A MIXED-METHODS STUDY DETERMINING NEW TEACHERS' PERCEIVED LEVEL OF PREPAREDNESS IN PRIMARY LITERACY INSTRUCTION

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DEDICATION

I dedicate this dissertation to all of the new teacher graduates who are brave enough to take on the monumental challenge of teaching young children how to read. You deserve a preparation program that will enable you to learn the science and the pedagogical methodologies that will allow you to be confident in your ability and successful in your delivery as you begin to work your magic in what I believe is the most important career in the world!

ABSTRACT

Historically, new teachers have entered the profession woefully underprepared to immediately be highly effective, primary literacy teachers. The twenty-first century has brought to education extensive reforms in literacy instruction, but are teacher preparation programs keeping up? This research examines the varying levels of perceived preparedness with which new primary teachers are entering the profession. The researcher surveyed K–3 teachers throughout three districts of varying sizes in a northwestern state. The survey focused on determining teachers' perceptions of their levels of preparedness in literacy instruction in general, as well as in the core literacy elements of phonemic awareness, phonics, fluency, and comprehension. The data collection portion of the survey differentiated between new teachers in their first 3 years, practiced teachers with 4–10 years of experience, and veteran teachers with 11 or more years of experience. The practiced and veteran teachers were asked to reflect upon their preparation and their first years of teaching when answering the survey questions. The researcher completed a comparative analysis of the three groups to determine if there has been improvement over time in perceived levels of preparedness for literacy instruction. The survey results determined that this sample population has, in fact, indicated an improvement in the level of literacy-related teacher preparation. This improvement better enables new teachers to be highly effective in primary literacy instruction, to the great benefit of their students.

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Chapter I

Introduction

Highly effective, knowledgeable, well-prepared teachers are what all students need and deserve in order to get the best education possible. Research has demonstrated teacher quality is the leading factor in student success and is of more consequence than levels of funding, class sizes, and technology access (Fitzharris, Jones, & Crawford, 2008; Harris & Sass, 2008; Konstantopoulos & Sun, 2012; MET, 2010; National Council for Accreditation of Teacher Education [NCATE], 2013; Smith, 2009). Having strong or weak teachers affects up to an entire grade level of achievement in a child's elementary education (Borman & Kimball, 2005). Unfortunately, many new teachers with elementary certification enter the profession grossly underprepared to be highly effective, primary literacy teachers (Bornfreund, 2012; Fitzharris et al., 2008; Greenberg, McKee, & Walsh, 2013; NCATE, 2013). This research explored the varying perceived levels of preparedness at which new primary teachers began their careers, which directly affected their efficacy in literacy instruction. The research analyzed the participant teachers' expressed university experiences, broke down teachers' perceived levels of preparation in the core elements of literacy instruction, and reported overall resulting perceptions of efficacy as new teachers of primary literacy.

Many teachers have an intrinsic sense of mission and believe teaching is a calling (Freedman & Appleman, 2009). However, being a well-prepared, quality, highly effective teacher requires more. A successful literacy teacher prepares students to "effectively use reading to negotiate the world" (Pimentel, 2007, p. 2). For students to achieve that end result, they must acquire an enormous amount of scaffolded skill, which students best learn from competent teachers who are well-versed in the core elements of literacy instruction, instructional pedagogy,

and the science behind how children learn to read (Ballard & Bates, 2008; Barnyak & Paquette, 2010; Bornfreund, 2011, 2012; Connor, Jakobsons, Crowe, & Meadows, 2009; Dillon, 2004; International Reading Association [IRA], 2003a; Moats, 1999; O'Donnell, 2010; Piasta, Connor, Fishman, & Morrison, 2009; Pimentel, 2007; Smith, 2009; Walsh, Glaser, & Wilcox, 2006).

Effective elementary teachers need a knowledge of content and pedagogy that can best be obtained through a combination of course work and fieldwork as part of a comprehensive, intensive, university teacher preparation program (Allen, 2002; Bornfreund, 2012; Council for the Accreditation of Educator Preparation [CAEP], 2013; Greenberg et al., 2013; Maloch et al., 2003; NCATE, 2013; Scott & Baker, 2003; Shuls & Ritter, 2013). Almost every full-service university has a college of education striving to fully prepare preservice teachers to be high-quality, highly effective educators. In doing so, they require preservice elementary teachers to take courses in pedagogy, child development, and classroom management (Greenberg et al., 2013; Maloch, Fine, & Flint, 2002; NCATE, 2013; Shuls & Ritter, 2013). However, great preparation programs realize that learning about these areas through course work alone is not enough to create quality teachers. Programs that are truly effective also require many hours to be spent in actual elementary classrooms at different levels, allowing preservice teachers to practice what they have learned in their course work (Bornfreund, 2012; Greenberg et al., 2013; Maloch et al., 2002; NCATE, 2013; Shuls & Ritter, 2013).

Unfortunately, despite course work and fieldwork completed in their preparation programs, many new teachers enter their first year feeling unprepared and ineffective, especially in teaching emergent literacy (Bornfreund, 2011; Copeland, Keefe, Calhoon, Tanner, & Park, 2011; Dillon, 2004; Dyrli,1999; Maloch et al., 2002; NCATE, 2013). Bornfreund (2012) called for even more fieldwork in the primary level and course work in primary literacy and child

development, as many teachers graduate elementary preparation programs certified to teach primary grades having never spent fieldwork time in those grades. Due to this, they are woefully unprepared for the differences they face between their upper elementary experiences and the primary grades they are often hired to teach (Bornfreund, 2012). Bornfreund explained how new teachers must learn to understand the developmental differences between students at the primary level and upper elementary level, how those developmental differences affect learning, and how to inspire young children to become eager learners. New teachers must be able to make instructional decisions based on student needs, a skill that is honed by extensive classroom experience combined with appropriate course work (Bornfreund, 2012; Dillon, 2004; Greenberg, McKee, & Walsh, 2013; Maloch et al., 2002). In addition, new primary teachers must have a strong grasp of emergent literacy skills and how to successfully teach those skills to young learners, which is an ability not often honed in many university preparation programs (Bornfreund, 2012).

Research has proven time and again how critical the first years of school are to a child's literacy development and achievement, and that reading proficiency by the end of third grade is a remarkable indicator of future success in both education and life in general (Connor et al., 2009; Early Warning, 2001; Gewertz, 2011; Hernandez, 2011; Morris, 2011; Wood, Hill, Meyer, & Flowers, 2005). Students who are not proficient readers by the end of third grade are 4 to 13 times more likely to drop out of high school, dependent upon socioeconomic status (Gewertz, 2011).

Due to said research, with the onset of the No Child Left Behind (NCLB) Act, programs such as Reading First were developed and implemented in districts throughout the country (Connor et al., 2009; Moss et al., 2008). Although controversial and not without flaws, Reading

First provided extensive professional development to primary grade teachers to help them learn the science of reading and learn how to teach the fundamental building blocks of literacy that a vast number of them never learned in their college preparation programs (Connor et al., 2009; Moss et al., 2008). Reading First assisted teachers in learning how to use curriculum-based assessments to drive their instruction, to help pinpoint student strengths and weaknesses, and how to develop interventions and accelerations for students (Connor et al., 2009; Moss et al., 2008). Although grant funding for Reading First expired after the 2006–2007 school year (Moss et al., 2008), teachers are still expected to know how to teach the science of reading, how to use data to drive instruction, and how to effectively intervene when students are not learning. New teachers entering the profession are expected to have this knowledge and be able to implement it into their classroom teaching without additional professional development (NCATE, 2013).

In addition to the high expectations of data-driven instruction, remediation, and differentiation mandated by NCLB, 45 states have more recently adopted the Common Core State Standards (CCSS; Greenberg et al., 2013). The CCSS raise expectations of teaching primary students all of the same fundamental skills necessary to learn how to read, in addition to creating deeper comprehension of more complex text, analyzing nonfiction text, and demonstrating their understanding through narrative, argumentative, and evaluative writings (Greenberg et al., 2013; Hiebert & Pearson, 2012; National Governors Association Center for Best Practices and Council of Chief State School Officers [NGAC/CCSSO], 2010; VanTassel-Baska, 2014). Teachers must understand how to incorporate higher-order processes into the curriculum to prepare students for success in life, as well as success on CCSS-related performance-based assessments (VanTassel-Baska, 2014). In order for students to be successful, new teachers should enter the profession with the requisite knowledge and in solid possession of

the skill sets necessary to teach everything deemed essential through NCLB, CCSS, brain research, and best practices.

Statement of the Problem

Primary literacy instruction is one of the most significant areas of education. Students who achieve reading proficiency by the end of third grade continue to have the greatest educational success through high school graduation and into college and a career (Early Warning, 2001; Gewertz, 2011; Hernandez, 2011; Morris, 2011; Wood, 2005). Teachers entering the profession are expected to be highly qualified, successful teachers, and those beginning their careers as primary teachers are required to be competent, capable, strong literacy teachers (Bornfreund, 2012; Ediger, 2000; International Reading Association [IRA], 2003a; Walsh et al., 2006). Students deserve a teacher who can help them become solidly proficient in literacy. Unfortunately, historically, countless teachers have entered the profession unsure of their skills as reading teachers, having not received adequate training in college about how to actually teach students how to read (Bornfreund, 2011, 2012; Copeland et al., 2011; Dillon, 2004; Dyrli, 1999). Throughout the past decade, in the era of research-based reading instruction, advancements in brain research, and an increased focus on the science of reading in public education, have teacher preparation programs been keeping up? Are new teachers entering the profession feeling well prepared to teach literacy at the primary level?

Research Questions

The central research question for this mixed-methods study asks, Are new teachers entering the profession feeling better prepared to teach literacy at the primary level now than in the past? The question was supported by three subquestions: In which components of primary literacy instruction do new teachers perceive themselves as strong, and in which components do

they perceive themselves as weak? In which areas of primary literacy instruction did new teachers feel better prepared by their preparation programs than in the past, and in which areas did they wish they had received greater preparation? Has there been a change over time in what new teachers believe were the strengths and weaknesses of their preparation programs?

Theoretical Framework

The theoretical framework of this study has been created by the researcher based on a three-prong indicator of effective, beginning, primary literacy teachers: professional preparation (Harris & Sass, 2008; Maloch et al., 2003; Spear-Swerling, Brucker, & Alfano, 2005), professional teaching experience (Harris & Sass, 2008; Johnson, Berg, & Donaldson, 2005; Justice, Greiner, & Anderson, 2003; O'Donnell, 2010), and self-assessment of efficacy (Dillon, 2004; Hoffman et al., 2005; Johnson et al., 2005; Morris, 2011; Walsh et al., 2006). To be highly effective in teaching reading, new teachers must enter the field with a solid understanding of the science of reading (Moats, 1999).

In exploring professional preparation, the research survey contained an in-depth focus on what new teachers were taught by their university preparation programs in regards to teaching using the science of reading, what they knew or did not understand regarding literacy instruction when they began teaching, and what more they believed they needed from their programs before entering the profession to feel prepared to be highly effective. The research survey also investigated briefly the primary field experiences new teachers had prior to beginning their first year of teaching.

In exploring the participants' professional experience, this study focused on the experiences new teachers had in their first years, as research has shown the effect of teacher preparation is overtaken by experience and professional development after the first three years of

teaching (Harris & Sass, 2008; Johnson et al., 2005). The survey also asked about the certification route the participants had travelled, as different types of programs offer varied levels of focused literacy preparation (Bornfreund, 2011; Cochran-Smith & Power, 2010; Justice et al., 2003; Teaching Certification, 2012).

The research is most strongly focused on the third prong of the theoretical framework, which is self-assessment of efficacy. Teachers who reflect upon their professional practice gain a greater understanding of their strengths and weaknesses, and pave the way to improvement (Moats, 1999; Morris, 2011). To enhance understanding of the participating teachers' perceived levels of preparedness, they were asked to self-assess their levels of effectiveness in the four components of literacy instruction, as well as their overall feelings of preparedness to effectively teach primary literacy as a beginning teacher.

Description of Terms

Automaticity. The ability to do something automatically, without needing to stop to think about the individual processes or steps required to accomplish the task (Annenberg Foundation, 2013).

Comprehension. The ability to grasp the whole of what is being read, including understanding the vocabulary, and having the ability to visualize, predict, infer, link to prior knowledge, summarize, and fully create meaning based on the text (Dymock & Nicholson, 2010; Frey & Fisher, 2010; Moats, 1999).

Efficacy. The capacity to produce a desired effect. May be referred to as effectiveness (MET, 2010).

Fluency. The ability to read quickly, smoothly, automatically, and with prosody, allowing for concentration on the meaning of the text rather than the decoding of the text (Annenberg Foundation, 2013).

Nonparametric data. "A class of statistical procedures that do not rely on assumptions about the shape or form of the probability distribution from which the data were drawn" (Hoskin, 2014).

Orthographic knowledge. The understanding of how to correctly represent language in its written form; understanding and applying the rules of spelling (Apel, 2011).

Pedagogy. The art and science of teaching well (Pimentel, 2007).

Phenomenology. The study of human experiences from a first-person point of view (Marshall & Rossman, 2011).

Phonemic awareness. Based on oral language; referred to as the ability to count and manipulate phonemes, or individual sounds, in spoken words (Annenberg Foundation, 2013).

Phonics. The understanding of how spoken language is represented in written form, sound–spelling correspondence, and rules of orthography (Annenberg Foundation, 2013).

Primary grades. Kindergarten through third grade.

Prosody. Reading with voice, phrasing, and appropriate pauses to make text reflect spoken language (Bomer, 2006).

