination of a Midwestern State's School Districts' Curriculum Directors Use, Knowledge, and Attitude Towards Research and Evidence-Based Reading Programs." This research is being conducted as part of a doctoral dissertation to fulfill the requirements for the degree of Doctor of Education in the K-12 Curriculum & Instruction division at the University of South Dakota.

The Every Student Succeeds Act (2015) emphasizes and encourages the use of evidence-based programs and practices in reading instruction. It would be informative to know how school and district curriculum directors utilize and perceive evidence-based programs and practices in their buildings and/or districts. By completing this survey, you will be helping to provide information regarding the impact of such programs and practices in K-5 classrooms in the Upper Midwest.

There are 17 questions on the survey and should take approximately 10 to 20 minutes to complete depending on the extent of your knowledge of evidence-based programs and practices. The questions will ask you to rate the extent to which you are familiar with and use research and evidence-based reading programs and practices. The questions will also ask you to rate how you feel about your knowledge and use of those programs and practices in reading. Submitting the completed survey implies your informed consent.

Every submitted and completed survey will be anonymous. The information you provide will become a part of the group data. You will not be identified in connection with any results or reporting of results. All information received will be confidential and treated with professional discretion.

For questions or more information, please contact me at 605-667-0176 or at jill.hansen@coyotes.usd.edu. If you have any questions regarding your rights as a human subject, please contact Research Compliance Office at 605-677-6184.

Thank you for your time and participation. Your response is greatly appreciated.

Sincerely,

Jill Hansen

Dr. Susan Gapp, Advisor
Division of Curriculum and Instruction
University of South Dakota
605-677-6311

Appendix E

Follow-up Email and Reminder

Dear K-5 School / District Curriculum Director,

Last week I sent you an email with a link to a short survey I am conducting in pursuit of a doctoral degree in Curriculum and Instruction with a specialization in reading.

If you have completed the survey, thank you for your time and participation! You can disregard this email.

If you have not yet completed the survey, I would greatly appreciate a few minutes of your time to complete it and help me with my research.

Below you will find the link to that survey in the event that you no longer have the email and wish to reconsider participating.

Sincerely,

Jill Hansen

Appendix F

Last Follow-up Email and Reminder

Dear K-5 School / District Curriculum Director,

This is my last attempt at encouraging anyone that has not responded with the completion of a survey I am coducting to do so.

Last week I sent you an email reminder with a link to a short survey I am conducting I pursuit of a doctoral degree in Curriculum and Instruction with a reading specialization.

If you have completed the survey, thank you again for your time and participation! You can disregard this email.

If you have not yet completed the survey, I am asking one last time, as a fellow public educator, for your support and participation in my research.

Below is another link to that survey in the event that you longer have the email and wish to reconsider participating.

Sincerely,

Jill Hansen

.