Significance of the Study

This study was significant because it explored the level of preparation new teachers received in the area of literacy instruction. With the nationwide push toward all children learning to read at grade level by the end of third grade (Morris, 2011), teachers need to be very well prepared to teach intensively and effectively at the beginning of their careers. If new teachers enter the profession without the skills and knowledge necessary to be highly effective their first

year, their students suffer the consequences. Preparation programs should be giving new teachers the foundational tools and experiences necessary for them to be highly effective at the start of their first year. This research surveyed primary teachers determine their perceptions of if current preparation programs are better equipping graduates to enter the teaching profession by having provided enough essential course work, experiential learning, and comprehensive fieldwork in primary literacy. The research sought the potential of guiding curricular or programmatic adjustments that may need to be approached in university teacher preparation programs.

Overview of Research Methods

The study of new teacher preparedness in primary literacy instruction was conducted using a mixed-methods approach. According to Borland (2001), combining quantitative and qualitative methods aids the researcher in creating a more complete, holistic analysis of the research question. Griffin and Museus (2011) pointed out the advantages of using a mixed-methods approach to create a richer understanding of research outcomes. The researcher conducted a quantitative analysis of Likert-scale survey statements completed by primary-grade teachers, and a qualitative analysis of open-ended survey questions completed by the same teachers. The surveys were completed by primary teachers in three districts in a northwestern state. One district was city-based, and two were county-based. The urban district consisted of seven elementary schools. One county district consisted of an urban population with three elementary schools and additional outlying rural populations with five elementary schools. The third district was a rural county-wide district with five total schools. The districts were chosen due to their variance in demographics, location, and the universities from which most of their teachers graduated. The researcher wanted a variety of experiences to provide a greater level of

reliability of survey data, yet still maintain a semblance of similarity in data pool by being in the same state with the same certification requirements.

The survey separated data received by teachers with fewer than 3 years of experience, between 4 and 10 years of experience, and 11 or more years of experience. Survey participants in the second two groups were asked to reflect upon their experiences from their first year when responding to the questions. The survey collected data on the type of preparation program the teacher attended, the degree level attained, and the certification type received. The survey asked teachers general questions regarding elements of the preparation program related to literacy, in-depth questions related to teaching the four components of literacy (phonemic awareness, phonics, fluency, and comprehension), and asked them to rate their perceived levels of preparedness in those four components. The researcher analyzed the results of the new teacher group to report what was currently occurring with new teachers regarding their recognized strengths and weaknesses in primary literacy. In addition, a comparative analysis was conducted for the three different experience groups, seeking to determine if perceived preparation levels have changed over time to help teachers meet the demands of twenty-first century educational reform.

The researcher chose a Likert-scale survey format because Likert scales are a universally understood, common format in which participants should be easily able to partake (Johns, 2010; Likert, 1932). The researcher chose to include open-ended survey questions to qualitatively analyze due to the deeper level of understanding that can be achieved from narrative replies, because the use of phenomenology in educational research helps develop a holistic view of the issue being studied (Marshall & Rossman, 2011). The survey was distributed and collected using

Qualtrics, an online survey software that allows for both Likert-scale and open-ended questions and maintains anonymity of participants (Qualtrics, 2013).

Chapter II

Review of Literature

Introduction

Quality teacher preparation programs offer in-depth literacy preparation courses and preservice classroom field experiences and are the key to success for new teacher efficacy in literacy instruction at the primary level (Barnyak & Paquette, 2010; Bornfreund, 2012; CAEP, 2013; Harmon et al., 2001; Hoffman et al., 2005; IRA, 2003a; Maloch et al., 2003). This chapter discusses expectations and standards of teacher efficacy in the twenty-first century, explores features of quality teacher preparation programs, explains characteristics and expectations of effective new teachers, reviews the science of effective literacy instruction and assessment, and describes the theoretical framework for determining preparedness of new primary literacy teachers.

Teacher Efficacy Expectations in the Twenty-First Century

Education has undergone numerous reforms in the last century. With the dawn of the twenty-first century, the push became strong for standardized testing, measuring all students on the basis of proficiency, and implementing punitive measures for schools and teachers whose students did not meet specified benchmarks under the guise of the NCLB Act (Gerstl-Pepin & Woodside-Jiron, 2005; Hargreaves & Shirley, 2009). With the passing of the first decade, both strengths and flaws in NCLB were revealed, leaving education in a turmoil of teaching tested standards to meet proficiency cut-scores, while concurrently still striving to teach students to reach deeper cognition, learn by exploration, and develop problem-solving skills (Desimone, 2013; Gerstl-Pepin & Woodside-Jiron, 2005; Hargreaves & Shirley, 2009). This struggle spawned a call for increased reform, and the second decade gave way to the implementation of

CCSS, requiring primary teachers to expand early literacy instruction from just learning the skills of reading to analyzing text and implementing further higher order thinking analyses, while still meeting NCLB testing regulations (Desimone, 2013; Early Warning, 2010; Gehsmann & Templeton, 2012; Hiebert & Pearson, 2012; NGAC/CCSSO, 2010). Consequently, the government, public, and education stakeholders have strengthened the call for teachers to be more prepared as they enter the profession to be highly effective literacy teachers from day one (Allen, 2002; Bornfreund, 2012; NCATE, 2013; O'Donnell, 2010; Pimentel, 2007).

There is a plethora of research linking student achievement to effective teachers (Ballard & Bates, 2008; Bornfreund, 2011; Dillon, 2004; IRA, 2003b; Konstantopoulos & Sun, 2012; Pimentel, 2007). Children learn more from high-quality teachers who are well trained in research-based, reading instructional theories and techniques (Ballard & Bates, 2008; Bornfreund, 2011; Pimentel, 2007; Walsh et al., 2006), and effective teachers are the most important factor in student achievement (Dillon, 2004; IRA, 2003b; Pimentel, 2007). Students of fully certified, well-qualified teachers demonstrate higher rates of overall academic achievement, most significantly in reading (Bornfreund, 2011; IRA, 2003b; O'Donnell, 2010; Sparks, 2004). Some researchers have found that a teacher's success can be predicted at the time of hire, based on the teacher's academic achievement, leadership experience, and history of perseverance (Dobbie, 2011; Freedman & Appleman, 2009; Hoffman et al., 2005), in addition to quality preparatory experiences (NCATE, 2013; Pimentel, 2007). As a result, students who generally attain higher levels of proficiency have teachers who have demonstrated high academic achievement, graduated with high grade-point averages, have extra certifications or advanced degrees, and attended high-quality preparation programs (Dobbie, 2011; Hoffman et al., 2005; NCATE, 2013; Pimentel, 2007).

Highly effective beginning teachers have a strong knowledge base of content, theory, and pedagogy (Hoffman et al., 2005; Maloch et al., 2003; NCATE, 2013; Walsh et al., 2006). They exhibit passion and excitement toward teaching (Brilhart, 2010) and are optimistic about their teaching capability and the learning potential of their students (Maloch et al., 2003; Ye, 2009). They have an intrinsic sense of mission, are prepared to work hard to be their best, and work diligently to meet the needs of all students, regardless of backgrounds or abilities (Ballard & Bates, 2008; Freedman & Appleman, 2009). Effective teachers are the central creators of the classroom dynamic, as they establish positive relationships with students and parents and continuously work to make content relevant and meaningful for students (Brilhart, 2010; Gentry, Steenbergen-Hu, & Choi, 2011; Johnson et al., 2005). Successful teachers are creative. They can take predictable, scripted programs and create enjoyment for students out of them by designing projects and enhancing relevance (Gerstl-Pepin & Woodside-Jiron, 2005; Maloch et al., 2003). These teachers continually exhibit high expectations for not only their students, but also themselves (Gentry et al., 2011; Johnson et al., 2005).

Quality, effective teaching relies upon much more than what happens in the classroom with students. Teachers should enter the profession with a strong foundational knowledge of primary literacy instruction (NCATE, 2013) in order to maintain effectiveness, and teachers need to stay current on research and engage in district-offered professional development (Ballard & Bates, 2008). Ballard and Bates (2008) further declared, “Teachers are responsible for finding ways to educate all children, and it is a teacher’s duty to participate in professional development activities that foster this responsibility” (p. 562). In addition, Romano (2014) points out that teachers should engage in professional development early in their career to help strengthen areas of weakness, which most teachers notice right away that they have. Therefore, engaging in

additional outside professional development, earning additional certificates, or expanding areas of study is encouraged of all teachers, regardless of years of experience (Gentry, Steenbergen-Hu, & Choi, 2011; O'Donnell, 2010; Romano, 2014). In addition, taking part in networking, teaming, and close collaboration with other teachers is vital to maintaining understanding and practice and improving performance (Ballard & Bates, 2008; Brilhart, 2010; Johnson et al., 2005).

One extreme challenge school districts often face is the recruitment and retention of well-prepared, high-quality teachers (O'Donnell, 2010). In addition to the fact that many teachers are graduating from their education programs woefully underprepared for the real world of teaching (Bornfreund, 2011; Copeland et al., 2011; Dillon, 2004; Dyrli, 1999; Maloch et al., 2002; NCATE, 2013), in some parts of the country, there is a shortage of quality, perceptive, intelligent teacher candidates from which to choose (Freedman & Appleman, 2009). Unfortunately, many highly intelligent college students, who may otherwise be interested in becoming teachers, choose not to go into education due to a sensed lack of respect for the profession and an uncompetitive salary (Allen, 2002). Some researchers have called for a salary equivalent to other professions that require comparable degrees, in order to attract higher quality candidates to teaching (Allen, 2002; Dillon, 2004; Freedman & Appleman, 2009). Allen (2002) also argued that this would increase the prestige of teaching as a career, further attracting quality candidates. However, there are numerous methods of attracting and retaining high-quality teachers that go beyond salary. One way is to assure a positive environment and good working conditions (Allen, 2002). In some situations, districts may need to reduce class sizes or reduce the outside workload and extra duties (Allen, 2002; Justice et al., 2003). It is also critical that teachers have scheduled time for peer collaboration and that the district provides the type of quality, usable professional

development necessary to help teachers stay at the top of their game (Ballard & Bates, 2008; Dillon, 2004; Johnson et al., 2005). However, the best way to retain teachers is to ensure they receive appropriate, useful, high-quality preparation from their university programs so they feel effective and successful (NCATE, 2013).

Districts located in challenging areas of high-poverty, crime-ridden, or rural locations usually have a more difficult time finding and retaining highly effective teachers (Freedman & Appleman, 2009; Justice, Greiner, & Anderson, 2003). Having a revolving door and recurrent first- and second-year teachers, especially when those new teachers may be entering the profession unprepared, negatively impacts students and the overall learning environment of the school (Freedman & Appleman, 2009; Justice et al., 2003). Historically, first- and second-year teachers are not as effective as practiced teachers (Bornfreund, 2012; Connor et al., 2009). Overall, 19% of teachers at the end of their second year express that they will most likely leave teaching due to lack of support from administration, issues with students and parents, or for financial reasons (Justice et al., 2003). Districts can be proactive in combatting turnover by hiring teachers who have a full university credential rather than alternative certification, district credentials, precredentials, emergency credentials, or waivers (Justice et al., 2003; NCATE, 2013; O'Donnell, 2010) and by offering strong mentoring programs for beginning teachers (Allen, 2002; Dillon, 2004; Johnson et al., 2005). They should also extend several opportunities for new teachers to observe experienced teachers throughout their first two years (Dillon, 2004). Teachers' first-year experiences shape how they conceptualize teaching and themselves as educators for the rest of their lives (Brilhart, 2010; Justice et al., 2003).

New teachers in the twenty-first century are expected to be highly effective their first day in the classroom, regardless of where or what they teach, their background, the backgrounds of

their students, the credentialing system they went through, or any other variable. Increased emphasis has been put on teachers teaching all students to read at grade level by third grade using scientifically based methods, which require teachers to have a great depth of knowledge and strong pedagogical skills (Morris, 2011; Pimentel, 2007). Because of this, teacher preparation programs and alternative routes to certification have been under increased scrutiny over the past decade (Cochran-Smith & Power, 2010; NCATE, 2013). Many universities have adjusted their programs with the aim of producing teacher graduates who will be highly effective, primary literacy teachers their first year in the classroom (NCATE, 2013).

Qualities of Effective Teacher Preparation Programs

The need for quality, highly effective teachers is clear, which highlights the need for highly effective, teacher preparation programs, especially at the primary level. Although alternative certification often ensures the teacher candidate possesses content knowledge, it does not ensure pedagogical knowledge or skill, which is critical at the elementary level (NCATE, 2013; Pimentel, 2007). In addition to the updated standards proposed by the Council for the Accreditation of Educator Preparation (CAEP, 2013), literature has outlined many steps that university programs can take to assure they are producing excellent teacher candidates, beginning with recruitment (Cochran-Smith & Power, 2010; Dillon, 2004; Harmon et al., 2001). Teacher preparation programs should set a high standard for admission, require candidates to possess a strong content knowledge base, have rigorous requirements for course work, and establish a high standard for graduation (CAEP, 2013; Dillon, 2004; Harmon et al., 2001). In addition, programs should have a clear mission and vision shared by all faculty (Harmon et al., 2001).

Those working to create, update, or reconfigure teacher preparation programs to meet the needs of current school systems have a great challenge. Program directors should regularly review the course work, fieldwork, and general curricular expectations (Ediger, 2000; Hoffman et al., 2005). Professors should periodically visit public school classrooms to understand current situations, class loads, newly adopted curricula, and modern student behaviors in schools, then use that information to design and create courses that are realistic and help teacher candidates prepare for the real world of teaching (Dillon, 2004; Ediger, 2000). In addition, current classroom teachers should be brought into the university to co-teach methods courses, as a way to relate the theory in the course to the practicality of daily teaching (Ediger, 2000). Professors should update curricula and work with university administrators to keep programs and course work up to date with current research and real-life experiential necessities (Hoffman et al., 2005).

Course work must go beyond theory to integrate theory into practice, and courses should interconnect and work coherently (CAEP, 2013; Cochran-Smith & Power, 2010; Dillon, 2004; Ediger, 2000). The university needs to offer a deep, engaging curriculum that provides for authentic intellectual opportunities, extending beyond superficial demonstrations of learning (Rennert-Ariev, 2008). Courses should be taught using the same hands-on and collaborative learning theories and methodologies the professors are espousing (Dillon, 2004; Harmon et al., 2001). Highly effective, teacher preparation programs require extra course work credits in teaching reading methods, including giving assessments and determining how to use the assessment data to guide future instruction (Maloch et al., 2003; Walsh et al., 2006). When introducing new methodology or strategies, professors should first have preservice teachers role-

play as classroom students and as classroom teachers to model the strategies they are learning (Brilhart, 2010; Dillon, 2004).

In addition, effective courses will also require an extensive number of fieldwork hours, giving the preservice teachers a chance to practice the methodology they are learning in an authentic setting (Cochran-Smith & Power, 2010; Maloch et al., 2003; Morris, 2011; Pimentel, 2007; Walsh et al., 2006). Field experience is an extremely important part of literacy methods course work. As preservice teachers learn theory of literacy instruction, they need to be able to put theory into practice (Maloch et al., 2003; Morris, 2011; Pimentel, 2007). Maloch et al. (2003) described first-year teachers, citing the importance of having practiced various teaching strategies, assessment analyses, and intervention techniques as part of their methods course work, and how much those experiences helped them be better first-year teachers. Morris (2011) also supported this recommendation, calling for new teachers to learn in depth how reading ability develops and have a supervised training experience that truly leads them to learn how to differentiate instruction to meet the needs of struggling readers. Morris cited how education students will learn best how to teach reading by doing it in practicum with focused supervision, coaching, and reflection. He suggested that at the beginning, the student teacher instruct only one student at a time to facilitate development of the teacher's understanding of the student's progression in the learning and application of reading skills (Morris, 2011).

Field experience will help student teachers develop skills in teaching techniques, understanding of materials, and pacing. The student teacher should observe the coaching teacher in the act of teaching, practice the technique while supervised, then reflect with the coach and receive feedback (Maloch et al., 2003; Morris, 2011). In-depth field experience should be integrated into the university training, and universities must be careful to have student teachers

complete fieldwork only with very experienced teachers who are highly trained in scientific, research-based reading pedagogy (Morris, 2011; Pimentel, 2007).

Methods courses should be taught by professors who have experience teaching in the public schools. Unfortunately, many new teachers, especially those who graduated from generalized programs that do not require much fieldwork, do not feel their professors understand what actually occurs in the public school setting (Dillon, 2004; Maloch et al., 2003). Practical methods courses are much more useful to many new teachers than theory courses (Freedman & Appleman, 2009; Maloch et al., 2003). Freedman and Appleman (2009) advised university programs to eliminate courses that merely create busywork, do not reflect reality, and are not essential, in order to have time to include more course work in learning how to teach reading, creating and implementing meaningful interventions, acquiring skills in classroom management, conducting observation analyses, and participating in other first-year experiential necessities. It is also critical for preservice teachers to know how to assess learning, understand testing data, and use assessment data to guide instruction (Dillon, 2004; Morris, 2011).

Training future educators to be successful literacy teachers is one of the most important and most difficult jobs of a teacher education program, yet knowing how to teach reading is vital for a teacher to be highly effective (Bornfreund, 2012; Dillon, 2004; IRA, 2003a; Moats, 1999; O'Donnell, 2010; Walsh et al., 2006). Preservice teachers who learn strong literacy teaching pedagogy in their preparation programs bring those skills with them into their first years, and their preparation programs often shape the strength of the literacy teacher they will become (Morris, 2011; Shaw & Mahlios, 2011). Unfortunately, Walsh et al. found in 2006 that most teacher preparation programs were not adequately teaching the science of reading, mainly due to professorial philosophical differences, but also related to professors' lack of knowledge and

understanding of the science. At that time, only 14% of elementary programs were adequately preparing their students to teach beginning reading skills, and much of what students were learning about reading instruction was incompatible with science (Walsh et al., 2006). Due to this, many new and preservice teachers do not feel prepared to actually teach a child how to read (Bornfreund, 2012; Dillon, 2004; Moats, 1999; Walsh et al., 2006). Preservice teachers are prepared to create lessons exposing children to quality literature, or enhancing comprehension, but not prepared to utilize the science and methodology required to teach students beginning reading skill acquisition (Bornfreund, 2012; Moats, 1999). Fortunately, they often regard teaching literacy as an adventure and a worthwhile challenge that they are determined to conquer (Shaw & Mahlios, 2011). For these teachers, ongoing professional development is key to their future success (NCATE, 2013).

The teacher preparation programs that are successful at meeting the challenge of training their students to become skillful reading teachers have many things in common. They offer course work that is rigorous in teaching the four core elements of reading instruction and instruct students on how to successfully teach those elements (Bornfreund, 2012; Morris, 2011; NCATE, 2013; Pimentel, 2007; Walsh et al., 2006). They also require and offer strong courses in child development that coincide with method course work (Bornfreund, 2012). The programs require students to research and analyze various methodologies and become familiar with scientific brain research as it relates to reading development (Walsh et al., 2006).

Successful programs require field experiences where teacher candidates work in classrooms with students who are struggling readers, assess student weaknesses, develop intervention strategies, and implement those strategies, all while working with the professor, collaborating with a cooperating teacher, and reflecting on the process (Fuhrken, 2006; Morris,

2011; Walsh et al., 2006). Strong programs ensure students truly learn the core elements of what they need to teach primary grades by requiring courses that marry all core fundamental aspects of reading (Hoffman et al., 2005; Walsh et al., 2006), including phonemic awareness, phonics, fluency, and comprehension. This requires more than theories of reading and, therefore, should include preservice teachers learning explicit methods, basic instructional practices, and intervention practices (Dillon, 2004; Morris, 2011; Walsh et al., 2006). Preservice teachers need to acquire knowledge of how to assess student weaknesses and intervene successfully to promote student growth (Justice et al., 2003; Morris, 2011; Walsh et al., 2006).

Many first-year teachers do not feel that they learned enough in their preparation programs to prepare them for the reality of teaching students how to read, although they know teaching reading is extremely complex and vitally important (Bornfreund, 2012; Dillon, 2004; Shaw & Mahlios, 2011). Most elementary preparation programs offer K–6 certification and spend a greater amount of time on preparing teachers for the upper elementary grade content rather than primary grade pedagogy and methodology (Bornfreund, 2012). Inadequate programs are doing a disservice to a generation of students, leaving those students to struggle harder to learn what students of teachers who are well prepared to teach literacy are able to learn much more easily. Well-prepared teachers create an environment of learning that leads to students becoming better readers, resulting in students scoring higher on literacy assessments (Harmon et al., 2001; Walsh et al., 2006).

Teacher preparation programs must offer deliberate, comprehensive instruction for preservice teachers on how to be effective literacy teachers, which goes beyond pedagogy to include learning how to analyze data, how to make data-driven instructional decisions, and how to differentiate instruction to meet the needs of all of their students (Bornfreund, 2012; CAEP,

2013; Killion, 2009; Maloch et al., 2003; Morris, 2011; Walsh et al., 2006). In addition, preservice teachers should have the opportunity to explore various research-based programs and use them briefly to become familiar with how to plan and teach from a variety of instructional texts, as well as how to integrate research-based practices into an assortment of core programs similar to those they may be required to use in their future teaching positions (Dillon, 2004; Morris, 2011). Contrary to the popular belief that teaching is easy, reading instruction is very complex, difficult, and requires a vast amount of knowledge, practice, and skill (Moats, 1999), and it is up to colleges of education to prepare their teacher candidates to be highly effective.

An additional recommended piece of a strong teacher preparation program is teaching preservice teachers effective reflection and collaboration. Strong course work should require preservice teachers to regularly reflect deeply upon their experiences (Brilhart, 2010; Dillon, 2004; Mortari, 2012). Reflection allows the teachers to learn from their successes as well as from their mistakes, gives them an opportunity to make adjustments or determine different strategies to incorporate the next time, and helps them to better understand themselves better as teachers (Brilhart, 2010). To aid in reflection, it is advised that preservice and new teachers become part of an additional virtual community of preservice, student, or first-year teachers (Harmon et al., 2001). This would enable them to share experiences, thoughts, and materials with a much broader group of coworkers and mentors, resulting in a greater variety of assistance and support (Harmon et al., 2001).

Professors also need to engage preservice teachers in collaborative learning. Many preservice teachers did not learn collaboratively in school, but it is the way of the future. They must learn to manage collaboration, see its effectiveness, and understand the depth of learning that can occur when it is done correctly (Compton, Davis, & Correia, 2010; Dillon, 2004;

Harmon et al., 2001). Most importantly, preservice teachers should feel as if they are part of a learning community that will help prepare them for a lifetime of educating and learning (Delfino & Persico, 2007).

Field experience is the most critical piece of a thorough, superior, teacher preparation program. Quality teacher preparation programs mandate extensive, hands-on and observational field experience, beginning early in the program—at times at the freshman level—and continuing as an element of almost every course (Allen, 2002; CAEP, 2013; Cochran-Smith & Power, 2010; Dillon, 2004; Harmon et al., 2001; Hoffman et al., 2005). Field experience entails the preservice teacher going out into the schools and participating in an authentic classroom setting, which provides a connection of learned theory and pedagogy (CAEP, 2013; Cochran-Smith & Power, 2010; Fuhrken, 2006). Field experience is an extremely important part of literacy methods course work. As preservice teachers learn theory of literacy instruction, they need to be able to put theory into practice (Cochran-Smith & Power, 2010). Maloch et al. (2003) described first-year teachers, citing the importance of having practiced various teaching strategies, assessment analyses, and intervention techniques as part of their methods course work, and how much those experiences helped them be better first-year teachers.

Field experience can be complicated to coordinate, which is why strong partnerships between university programs and local school districts are key relationships to foster (Allen, 2002; CAEP, 2013; Dillon, 2004; Harmon et al., 2001). It is important for preservice teachers to work with diverse populations (Allen, 2002; Dillon, 2004), as well as observe and participate in fieldwork at a variety of grade levels, especially for elementary certification (Fuhrken, 2006). Fieldwork gives trainees opportunities to collaborate with experienced teachers and participate in school professional development (Dillon, 2004; Fuhrken, 2006). Overall, fieldwork helps

teachers feel more prepared, for both their student teaching experience and for their first year of solo teaching (Freedman & Appleman, 2009).

The teacher preparation program is the ultimate factor in whether a teacher enters his or her first year feeling well prepared or overwhelmed (Dillon, 2004). Maloch et al. (2003) studied first-year teachers who graduated from generalized teacher preparation programs and contrasted them to those who graduated from programs with a strong emphasis in literacy, which required a great amount of fieldwork. Many of the general program graduates felt disillusioned and ineffective in their first year of teaching, for which Maloch et al. (2003) related to theoretical knowledge not transferring to real-world situations, student issues, or school expectations. Some of these graduates did not gain enough hands-on experience in their preparation programs in the application of literacy teaching and intervention to feel effective in their own classrooms (Maloch et al., 2003). Fieldwork throughout a quality program is critically important, especially in the development of strong, primary literacy teachers.

At the end of most programs, preservice teachers embark on their most essential and intense fieldwork segment, which is student teaching (CAEP, 2013). Student teaching is the period of time when a preservice teacher spends one or two semesters in a classroom with a certified teacher, gradually taking over all teaching duties, putting into practice everything he or she has learned in the preparation program. Although lengths of student teaching assignments vary, the year-long, student teaching experience leads to a better prepared teacher, as it allows the teacher to be mentored through all experiences of a full academic year in a classroom (Johnson et al., 2005).

A successful student teaching program is a “collaborative effort between university supervisors, teacher educators [professors], school administrators, supervising teachers [teacher

mentors], and preservice teachers" (Russell & Russell, 2011, p. 16). Student teachers should be paired with quality teacher mentors and university supervisors who are knowledgeable about current practices and can model best practices (Allen, 2002; Heller, Wood, & Shawgo, 2007; Smith, 2009). Teacher mentors and university supervisors should be trained by the university, engage in professional development, and work closely together (Harmon et al., 2001). University supervisors and teacher mentors ought to participate in collaboration and reflection with the student teacher and offer more than just simplistic feedback (Fuhrken, 2006; Heller et al., 2007; Russell & Russell, 2011; Smith, 2009).

Teacher mentors provide guidance in real-world application of pedagogical knowledge and expansion of content knowledge (Russell & Russell, 2011). Ye (2009) suggested the mentoring experience is one of the primary factors that determine the success of a beginning teacher's experience. Therefore, mentor teachers should be well trained in mentoring methodology and closely connected to the university program (Russell & Russell, 2011). Mentor teachers should be using best current practices and research-based instructional strategies. Many teachers are resistant to change, and if they are following antiquated pedagogy, they may negatively influence the impressionable student teacher and, therefore, should be advised not to be mentors (Ylimaki & McClain, 2005). Because student teaching is such a significant piece of a preservice teacher's education, it is important to keep open communication and partnerships between the university and the school district (Heller et al., 2007).

After successfully completing course work and student teaching, obtaining a degree in education, and earning state teaching certification, most teacher trainees try to find a teaching position for the following fall. Although 88% of them initially feel they have been generally well prepared by their university programs (Justice et al., 2003), almost all will cope with feeling

"reality shock" throughout their first year (Dillon, 2004), and primary teachers will struggle with learning to effectively teach their students how to read (Bornfreund, 2012; Maloch et al., 2003; Piasta et al., 2009). Bornfreund (2012) interviewed several first-year teachers and found that they all believed they were woefully underprepared to teach beginning reading and were frustrated at their preparation programs for not teaching them more of the tools they would need to be successful at the primary level. However, Maloch et al. (2003) found those who graduated from programs with an intense focus on literacy preparedness believed they were well equipped and were quite confident in their ability to meet the academic needs of their students.

Despite the shock and lack of preparation, new teachers are expected to be as academically effective as experienced teachers. Experienced teachers have the advantage of not only knowing the fundamentals of how to teach comprehensive literacy, but also understanding all of the preliminary foundations that must be laid in a classroom prior to commencing successful, intense academics (Bornfreund, 2012; Dillon, 2004). First, teachers need to begin making connections with students, because knowing they are having an impact on their students' lives from the beginning makes an immense difference in how they view their own effectiveness (Dillon, 2004; Fayne & Ortquist-Ahrens, 2006). Dillon (2004) also suggested that the teachers establish routines, expectations, and clear strategies of classroom management right away, and be sure to demonstrate self-confidence. Finally, new teachers need to be sure they understand school rules and procedures for academic and behavioral issues (Dillon, 2004).

To assist new teachers, Dillon (2004) suggested that schools should have induction programs consisting of four elements:

1. Orientation "used as a means to familiarize new teachers with school procedures and to introduce them to existing faculty and the culture of the school";

2. “Training to assist teachers with classroom management strategies, student assessment, and curriculum mandates”;
3. “Support from a mentor . . . [who can provide new teachers] with the attention and assistance . . . necessary to make a positive transition from college to the classroom setting”; and
4. “Assessment of a new teacher's teaching performance” (p. 28).

It is also advised that the teacher be given a handbook with school-specific routines, responsibilities, and expectations (Dillon, 2004; Johnson et al., 2005).

One of the most oft suggested ways to assist new teachers through reality shock and into a successful first year is for the district to provide a quality peer mentoring program. A mentor helps the new teacher be more effective, especially if the mentor teaches the same grade level and subject matter (Johnson et al., 2005). Mentors can assist with learning school routines, keeping on track with deadlines, knowing paperwork expectations, attending grade-level meetings, and meeting curricular expectations (Dillon, 2004). The mentor and mentee should have regularly scheduled meeting times and exchange verbal and written reflections to help the new teacher improve instruction (Mortari, 2012). The principal can support the new teacher by allowing approved professional leave time to provide opportunities to observe veteran teachers. The principal can also give formal and informal evaluative feedback that is constructive and helpful and participate in reflective conversations (Danielson, 2007; Dillon, 2004).

New teachers also need to look out for themselves. They must seek support when and where it is needed. It is helpful if the new teacher is working in a fully supportive environment, where more teachers other than just the mentor offer to help. The new teacher should take advantage of any chances to attend district-wide meetings provided to offer new teachers time to

discuss experiences and questions, and to provide each other with support (Dillon, 2004). New teachers should take detailed notes, so they can look back at them the following year to help themselves improve and provide direction for seeking assistance with problems. They should take advantage of professional development opportunities to help expand knowledge and practice, especially to improve their understanding of literacy acquisition skills (Connor et al., 2009; Dillon, 2004). Finally, new teachers should jump at the opportunity to participate in any first-year teacher collaborative groups (Heller et al., 2007).

Core Elements of Effective Reading Instruction

Reading is the most significantly important yet most difficult subject for new teachers to teach. Nevertheless, knowledge of how to teach the core elements of reading is vital for effective literacy instruction (Barnyak & Paquette, 2010; Connor et al., 2009; Early Warning, 2010; Frey & Fisher, 2010; Maloch et al., 2003; Moats, 1999; Morris, 2011; Piasta et al., 2009; Smith, 2009; Walsh et al., 2006). Smith (2009) stated, “teachers cannot make sound instructional decisions without knowing the basic principles involved in how children learn to read” (p. 249). Students need initial instruction focusing on the fundamental building blocks of literacy, which are phonemic awareness, phonics (including spelling), fluency, and comprehension (including vocabulary and text connection; Macaruso & Shankweiler, 2010; Moats, 1999; Walsh et al., 2006). Phonemic awareness and phonics beget better decoding and spelling skills, which impact fluency, which in turn is closely related to comprehension and vocabulary development. As a result, fluent readers demonstrate a markedly better comprehension of text than do nonfluent readers (Macaruso & Shankweiler, 2010). Congruently, fluent readers have higher phonemic awareness, greater word-attack skills, better listening memory, larger vocabulary, greater

comprehension, and greater writing ability than struggling readers have (Frey & Fisher, 2010; Mellard, Woods, & Fall, 2001; Moats, 1999; Walsh et al., 2006).

High levels of student achievement are linked to explicit, systematic direct instruction in phonemic awareness, phonics, and fluency, as well as meaningful interactions with text, extended reading practice, differentiated instruction, writing experiences, and higher order thinking skills (Gehsmann & Templeton, 2012; Goswami, 2006; Moats, 1999; Roundy & Roundy, 2009; Shaywitz & Shaywitz, 2007). Building foundational reading skills inherently enhances students' comprehension and vocabulary, and integrating quality, engaging, thought-provoking literature as a supplement to said instruction rounds out the all-encompassing domain of effective literacy instruction (Barnyak & Paquette, 2010; Heibert & Pearson, 2012; Heller et al., 2007).

The history of literacy education has been fraught with opposing schools of thought on the best methodologies of teaching reading (Ylimaki & McClain, 2005), but scientific research has helped solidify the best pedagogical practices (Keller & Just, 2009; Moats, 1999; Walsh et al., 2006). Much has been done in the area of brain research in reading, showing a marked difference in the brain activity of fluent readers versus struggling readers (Frey & Fisher, 2010; Keller & Just, 2009; Shaywitz & Shaywitz, 2004, 2007; Sousa, 2006).

Brain research. Unlike learning to speak, the brain does not innately learn how to read. It must be taught (Frey & Fisher, 2010). There are three areas in the left hemisphere of the brain that function when reading: the left occipito-temporal lobe, Broca's area of the frontal lobe, and the parieto-temporal lobe (Frey & Fisher, 2010; Shaywitz & Shaywitz, 2004). The left occipito-temporal lobe is responsible for word analysis and fluent reading and has been dubbed the "word forming" area of the brain (Sousa, 2006). Broca's area and the parieto-temporal lobe are more

responsible for articulation and word meaning, which come after words are formed (Shaywitz & Shaywitz, 2007), then the frontal lobe combines all of the information to create full comprehension (Sousa, 2006). As the brain learns to read, it physically changes. Neurons fire for each new piece of written language learned, and repeated neuron firings create permanent neural pathways in the brain, allowing for automaticity (Frey & Fisher, 2010).

Shaywitz and Shaywitz (2004) conducted magnetic resonance imaging (MRI) tests that showed nonstandard activity in those neurosystems in struggling readers, especially in the occipito-temporal lobe, which they noted is caused by a "glitch in the neuro-circuitry" of the brain. Keller and Just (2009) used diffusion tensor imaging (DTI) to measure the structural integrity of white brain matter, which also showed a marked difference in the brains of poor readers versus good readers. Brains of poor readers show very little activity in the left occipito-temporal lobe, yet in fluent readers, circuitry activation is dominant in the word formation area of the left occipito-temporal lobe (Keller & Just, 2009; Shaywitz & Shaywitz, 2004; Sousa, 2006).

The ongoing Shaywitz and Shaywitz (2008) research has demonstrated to be beneficial in determining how to approach primary reading instruction and literacy interventions. Many people assume that students who do not receive explicit, systematic literacy instruction at the primary level will naturally learn the information as they age, or that other areas of the brain will compensate to help them become competent readers. Although this does happen for some students, the vast majority of students do not intuitively understand the alphabetic principle (Frey & Fisher, 2010). For them, this neuron disruption will not go away without explicit, systematic instruction (Frey & Fisher, 2010; Shaywitz & Shaywitz, 2008). Although some students are able to compensate by using more of Broca's area to memorize words and figure out unfamiliar words

using context, they still lack basic skills, encounter difficulty with unknown words, and demonstrate less fluency (Frey & Fisher, 2010). Developing the afore-mentioned compensation strategies may allow them to develop functional reading, but does not allow for rapid, automatic development of word recognition, reading, or spelling skills, so their literary functioning will always be slow and laborious (Shaywitz & Shaywitz 2004, 2008).

Keller and Just (2009) conducted similar research demonstrating the ability of intensive remedial reading instruction to change the structural integrity of the cortical white matter of brains in children who were struggling readers. Children underwent DTI tests before remedial reading instruction began and approximately six months later, after the instruction ended. After the intensive remediation, the poor readers made great improvements in their reading and had significant increase in the connectivity tracts in the brain. Prior to the remediation, the poor readers in both groups scored similarly in multiple reading assessments, while the good readers scored significantly better. Following the intervention, the remediation participants showed statistically significant improvement on follow-up reading assessments. The poor reader group without intervention did not show improvement. The remediation led to measurable changes in the left lobe of the brain, the region that differed between the poor readers and good readers prior to the remediation. The authors pointed out the possibility of the repeated phonological processing in the remediation strengthened the connections in the brain. The significant improvement in white matter activity led to the conclusion that the systematic, explicit instruction of the intervention was successful in helping retrain the brain to more closely mirror a nonstruggling reader (Keller & Just, 2009).

Brain research experiments, such as those explained above, prove how important it is for teachers to help students fully develop function in the left occipito-temporal lobe and Broca’s

area. Because DTI and MRI tests demonstrate greater activation in both regions of the brain following explicit direct instruction (Keller & Just, 2009; Shaywitz & Shaywitz, 2008), teachers who give instruction using systematic, explicit phonemic awareness, phonics, fluency, and comprehension lessons are helping the critical left hemisphere areas of their students' brains begin to function at a much higher rate (Frey & Fisher, 2010). This allows the students to learn to read with greater accuracy and fluency (Shaywitz & Shaywitz, 2004; Sousa, 2006). Teacher preparation programs must help new teachers to learn and understand how students' brains function in order for them to successfully teach primary literacy and fully develop effective interventions (Spear-Swerling et al., 2005; Walsh et al., 2006).

Components of reading. Reading development can be broken down into four key components: phonemic awareness, phonics, fluency, and comprehension (Binder, Snyder, Ardoin, & Morris, 2011; Connor et al., 2009; Moats, 1999; Sousa, 2006; Tyler & Burnham, 2006; Walsh et al., 2006). Teachers must be knowledgeable in each of those disciplines and their subsets to be competent in delivering effective primary literacy instruction (Moats, 1999; Walsh et al., 2006). In fact, Walsh et al. (2006) stated,

> By routinely applying the lessons learned from the scientific findings to the classroom, [student] reading failure is now considered largely avoidable. It is estimated that the current failure rate of 20 to 30 percent could be reduced to the range of 2 to 10 percent. (p. 8)

Therefore, it is imperative that new teachers graduate from college with a deep knowledge base of phonemic awareness, phonics, fluency, and comprehension, both in what they are and how to teach them to students.

Phonemic awareness is based on oral language and is often referred to as the ability to manipulate phonemes, or individual sounds, in spoken words (Apel, 2011; Koutsoftas, Harmon, & Gray, 2009; Sousa, 2006; Tyler & Burnham, 2006; Walsh et al., 2006). The human brain begins developing phonemic awareness at birth, and by about 10 to 12 months, begins to truly distinguish individual sounds in the native language (Sousa, 2006). At this time, a toddler begins to move from merely uttering sounds into combining the sounds into words, and beginning speech patterns emerge (Sousa, 2006). Adults verbally interacting with the toddler helps develop the child's left occipito-temporal lobe, preparing them for later reading success (Sousa, 2006). In fact, struggling readers show phonemic awareness deficits not found in nonstruggling readers (Bone, Cirino, Morris, & Morris, 2002; Frey & Fisher, 2010; Walsh et al., 2006). Phonemic awareness is a strong indicator of successful literacy acquisition, and without it, one cannot become a truly successful, highly functioning reader (Frey & Fisher, 2010; Koutsoftas et al., 2009; Tyler & Burnham, 2006; Walsh et al., 2006). However, with intensive, systematic, direct-instruction interventions in phonemic awareness, students can overcome earlier deficits (Frey & Fisher, 2010; Koutsoftas et al., 2009; Walsh et al., 2006).

Many who struggle with reading do not fully understand the sound discrimination and phoneme manipulation or were not taught explicit phonemic awareness. Phonemic awareness is sound based, not letter based, and is therefore taught orally, not with writing (Scarborough, Ehri, Olson, & Fowler, 1998; Sousa, 2006; Walsh et al., 2006). Students need to understand that phonemes are sounds, which are combined into words, which can then be segmented back out into phonemes (Moats, 1999; Sousa, 2006; Walsh et al., 2006). Researchers also point out that older students must realize that there is not always a one-to-one correspondence of letters and sounds—for example, the /sh/ sound is made of two letters, and the /ō/ sound can consist of four

letters, as in the word *though* (Moats, 1999; Sousa, 2006; Walsh et al., 2006). Scarborough, Ehri, Olson, and Fowler (1998) and Koutsoftas et al. (2009) conducted studies of phonemic awareness in students with low literacy skills and found that participants demonstrated severe deficits in phoneme segmentation and manipulation. Multiple studies have determined students must receive explicit, systematic, direct instruction in phonemic awareness taught with focused vocabulary and descriptive language that provides immediate feedback, in order to help improve reading accuracy (Koutsoftas et al., 2009; Scarborough et al., 1998; Walsh et al., 2006).

The second component of effective, comprehensive literacy instruction is phonics, which is a proven predictor of reading ability up through the eighth-grade reading level (Binder et al., 2011). Phonics is the relation of phonemic awareness to grapheme awareness, or the understanding of how spoken language is represented in written form (Apel, 2011; Tyler & Burnham, 2006; Walsh et al., 2006). A grapheme is the smallest written language unit that represents one sound in a word and may consist of a single letter or a cluster of letters that represent a single sound (Walsh et al., 2006).

Brain research conducted by Shaywitz and Shaywitz (2004) and by Keller and Just (2009) indicates that explicit, sequential, direct instruction in phonics is necessary to increase reading ability, and presenting phonics in a fragmented, nonsystematic way is ineffective. Apel (2011) suggested that to properly learn sound–spelling correspondence, readers need to have ingrained knowledge of the alphabetic principle, knowing which letters make which sounds, and that letter combinations also create specific sounds. Walsh et al. (2006) and Moats (1999) espoused the importance of explicit, systematic phonics instruction rather than the teacher utilizing randomized instructional techniques as they see students struggling with specific words.

Researchers have determined a recommended sequential process of instruction: (a) progress through the basic alphabetic knowledge of consonants, vowels, digraphs, blends, and diphthongs; (b) teach syllable types and syllabication; (c) attack roots, prefixes, and suffixes (Moats, 1999; Perin & Greenberg, 2007). Without the systematic progression, phonics instruction is much more ineffective, and many students' brains will not create the neuro-pathways necessary for automaticity in reading (Shaywitz & Shaywitz, 2004).

Spelling is a skill very closely related to phonemic awareness and phonics, and should therefore be taught in a sequential process alongside those skills (Gehsmann & Templeton, 2012; Moats, 1999; Walsh et al., 2006). Accurate spellers utilize phoneme segmentation skills to break apart an unknown word and then phonics skills to represent the phonemes in a correctly spelled word (Gehsmann & Templeton, 2012; Moats, 1999). Much of reading development can be linked to spelling, and spellers' deficiencies will affect their ability to decode unfamiliar text. Gehsmann and Templeton (2012) stated, "The more students know about orthography—how words work, their structure, and how that structure corresponds to sound and meaning—the more rapidly they can identify words in print and generate words in writing" (p. 6). A teacher can accurately determine a student's reading fluency and writing ability and assess deficits based on how the student spells (Gehsmann & Templeton, 2012). With explicit instruction, students gain knowledge of the structure of language in reading, and they learn to correctly translate that structure to its written form (Moats, 1999). Without solid phonemic awareness and phonics skills, spelling unknown words is extremely difficult (Apel, 2011; Walsh et al., 2006), which impedes writing. Accurate, fluent, automatic spelling is a core element of effective written expression, which is a necessary component of all subjects (Moats, 1999).

Oral reading fluency is a large predictor of overall reading competency and success and is, therefore, a vital skill (Baker et al., 2008). Fluency is defined as reading with speed, accuracy, and prosody (Bomer, 2006). Reading with automaticity frees the brain to focus on the content of what is being read, rather than on how to attack the words on the page (Baker et al., 2008). Brain research by Shaywitz and Shaywitz (2004) showed that fluency is acquired sequentially. Moats (1999) explained the sequential process: first, the reader must learn letters and sounds, then be able to group them accurately into words, and finally speak them in smooth phrases and sentences. Shaywitz and Shaywitz (2004) showed that the brain of a fluent reader builds and recognizes word chunks and eventually whole words in the left occipito-temporal lobe. That brain no longer has to break words down into individual letters and sounds to read them, yet maintains the ability to do so, unlike the more ineffective memorized sight-word reading that occurs in the Broca's area of struggling readers.

Over time, those who gain fluency through phonics and phonemic awareness develop greater word accuracy, speed, and comprehension, and for them, reading becomes effortless (Moats, 1999; Shaywitz & Shaywitz, 2004). Fluency is one of the greatest determiners of comprehension and overall reading success and, therefore, should be a significant focus for reading teachers (Baker et al., 2008). Increased fluency results in an increased desire to read, which further increases all reading skills, including vocabulary, comprehension, and writing (Moats, 1999; Winn, Skinner, Oliver, Hale, & Ziegler, 2006). By increasing fluency, students will find that reading can be easy, discover why so many people read for pleasure, and understand how to successfully read for information (Shaywitz & Shaywitz, 2004).

Researchers reinforce how important it is for teachers to be highly trained and knowledgeable in understanding fluency assessments and remediation strategies for struggling

readers (Baker et al., 2008; Moats, 1999; Pruitt & Cooper, 2008; Roundy & Roundy, 2009; Winn et al., 2006). Baker et al. (2008) stated, “Poor reading growth may signal the need to examine the overall system [classroom] in which reading instruction is provided” (p. 34). Roundy and Roundy (2009) suggested reading teachers ought to employ a three-prong, cyclical process of teaching fluency and schedule time for regular fluency instruction. Students should engage in repeated oral and silent readings, receive feedback on their reading, and listen to fluent reading (Pruitt & Cooper, 2008; Roundy & Roundy, 2009). Reading aloud activates three functionalities of the brain, where the reader sees the words, speaks the words, and hears the words. This reinforces the structure of language at multiple levels at once, helping to greatly increase fluency (Roundy & Roundy, 2009). Repeatedly reading word phrases leads to automaticity (Pruitt & Cooper, 2008), and with enough practice and repetition, phrases read and learned are eventually carried over into other reading tasks (Roundy & Roundy, 2009).

Immediate feedback is a critical component of building fluency (Valleley & Shriver, 2003). One successful strategy is for the reader to be timed for one minute on a reading-level-appropriate passage. While reading, the teacher marks any misread words. If the reader doesn't know a word, the reader should try to decode it, but if unsuccessful, the teacher tells the word after 3 seconds, so the flow of the reading is not disrupted. After the minute is up, the teacher can calculate the student’s fluency score by taking the words read per minute (WPM) minus the errors to determine the score for the words read correctly per minute (WCPM). This rate should be recorded consistently to demonstrate fluency building (Pruitt & Cooper, 2008). Graphing WCPM and error results on a regular basis gives performance feedback and incentivizes the student (Alber-Morgan, 2006; Baker et al., 2008). As students work to improve WCPM and reduce errors, they will get stronger in all areas of reading (Mellard et al., 2001).

Listening to reading is the third strategy that should be utilized to help improve fluency. This includes listening while reading aloud and listening while reading along silently. In a study of struggling readers conducted by Skinner and Johnson (1995), all participants showed an increase in fluency on a passage consisting mainly of unknown words after listening to an accurate reading. A further study by Winn, Skinner, Oliver, Hale, and Ziegler (2006) showed enhanced out-loud reading fluency after reading along silently while fluent readers read aloud. Winn et al. (2006) stated, “Reading along [silently] with a more rapid reader establishes a neurological pattern of more rapid neurological responding within the listener” (p. 198), resulting in increased fluency for the listener. Furthermore, struggling readers who listened to demonstrations of accurate reading of the same passage at slow, moderate, and rapid rates showed an increase in their own fluency (Skinner & Johnson, 1995). Another listening-while-reading strategy that is very effective at improving fluency is reading aloud together, either in pairs or groups (Moats, 1999). Hearing others read aloud simultaneously stimulates more senses in students, resulting in more areas of the brain engaging in the process (Winn et al., 2006). Even if the choral reading is at a slightly slower pace than a student's regular reading speed, it aids in overall fluency development (Moats, 1999; Skinner & Johnson, 1995).

Fluency is more than just speed and accuracy, though, as true fluency also includes reading with prosody, or expression. Struggling readers can learn how to read better with prosody, both silently and aloud, by listening to a fluent reader's vocalization change determinant on the character or situation (Bomer, 2006). Teachers should also record their students reading and have the students listen to their own reading. By listening to recordings and by really focusing on listening to themselves as they are reading, they can learn to better use their own

voice. Hence, repeated readings and practice are essential to building all aspects of fluency (Bomer, 2006; Skinner & Johnson, 1995).

Comprehension is strongly related to fluency. Connor et al. (2009) wrote about the level of comprehension students exhibit in the beginning stages of reading skill acquisition being predominantly based on decoding ability. As decoding skills improve and students begin reading smoothly and quickly and voicing differently for situations and characters, comprehension improves (Bomer, 2006; Moats, 1999). The brain research supports this as well. Frey and Fisher (2010) stated,

> The reading brain must figure out a way to convert the occipital region of the brain, which is designed to recognize objects, into one that recognizes letters and words. Letter and word recognition must be further coordinated with the auditory areas of the brain that process the sounds of language and assemble them into meaningful strings. This loop between the occipital lobe, Broca's area in the left frontal lobe (language processing), and Wernicke's area in the left temporal lobe (language comprehension) must be trained to coordinate efficiently. Any disruption in this pathway can potentially interfere with reading comprehension. (p. 104)

Frey and Fisher (2010) inferred that as students become better readers, less brain function is used in the process of reading the words themselves, allowing for more brain function to be utilized in the creation of meaning of what is being read. Increased automaticity in phonics and then fluency leads to greater comprehension (Frey & Fisher, 2010). When students are able to read fluently, the functions of the brain are able to focus more on making meaning out of what is being read as a whole, rather than merely connecting the pieces into words (Connor et al., 2009; Shaywitz & Shaywitz, 2004). To help students create and understand meaning, effective literacy

teachers should explicitly teach vocabulary (Moats, 1999), as well as teach students how to monitor and clarify, visualize, make predictions, substantiate inferences, link to prior knowledge, ask questions, and summarize (Dymock & Nicholson, 2010; Heller et al., 2007). Also, providing students an opportunity to read genres or selections that they enjoy encourages them to be more involved in the reading process, helping them to enjoy the stories more and, therefore, demonstrate better comprehension (Gerstl-Pepin & Woodside-Jiron, 2005).

The ultimate goal of all reading instruction is to instill in students a love of reading and an understanding of the power of literature. In addition to the instructional process of explicitly teaching the fundamental elements of reading, teachers should make sure students are frequently given access to quality literature (Heller et al., 2007). CCSS now require primary students to simultaneously develop foundational reading skills and complex comprehension analysis skills, so that learning to read and reading to learn happen simultaneously (Hiebert & Pearson, 2012). Teachers are encouraged to have students regularly engage in reading authentic literature outside of direct instruction to supplement the decodable curricular selections and fluency passages, as a way to foster a love of reading, increase comprehension, and differentiate instruction (Ylimaki & McClain, 2005). Hiebert and Pearson (2012) called for additional explicit instruction in comprehension strategies to supplement decoding strategies and advance student literacy skills.

Measuring New Teacher Preparedness in Primary Literacy Instruction: A Theoretical Framework

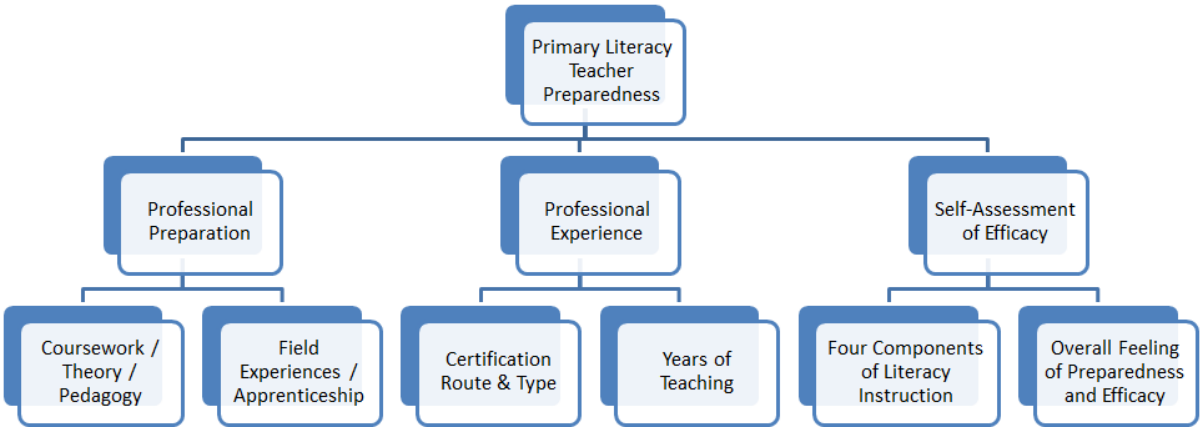
New teacher preparedness in primary literacy instruction is complex and difficult to measure. Although universities must meet accreditation requirements, actual programs can vary greatly (CAEP, 2013). Some primary teachers possess an early childhood degree, qualifying them for certification in preschool through third grade, while the majority possess an elementary

education degree, qualifying them for certification in kindergarten through fifth or sixth grade (Bornfreund, 2011). Although both of these tracts of certification qualify the graduate to teach primary literacy, Bornfreund (2012) found that graduates of both types of programs are often inadequately prepared for the challenging task of teaching children to read. Even students from the same universities may have had varied preparation due to the grade levels they experienced in their fieldwork (Bornfreund, 2012). So, merely measuring the types of courses taken does not give an adequate representation of whether teachers are entering their first years of teaching fully prepared to skillfully teach primary literacy. Therefore, this research attempts to measure feelings of preparedness by surveying primary grade teachers.

The researcher created a theoretical framework upon which to base the study in an attempt to measure new teacher preparedness of the primary grade teachers by focusing on three key components, each with two subcomponents. The first component required participants to reflect upon their professional preparation as evidenced by university course work and field experiences, including student teaching (Harris & Sass, 2008; Maloch et al., 2003; Spear-Swerling et al., 2005). The second component was professional experience, which was broken into questions regarding professional certification route and type and years of teaching experience (Harris & Sass, 2008; Johnson et al., 2005; Justice et al., 2003; O'Donnell, 2010). The third and most complex component consisted of a teacher self-assessment of effectiveness in the four specific areas of primary literacy instruction, as well as overall feelings of efficacy as a beginning teacher (Dillon, 2004; Hoffman et al., 2005; Johnson et al., 2005; Morris, 2011; Walsh et al., 2006). To assess teacher perceptions of effectiveness using this theoretical framework, the researcher created a survey using Likert-scale survey statements and open-ended survey questions (Likert, 1932).

Figure 1

Theoretical Framework Synopsis



The first prong of the theoretical framework focuses on professional preparation, as teachers enter the profession with a huge variance in background knowledge and training. Universities vary greatly in their teacher preparation programs, and teachers graduate with various levels of academic attainment and advanced degrees. Harris and Sass (2011) found a statistically significant correlation between the quality of the teacher preparation program attended and the teacher's effectiveness as measured with student achievement data. Teachers who graduate from university programs that require extensive fieldwork, especially in the area of literacy instruction, are more effective at teaching reading when they begin their careers (Morris, 2011).

In a study conducted by Spear-Swelling et al. (2005) regarding literacy knowledge gained in teacher preparation being put to effective use in the first years of teaching, they found teachers with greater levels of preparation and field experience scored higher. Field experience led to greater confidence in their knowledge as teachers, and extensive preparation was key to understanding and teaching the structure of the English language, including morpheme counting, phonemic segmentation, syllable types, irregular words, and overall reading progression (Spear-

Swelling et al., 2005). In addition, Maloch et al. (2003) studied first-year teachers who graduated from generalized teacher preparation programs and contrasted them to those who graduated from programs with a strong emphasis in literacy. Many of the general program graduates felt disillusioned and ineffective in their first year of teaching, for which the authors related to theoretical knowledge not transferring to real-world situations, student issues, or school expectations. The general program graduates did not gain enough experience in their preparation programs in the application of literacy teaching and intervention to feel effective in their own classrooms, whereas literacy-focused programs that required extra course work and fieldwork credits in teaching reading methods provided teachers with the tools they needed to be successful literacy teachers in their first years (Maloch et al., 2003).

The second prong of the theoretical framework concentrates on beginning professional experience, because as Bornfreund (2011) and Cochran-Smith and Power (2010) pointed out, teachers may come to the profession through a variety of routes. Although a majority of teachers still enter the profession following a traditional university training program, thousands have become certified teachers through alternative certification routes, which are an option in 48 states and the District of Columbia (Teaching Certification, 2012). Almost half of those receiving alternative certification have their original degrees in a different field and were not working in education prior to certification. These teachers often learn on the job, with mentors and concurrent professional development or university courses to assist their learning curve (Teaching Certification, 2012).

Justice, Greinier, and Anderson conducted a study in 2003 comparing teachers who had completed a traditional preparation program to those who had completed an emergency certification program. They analyzed the various factors that contributed to a successful career,

how well-prepared teachers felt the first year, and either the reasons they stopped teaching or the systems that influenced them to stay. Emergency or alternatively certified teachers felt less prepared their first year, especially in subject matter pedagogy, classroom management, and meeting individual student needs. Many of the problems those teachers encountered in the first year of teaching were related to the level of preparation they had received. Traditionally trained teachers generally felt more successful, prepared, and happy with their professions (Justice et al., 2003). O'Donnell (2010) also determined schools that have more teachers with a university credential achieve better student achievement outcomes than schools that have more teachers with district credentials, precredentials, emergency credentials, alternative credentials, or waivers. The study conducted referenced the teachers' preparation by asking whether they attended a teacher preparation program in a public or private in-state or out-of-state university or pursued their certification through an alternative route.

In addition to certification route, another important comparative piece was certification type. As Bornfreund noted in her 2011 report, a large number of teachers who earned general elementary certification have little training, practice, or knowledge of how to differently approach student learning at the primary level versus the upper elementary level. Teachers who earn an early childhood certification may have vast experience in preschool and a solid understanding of child development, but little preparation in how to teach reading, even though their certification extends to second or third grade (Bornfreund, 2011). The researcher sought to differentiate experiential notations based on certification type.

The other element of the professional experience prong is years of classroom teaching. This research focused on new teacher effectiveness and, thus, was dedicated to the first three years of teaching, as that is when the effect of the teacher training is strongest (Harris & Sass,

2008; Johnson et al., 2005). As teachers gain experience and partake in district professional development and mentoring, they gain tremendous skill in primary literacy instruction (Harris & Sass, 2008; Morris, 2011). The teachers' measured levels of success with student literacy instruction in the first years are very important, as teachers' initial experiences shape how they conceptualize teaching and themselves as educators for the rest of their lives (Brilhart, 2010). More experienced teachers who participated in the study were asked to reflect upon their first year of teaching to determine their levels of initial preparedness, allowing for comparative analysis.

The third prong of the research theoretical framework is teacher self-assessment of efficacy via Likert-scale and open-ended survey questions. Likert-scale surveys have been shown to be a statistically valid method of assessing teacher quality when the scaled statements are correctly developed (Keeley, Smith, & Buskist, 2006; Likert, 1932). Teachers were asked to reflect upon their teacher training programs and address statements regarding their perceptions of the preparation they received from their universities. Participating teachers were surveyed on their feelings of preparedness in the four components of literacy instruction, as well as in explicit instructional methods and basic instructional practices, intervention practices, and differentiated instructional procedures (Bornfreund, 2011, 2012; Dillon, 2004; Hoffman et al., 2005; Moats, 1999; Morris, 2011; Walsh et al., 2006). Survey participants concluded whether the level of preparedness they received provided them the skill set they needed to be initially knowledgeable, highly effective, primary literacy teachers.

Conclusion

Thousands of new teachers arrive in primary classrooms every year. They arrive with a vast array of background experiences, training experiences, and personal educational successes,

yet are all expected to begin equally as highly qualified, highly effective, reading teachers (Bornfreund, 2011). Unfortunately, many teachers arrive in the classroom woefully underprepared to be effective reading teachers (Bornfreund, 2012; IRA, 2003a), and their students pay the price. The primary years of kindergarten through third grade are critical to a child's lifelong educational development. For students, the greatest amount of learning growth happens at the primary level, so all effort needs to be made to help students attain proficiency before the end of third grade (Connor et al., 2009; Early Warning, 2001; Gehsmann & Templeton, 2012; Gewertz, 2011; Hernandez, 2011; Morris, 2011; Wood et al., 2005). If students are not proficient readers by the end of third grade, they will most likely continue to struggle for the rest of their academic careers and are four times more likely to drop out of high school (Early Warning, 2010; Wood et al., 2005).

Wood et al. (2005) strongly recommended high-quality teachers be hired for primary grades, especially in low-income schools. They recommended that teachers who are well trained exhibit strengths in reading intervention and instruction and can deliver a rigorous, high-quality learning experience to students. They call on government to remove partisanship from education, to fund and fulfill the multiple promises they have made to the education system, and to give all students a fair opportunity for quality education and access to highly qualified, well-trained teachers, in order to greatly increase the attainment of proficiency by third grade (Wood et al., 2005). With great teachers, students can focus on reading to learn, demonstrate greater progress academically, and have a greater chance at avoiding a life of poverty (Early Warning, 2010; Wood et al., 2005). For this to happen, it is critical that new teachers understand the stages of literacy development, the science of reading, and how to teach the skills and strategies their students need to develop proficient literacy skills (Gehsmann & Templeton, 2012; Keller & Just,

2009; Moats, 1999; Sousa, 2006). This research was dedicated to determining whether teachers are entering the profession with the level of preparedness necessary to be highly effective, primary literacy teachers.

Chapter III

Design and Methodology

Introduction

New primary teachers are deemed highly qualified by their preparation programs and state certification boards, yet often begin their careers without a solid foundation in the science of reading. As they enter their kindergarten, first-, second-, or third-grade classrooms for the first time, they often struggle to figure out the best, most effective ways to teach their students how to read (Borman & Kimball, 2005; Bornfreund, 2011; Early Warning, 2010; Hiebert & Pearson, 2012; Moats, 1999; Walsh et al., 2006). Despite new teachers' insecurities and possible lack of preparedness, students deserve and are purported to have teachers who are ready to be highly effective from day one. This mixed-methods study examined the level of preparedness at which new teachers felt they were entering the profession. The overall purpose was to determine if new teachers in the researched geographic area were beginning their first years feeling fully prepared to be highly effective in primary literacy instruction, and if that perceived level of preparedness had changed over time. The study was conducted in three regions of a northwestern state, encompassing both urban and rural areas.

The focal research question for this study was, Are new teachers entering the profession feeling better prepared to teach literacy at the primary level now than in the past? The question was supported by three subquestions: In which components of primary literacy instruction do new teachers perceive themselves as strong, and in which components do they perceive themselves as weak? In which areas of primary literacy instruction did new teachers feel better prepared by their preparation programs than in the past, and in which areas did they wish they

had received greater preparation? Has there been a change over time in what new teachers believe were the strengths and weaknesses of their preparation programs?

The questions were posed to teachers via a mixed-methods survey given anonymously using the online survey software Qualtrics (2013). The survey consisted of Likert-scale statements and open-ended short-answer questions. The survey was broken into several sections. Initial demographic sections addressed teachers' levels and types of preparation, types of certification, and years of experience. Further sections delved into teachers' knowledge of the core elements of literacy instruction, and their self-perceptions of preparedness and efficacy in those core elements.

Role of the Researcher

This author played a data collection and analysis role as the sole researcher in this study. As Borland (2001) explained, the sole researcher designs the research, determines which data will be collected, collects the data, manages and protects the data, analyzes the data, explains the data, and reports the findings. For this study, the researcher first conducted a review of literature, from which the researcher then created a theoretical framework on which to base data collection. The researcher designed the research parameters and obtained approval from the three participating school districts, then submitted the proposal that was accepted by the university Human Research Review Committee.

A mixed-methods survey was written by the researcher that addressed all sections of the theoretical framework. The quantitative portions of the survey followed Likert-scale survey design guidelines (Carifio & Perla, 2008; Keeley, Smith, & Buskist, 2006; Likert, 1932). The researcher sought to enhance understanding of participants' experiences by utilizing the qualitative component of short-answer questions. These open-ended questions occurred in most

sections of the survey to allow the participants to support their responses to the Likert statements, helping the researcher to develop a holistic view of their experiences (Marshall & Rossman, 2011).

Eight experts in primary literacy education were given the task of validating the researcher-created survey using the Content Validity Index (CVI), which is a survey validation methodology outlined by Lynn (1986) and Polit and Beck (2006). Following minor revisions, the survey was fully validated and approved for use. The researcher utilized the online survey application Qualtrics (2013) as the data collection instrument for the study. The Qualtrics survey parameters were set to collect all data anonymously. Qualtrics did not collect names, e-mails, IP addresses, or any other identifying information from participants of the research survey. At the end of the research survey, participants could voluntarily choose to open another survey window and provide their name and e-mail address for a chance at remuneration. The remuneration survey parameters were also designed to prevent Qualtrics from collecting any background identifying information, such as IP addresses. Any information provided on the remuneration page was completely voluntary and kept confidential. The confidential remuneration information could in no way be connected to the anonymous literacy survey responses.

All kindergarten through third grade teachers in the three designated districts were asked to participate in the research by taking the anonymous online survey. To maintain participant anonymity, the researcher did not contact the individual teachers. The researcher disseminated the survey link to participants electronically through district representatives. The survey link was initially sent with an e-mail invitation that introduced the researcher, delineated the purpose of the research, outlined how the data would be collected and used, explained the remuneration option, and asked for all of the teachers to participate. To encourage greater participation after a

period of time, the researcher then sent an electronic follow-up invitation. Due to an initially low response rate, the researcher extended the data collection period and sent a second electronic reminder. In addition, the researcher created and mailed a paper flyer reminder to each school to be delivered to the individual K-3 teachers.

After the survey window closed, the researcher processed, analyzed, scrutinized, disaggregated, and reported the data collected from the survey. The data was downloaded from Qualtrics to Microsoft Excel (2010) and SPSS (IBM Corp., 2011) for analysis. The initial step taken by the researcher in analyzing the quantitative data generated by the Likert-scale statements was to conduct a statistical test, the Cronbach's alpha, which deemed the survey as a whole to be statistically reliable (Connelly, 2011; Gliem & Gliem, 2003; Lund Research Ltd., 2013; Tanner, 2012). This result allowed for further full analysis of the data.

Then the researcher disaggregated the data into the three predetermined experience segments into which the survey had been branched: new teachers with 0-3 years of experience; practiced teachers with 4-10 years of experience; and veteran teachers with 11 or more years of experience. The practiced and veteran teachers had been instructed to answer the survey questions in reflection of their first years of teaching to meet the purpose of the survey. The groups were disaggregated in an effort to convey each group's perceived level of preparedness as new primary literacy teachers, and whether said level of preparedness had changed over time from group to group. Statistical analyses of individual sections of Likert-scaled statements were completed for each experience group, utilizing the Kruskal-Wallis test to complete a comparative analysis of change over time in perceived preparedness among the three groups (Lund Research Ltd., 2013; Tanner, 2012).

In addition, the researcher conducted a qualitative analysis of answers to the open-ended short answer questions. The written answers were disaggregated by the experience groups of new, practiced, or veteran teachers. The researcher utilized qualitative analysis coding strategies to determine the categories and themes that emerged from the three experience groups, and the survey pool as a whole (Marshall & Rossman, 2011). This allowed for personal experiential anecdotes to support the preparedness levels reported on the Likert-scale statements. Then the researcher combined both the quantitative and qualitative results to reveal a fully inclusive picture of the teachers as a whole in regards to their self-deemed preparedness to teach primary literacy, and the change over time in their perceived levels of preparedness.

Design

For this research, a mixed-methods approach was utilized to answer the research question, Are new teachers entering the profession feeling better prepared to teach literacy at the primary level now than in the past? and the supporting subquestions: In which components of primary literacy instruction do new teachers perceive themselves as strong, and in which components do they perceive themselves as weak? In which areas of primary literacy instruction did new teachers feel better prepared by their preparation programs than in the past, and in which areas did they wish they had received greater preparation? Has there been a change over time in what new teachers believe were the strengths and weaknesses of their preparation programs? The mixed methods approach was chosen because it allows researchers to combine the information given by sets of quantitative and qualitative data to fully explore, explain, and create an expanded meaning of the data (Borland, 2001; Creswell, 2012).

This research surveyed kindergarten through third-grade teachers in a rural western state. The teachers were spread throughout three different districts that each had distinct demographic

make-ups. The focus was on the survey participants' first three years of teaching, and their perceptions of their levels of preparedness to teach primary literacy. The research aimed to ascertain the effectiveness of the primary literacy training the survey participants felt they had received, whether the participants felt prepared to be highly effective in their initial positions as primary literacy teachers, and whether their perceived levels of preparation had changed over time.

The mixed-methods design included an analysis of anonymous surveys consisting of Likert-scaled statements and short-answer questions that were administered to primary level teachers in three districts in a western state. The regions in which the districts were located encompassed both urban and rural populations, varied in demographics, and were of different geographic sizes. The schools in the data set ranged from two-room schoolhouses to K-6 elementary schools that served in excess of 700 students. In addition, the areas were generally serviced by different universities, creating a sampling pool more likely to yield participants with a variety of training backgrounds.

A Likert-scale survey design was utilized due to its proven effectiveness at measuring attitudes and beliefs in educational research, and because it is a universally recognized format (Likert, 1932; Roszkowski & Soven, 2010). In addition, a Likert-scale survey design is very useful in research because it lends itself to statistical analysis (Carifio & Perla, 2008). The survey was administered online utilizing Qualtrics, a survey application specializing in research and quantitative analysis that guaranteed participant anonymity (Qualtrics, 2013).

All kindergarten through third-grade teachers at the targeted schools were asked to participate, regardless of years of experience. Basic categorical information was collected from every participant, such as grade level taught and years of experience. The main focus of the

research was on the level of preparation in primary literacy instruction the teachers had received, and their perceived levels of preparedness and effectiveness in their first three years of teaching, since those first years are the most strongly affected by the preparation program (Harris & Sass, 2008; Johnson et al., 2005). Because the survey collected data from teachers of all experience levels, practiced teachers with 4 to 10 years of experience and veteran teachers with 11 or more years in the classroom were asked to reflect upon their first years of teaching while completing the survey. The researcher used the data from the more experienced teachers to conduct a comparative analysis, with an objective of determining whether or not there had been a change over time in the level of preparation for primary literacy instruction that participating teachers felt they had received.

The survey also gathered data on the type of preparation the teachers had received. This provided data for further comparative analysis. Teachers were asked about the route they took to certification. The first choice stated they had received certification training through a traditional university teacher preparation program culminating in a bachelor's degree, which is the customary route of graduates of the home state's universities. The second choice was a traditional university teacher preparation program culminating in a master's degree, which is the requisite route of universities in some neighboring states. The third choice was for those who received certification through an alternative route, such as one of 48 states' alternative certification programs (Teaching Certification, 2012). The state in which the study was conducted offered an alternative certification program, for which teachers are required to possess a bachelor's degree in any field, pass designated exams, complete mentoring programs, and meet specific guidelines in their first 3 years of teaching to be considered for full certification (SDE,

2012). To account for all situations, perhaps someone not yet fully certified or working in an emergency capacity, participants could also choose “other.”

Further information was collected on certification type for additional comparative analysis. The three certification types from which participants could choose included early childhood, general elementary, or other. Early childhood certification in the targeted state spans preschool through third grade. General elementary certification includes kindergarten through eighth grade. The choice of “other” could be selected for several reasons, but was usually used in the case of someone not being fully certified, but instead having an emergency temporary certificate. For example, it has not been unheard of in the participating districts for preservice teachers who have been scheduled to fulfill their student teaching semester, and who were on track to obtain certification, to end up being hired full-time by a district due to an emergency need before completing their student teaching assignment and becoming fully certified. In these cases, the student teaching obligations have been completed concurrently with their first-year full-time teaching position. Other emergency hires may have been those possessing certification for a different subject or grade level span than the primary level at which they were hired to teach. In instances of emergency temporary certification, the teachers in the focus state get a limited amount of time, usually three years or fewer, to gain the correct certification for the position (SDE, 2012).

Although the questions asked of all participants were the same, the survey was designed to allow for disaggregation of information based on years of experience, route to certification, and certification types. Because the main focus of the research was to determine if new teachers were entering the classroom feeling fully prepared to effectively teach primary literacy,

beginning teachers were asked the questions in current context, while practiced and veteran teachers were asked to reflect upon their first year of teaching while completing the survey.

The survey was designed to determine the teachers' levels of literacy instruction preparation they felt they had received by focusing Likert-scale and open-ended short-answer questions on the four main components of literacy instruction. The research shows those four main components are:

1. Phonemic awareness, which is the ability to manipulate individual sounds in spoken words. It includes skills such as segmenting, or breaking words apart into individual sounds or sound chunks, and blending, or putting the sounds together. It also includes oral syllabication of words, rhyming, and learning the rhythm of language (Apel, 2011; Koutsoftas et al., 2009; Moats, 1999; Sousa, 2006; Tyler & Burnham, 2006; Walsh et al., 2006).
2. Phonics, which takes the skills learned in phonemic awareness and connects them to the symbolic, or written form of language. Teachers utilize phonics when teaching students to read, focusing on the decoding and blending of letters into sounds and words. Phonics is also utilized when teaching segmentation and blending of words and sounds in spelling. The overarching use of phonics is to teach the alphabetic principle and the rules of the written language (Apel, 2011; Gehsmann & Templeton, 2012; Moats, 1999; Tyler & Burnham, 2006; Walsh et al., 2006).
3. Fluency, which is the ability to read automatically with speed, accuracy, and prosody, and which is a large predictor of reading competency (Baker et al., 2008; Bomer, 2006). Fluency is largely dependent upon phonemic awareness and phonics competency, which

allows reading to become fluent and effortless, freeing the brain to focus on content rather than on decoding (Moats, 1999; Shaywitz & Shaywitz, 2004).

4. Comprehension, which is the understanding of text, including new vocabulary (Bomer, 2006; Connor et al., 2009; Frey & Fisher, 2010; Moats, 1999; Shaywitz and Shaywitz, 2004). This is the fourth building block, as full comprehension is dependent upon successful understanding and utilization of phonemic awareness and phonics to read fluently, which frees the brain to focus on comprehending what is being read and on deciphering the meaning of new vocabulary that may be contained within text (Connor et al., 2009; Shaywitz & Shaywitz, 2004).

While the four components are listed separately, they are all interlinked in the process of teaching and learning to read. Weakness in any component negatively affects a reader's overall success in literacy. Teachers must possess knowledge of the science behind the reading components as well as skill in teaching all components both singularly and cohesively to be highly effective primary literacy teachers (Ballard & Bates, 2008; Barnyak & Paquette, 2010; Bornfreund, 2011, 2012; Connor et al., 2009; Dillon, 2004; IRA, 2003a; Moats, 1999; O'Donnell, 2010; Piasta et al., 2009; Pimentel, 2007; Smith, 2009; Walsh et al., 2006).

The survey posed basic knowledge questions based on multiple facets of each component in order to gauge participants' self-reported initial levels of understanding. In addition, participants were asked to relay their conceptions of their preparation in both coursework and fieldwork in each of the four components, if applicable. Furthermore, survey participants were asked to divulge their opinions of their strengths and weaknesses in teaching each of the components, either in isolation or as part of a comprehensive programmatic approach. The final

section of the survey focused on how teachers viewed themselves overall as initially well-prepared, highly effective, primary literacy teachers.

The researcher designed the survey following research-based guidelines, such as those recommended by Check and Schutt (2012), Johns (2010), and Likert (1967). The survey was purposeful in its language, asked direct questions, and maintained consistent focus on the topic. Respondents were given a 5-point scale, ranging from strongly agree to strongly disagree, which offered a neutral response for those who may not have had a strong feeling either way. All Likert statements were written using positive language to prevent accidental misrepresentation of answers due to respondent carelessness in reading, which is a common issue with surveys that contain both positively and negatively worded statements (Roszkowski & Soven, 2010). As Check and Shutt (2012) recommended, the survey development was,

> guided by a clear conception of the research problem . . . and the population to be sampled. . . . The questionnaire [was] viewed as an integrated whole, in which each section and every question serve a clear purpose related to the study's objective and each section complements other sections. (p. 162)

The researcher also interspersed the open-ended short-answer survey questions throughout the survey to maintain subject-matter order and prevent respondent fatigue (Check & Shutt, 2012). The survey was originally written in Microsoft Excel (2010) spreadsheet software, and validated by eight primary literacy teacher experts using content validity index (CVI) procedures outlined by Lynn (1986) and Polit and Beck (2006). The researcher then recreated the validated version of the survey in the Qualtrics (2013) online survey application, chosen for its ability to maintain full anonymity for the voluntary participants and its extensive survey construction options.

The qualitative portion of the research was rooted in digital phenomenological design. Lester (1999) stated, “Phenomenology is concerned with the study of experience from the perspective of the individual” (p. 1). In addition, Marshall and Rossman (2011) described phenomenology as the research of experiences. The participants in the study had the shared experience of being kindergarten through third-grade teachers, all of whom were expected to be highly effective primary literacy teachers at the very beginning of their careers, regardless of training, certification, or other background likenesses and differences. All teachers who participated in the survey had the opportunity to express their personal views and experiences using both the Likert-scale statements and supplementary open-ended short-answer questions in each section of the survey. The short-answer questions asked participants to explain in writing their views of the strengths and weaknesses of their teacher preparation experiences, their personal strengths and weaknesses in understanding and teaching the science of reading in its four components, and their feelings regarding how effective they are or were at delivering quality literacy instruction to their students in their first years of teaching. To conclude the survey, the participants were asked to share their first impressions of teaching literacy and some early experiences as early literacy teachers. This survey was taken digitally, and all responses recorded were the participants’ verbatim answers. This digital phenomenological design allowed the participants to share their experiences knowing their responses were given in an anonymous, secured digital environment and there would be no error in transcription since the survey application reported their exact typed responses.

The full survey was completed in Qualtrics (2013), a respected online survey research application. The survey was divided into sections. Except for in the demographic and introductory sections, the short-answer questions were embedded into and interspersed

throughout the Likert-scale statements. The Qualtrics report gave the participants' short-answer responses verbatim. The researcher coded the participants' statements to discern thematic commonalities, which provided a richer understanding of the participants' experiences than that provided through the Likert-scale questions alone (Creswell, 2012; Marshall & Rossman, 2011). The researcher also utilized some direct quotes to enhance understanding of the participating teachers' early literacy preparatory and instructional experiences.

The parameters of the study were written into an application that was submitted to the researcher's university Human Research Review Committee (HRRC) for approval prior to commencement of the research. The researcher provided a research plan, a detailed account of the research techniques to be used, the remuneration plan, and prior authorization of the three participating school districts. The researcher detailed the systems of protection put in place to guarantee anonymity of the participants in the research survey, as well as the systems in place to guarantee the confidentiality of the information provided in the remuneration survey. All projected data collection methods, electronic notification and reminder methods, and procedures of data analysis were written out. The HRRC gave full approval of the research prior to the researcher beginning data collection. The researcher applied for an addendum in the midst of the data collection period to allow for a final reminder hardcopy flyer to be sent via postal mail, which was approved. The researcher also holds a certificate from the National Institutes of Health, #1037840, certifying the researcher as able to conduct research with human participants.

Participation

In late spring, the researcher sought and received approval to solicit participation in the research from superintendents of three different districts in the southern portion of a rural northwestern state in those districts. One district was city-based, and two were county-based. The

city-based urban district consisted of seven elementary schools, employing approximately 100 primary grade teachers. One county-based district consisted of a small urban population with three elementary schools and additional outlying rural populations with a combined five elementary schools. The eight schools in that district employed approximately 70 primary grade teachers. The third district was also county-based, and consisted of a scattered population, with a total of five rural schools. In total, the district employed about 65 primary grade teachers. Each of the rural districts had one school that employed only one teacher for all primary students, as they were one- or two-room schoolhouses. All other schools in the research pool had at least one teacher per grade.

In early fall, the researcher reestablished contact with the superintendent of each district, all of whom had approved the research agenda the previous spring. The researcher then sent a survey participation invitation letter via the Qualtrics e-mail system to each superintendent, who then forwarded the e-mail to all primary teachers in the district through their secure district e-mail systems. To maintain participant anonymity, the researcher had no direct contact with any of the sought-after teachers. The e-mail explained briefly what the study was about, including a brief description of the researcher, who was also a primary teacher. The message invited teachers who were currently teaching kindergarten through third grade to participate anonymously in the research. In addition, the e-mail explained the chance of remuneration in the form of a drawing for four $25 Amazon gift cards. It was clarified that in order to enter the remuneration drawing, the participant would have to click a link at the end of the research survey, which would take them to a different Qualtrics survey page to confidentially enter the drawing, which was to be held at the conclusion of the data collection period. The e-mail invitation contained a link to the online research survey. In accordance with the research acceptance agreement the

superintendents had approved, all primary teachers from the three districts were to be offered the opportunity to anonymously participate in the research survey.

The survey window was open for two months. The data collection window was purposely chosen to open after fall report cards and parent-teacher conferences had ended, but before the holiday season began. In this choice, the researcher had anticipated catching teachers at a time when they were not as busy and may be more inclined to take the time to participate. Research shows that it is more difficult to get people such as primary level teachers to participate in survey research simply because they are so busy, and that timing may be more important than remuneration (Anseel, Lievens, Schollaert, & Choragwicka, 2010; Sivo, Saunders, Chang, & Jiang, 2006). Electronic reminders were sent at 1 week, 3 weeks, and again at 6 weeks. Due to a low response rate, the researcher submitted an addendum to HRRC and was granted permission to also send a written reminder. The researcher mailed a packet of flyers to each participating school to be distributed to all K–3 teachers in the schools, reminding them of the research survey, the chance at a $25 Amazon gift card for participating, and the fact that the researcher was a busy primary teacher like themselves who understands their current situations but beseeched them to find the time to participate, as was recommended by Anseel et al. (2010). The data collection window was closed after two months, just before the schools closed for the Christmas holidays. Data was gathered from all teachers who chose to participate in the survey.

To maintain a high standard of ethics in the research, participants provided electronic consent, were free to determine their level of participation, and were allowed to opt out at any time by closing out of the survey and not submitting their responses (Marshall & Rossman, 2011). In addition, the survey participants could quit the survey at any time and submit just what they had completed. The Qualtrics software guaranteed all data collected were anonymous,

because the Qualtrics survey tool completely protected participant identity and did not collect names, e-mail addresses, or IP addresses (Qualtrics, 2013). Basic demographic and categorical data were collected to validate that the participant met the research parameters and to allow the researcher to disaggregate the data. The researcher could not connect survey responses to who participated, which school or district the participant was from, or any other information beyond that which was freely provided in the survey by the participant. These protections assured the research met the human participant research criteria of being safe and causing no harm (Creswell, 2012; Marshall & Rossman, 2011).

At the conclusion of the survey, following final submission, participating teachers were offered a chance to receive remuneration for their time. Following submission of their final survey response, participants could choose to click a link that took them to a separate Qualtrics survey page, where they could submit their names and e-mail addresses to enter into a random drawing for one of four $25 Amazon electronic gift cards. This information was collected separately by Qualtrics and was in no way connected to the participants' research survey answers. To maintain a modicum of anonymity, participants were able to choose to submit a home e-mail address that would bear no connection to a school district. The names and e-mails were used only for the purposes of the random drawing and were kept strictly confidential. Submitted names and e-mails were kept in a locked folder on a password-protected computer until the drawing was complete. After the drawing, the researcher notified recipients via e-mail. Once all gift cards had been electronically delivered and collected, the researcher locked the information file. The information file was scheduled to be permanently deleted following the conclusion of this research.

Data Collection and Analytical Methods

The surveys were completed online using Qualtrics survey application (Qualtrics, 2013). The survey began with an explanation of the purpose of the research, the intent and design of the survey, and how information provided by participants throughout the survey would be utilized. Because the survey was completely anonymous, written signatures for informed consent were not required (Marshall & Rossman, 2011). However, to conform to standards in research ethics, all participants were asked to give their informed consent via an electronic option, which was a prerequisite to entering the questioning portion of the survey (Creswell, 2012; Marshall & Rossman, 2011. The consent statement informed the participants of the anonymous nature of the survey and notified them of their right to withdraw from further participation at any time by closing out of the survey. Participants provided electronic consent after reading the statement of acceptance of participation by choosing to agree to continue in the survey. Those who chose not to consent to the survey parameters were rerouted to the final page in the survey, which thanked them for their time and asked them to close the survey window. No further information was collected from non-consenting participants.

The survey was developed and analyzed using guidelines from noted experts in Likert-scale creation (Carifio & Perla, 2008; Johns, 2010; Keeley, Smith, & Buskist, 2006; Likert, 1932; Roszkowski & Soven, 2010). Likert (1932), the creator of the statistically valid scaled survey model, explained the importance of survey statements being behavioral or expressive, not statements of fact. People with different views should respond differently. Likert (1932) noted that question items must be “clear, concise, straight-forward statements” that are written in simplistic vocabulary (p. 90). As advised by Roszkowski and Soven (2010), the researcher did

not use negatively worded items in the questionnaire, choosing to maintain a positively worded construct for all statements. The survey was purposely written in a user-friendly manner.

The Likert-scale items were analyzed quantitatively using Statistical Package for the Social Sciences (SPSS) software (IBM Corp., 2011). The Cronbach's alpha test was run to determine the internal consistency of the responses, which gave confidence to the validity and reliability of the data (Connelly, 2011; Gliem & Gliem, 2003; Lund Research Ltd., 2013; Tanner, 2012). The researcher then ran the Kruskal-Wallis to determine statistically significant differences in responses from the new, practiced, and veteran teacher groups (Lund Research Ltd., 2013; Tanner, 2012).

Responses to the short-answer questions on the surveys were analyzed qualitatively following guidelines from Marshall and Rossman (2011). The researcher used open-coding to code each response, followed by axial coding to deduce themes. The themes were used to determine the preparedness and perceived effectiveness of the participation group in primary literacy instruction overall, as well as in the four components of phonemic awareness, phonics, fluency, and comprehension. These responses reflected upon the effectiveness of the teacher training the participants received. The short answer responses were also disaggregated by experiential groups to determine if the themes reflected a change over time in the level of preparedness felt by the participating teachers.

A compilation of the results from both the quantitative data derived from the Likert-scale statements and the qualitative information deduced from the short-answer questions was used to answer the primary research question and three subquestions upon which this dissertation was founded: Are new teachers entering the profession feeling better prepared to teach literacy at the primary level now than in the past? In which components of primary literacy instruction do new

teachers perceive themselves as strong, and in which components do they perceive themselves as weak? In which areas of primary literacy instruction did new teachers feel better prepared by their preparation programs than in the past, and in which areas did they wish they had received greater preparation? Has there been a change over time in what new teachers believe were the strengths and weaknesses of their preparation programs?

Validity and Reliability

The Qualtrics survey application has been proven to be a reliable program that provides dependable compilations and reports of statistical data while maintaining the anonymity of all participants (Qualtrics, 2013). The survey itself was researcher generated, with all questions related to the theoretical framework of the study and generated to help answer the research question and subquestions. To minimize risk to participants, the researcher validated the survey prior to use with a proven validation system, the Content Validity Index, developed by Polit and Beck (2006) based on research by Lynn (1986). Eight highly effective, certified primary teachers outside of the participation pool were chosen to validate the survey on content. The teacher validation experts were all sent the Microsoft Excel (2010) spreadsheet version of the survey. The experts were fully informed of the parameters of the research, the research question and subquestions, and the purpose of the survey. The experts did not answer the survey questions but rather rated the Likert-scale statements and short-answer questions based clarity and their relevancy to the research. If the experts believed the items were clearly written and were relevant to the research, they rated the items valid. If the items did not meet these parameters, they were rated as invalid.

In her 1986 work to determine a scale for rating the content validity of research survey items, Lynn established guideline formulas. In 2006, Polit and Beck developed a chart system to

utilize in conjunction with Lynn's formulae for researchers to utilize when determining validity of individual questions rated by experts. Following formula calculations, items must be validated with a .80 rating or higher. To meet the .80 rating requirement when having eight experts participating in the validation process, seven were required to agree that the Likert statement or short-answer question met all relevancy parameters for the researcher to keep it as a valid item in the survey (Lynn, 1986; Polit & Beck, 2006).

In analyzing the validation data, a CVI chart was generated as suggested by Polit and Beck (2006). The rating was based on a four-point Likert-scale system, with the positive items being highly relevant or quite relevant, and the negative choices being somewhat relevant or not relevant. The system did not allow for an ambivalent choice. The eight literacy teacher experts rated all of the Likert-scale statements and short-answer questions in the survey. If the literacy teacher expert rated an item as highly relevant or quite relevant, the item received an x on the CVI chart. If the literacy teacher expert rated an item as somewhat relevant or not relevant, the item received a dash (-) on the CVI chart. After all experts had responded with their relevancy ratings, the calculations were performed to determine which items would be deemed valid and kept in the survey. All items were calculated for individual Item-CVI by dividing the number of experts who rated the question as valid by the total number of experts, with the recommended minimum of .80 being acceptable for the statement to be considered fully valid (Polit & Beck, 2006). The tables below show the initial validation charts for each section of the survey. Items that received a score less than .80 were deemed by the expert raters to be not valid, and have been grayed out on the charts.

"Section 1: Teacher Preparation Program" consisted of items related to participants' teacher preparation programs and their perceived levels of overall preparedness for primary

literacy instruction (Table 1). The section consisted of 13 Likert-scale statements. There were no short-answer questions in this section. Seven of the items in this first section were deemed highly relevant or quite relevant by all eight of the expert validators, and received a 1.00 I-CVI score. Five of the items were rated as relevant by seven experts, with one dissenting opinion, which generated a .88 I-CVI calculation. The .88 score was above the .80 relevancy boundary, so the five items were deemed relevant and valid by the Polit and Beck (2006) standards and remained in the survey. One item in Section 1 yielded ratings of not relevant by two of the experts. This yielded an I-CVI of .75 for that item, which is shown grayed-out in the table. Because .75 was below the acceptable relevancy level of .80, the item was removed from the survey.

Table 1

Content Validity Index: Expert Rankings and Initial Findings for Section 1

Section 1: Teacher Preparation Program

Item #	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	# in Agree-ment	Item CVI
1	X	X	X	X	-	X	X	X	7	0.88
2	X	X	X	X	X	X	X	X	8	1.00
3	X	X	X	X	X	X	X	X	8	1.00
4	X	X	X	X	X	X	X	X	8	1.00
5	X	X	X	-	X	X	X	X	7	0.88
6	X	X	X	X	X	X	X	X	8	1.00
7	X	X	X	X	X	X	X	X	8	1.00
8	X	-	X	X	X	X	X	X	7	0.88
9	X	X	X	X	X	X	X	X	8	1.00
10	X	X	X	X	X	X	X	X	8	1.00
11	-	X	X	X	X	X	X	X	7	0.88
12	X	-	X	-	X	X	X	X	6	0.75
13	X	-	X	X	X	X	X	X	7	0.88

"Section 2: Preparedness for Phonemic Awareness" contained nine items related to phonemic awareness (Table 2). These items included new teachers' levels of understanding of

phonemic awareness concepts, of the science behind teaching phonemic awareness, and of pedagogical techniques for teaching phonemic awareness, as related to their teacher preparation and initial teaching experiences. Three of the items in this section were short-answer questions, and the other six items were Likert-scale statements. The expert validators rated all of the items in the phonemic awareness section as relevant, so each item received an I-CVI score of 1.00. Therefore, all nine items were deemed to be valid according to the parameters set by Lynn (1986) and the procedures outlined by Polit and Beck (2006). All nine items were kept in the final survey.

Table 2

Content Validity Index: Expert Rankings and Initial Findings for Section 2

Section 2: Preparedness for Phonemic Awareness										
Item #	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	# in Agree-ment	Item CVI
14	X	X	X	X	X	X	X	X	8	1.00
15	X	X	X	X	X	X	X	X	8	1.00
16	X	X	X	X	X	X	X	X	8	1.00
17	X	X	X	X	X	X	X	X	8	1.00
18	X	X	X	X	X	X	X	X	8	1.00
19	X	X	X	X	X	X	X	X	8	1.00
20	X	X	X	X	X	X	X	X	8	1.00
21	X	X	X	X	X	X	X	X	8	1.00
22	X	X	X	X	X	X	X	X	8	1.00

"Section 3: Preparedness for Phonics" contained 11 items that inquired about the participants' experiences with preparation for teaching phonics in the primary grades, and their initial teaching experiences as related to phonics (Table 3). Some of the items focused on the teachers' understanding of phonics terminology and concepts at the beginnings of their careers. Other items focused on the amount of preparation they had received in learning how to teach

phonics, via both coursework and fieldwork. Three of the items in this section were short answer questions. Eight items were Likert-scale statements. In this section, all 11 items were rated as either highly relevant or quite relevant by all eight experts. Each item received a positive rating and the calculated I-CVI score was 1.00, which met CVI standards (Lynn, 1986; Polit & Beck, 2006). All 11 items were deemed valid and remained in the final survey.

Table 3

Content Validity Index: Expert Rankings and Initial Findings for Section 3

Section 3: Preparedness for Phonics

Item #	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	# in Agree-ment	Item CVI
23	X	X	X	X	X	X	X	X	8	1.00
24	X	X	X	X	X	X	X	X	8	1.00
25	X	X	X	X	X	X	X	X	8	1.00
26	X	X	X	X	X	X	X	X	8	1.00
27	X	X	X	X	X	X	X	X	8	1.00
28	X	X	X	X	X	X	X	X	8	1.00
29	X	X	X	X	X	X	X	X	8	1.00
30	X	X	X	X	X	X	X	X	8	1.00
31	X	X	X	X	X	X	X	X	8	1.00
32	X	X	X	X	X	X	X	X	8	1.00
33	X	X	X	X	X	X	X	X	8	1.00

The fourth section, “Preparedness for Fluency,” was comprised of 10 items (Table 4). Three items were short-answer questions, and seven were Likert-scale statements. The section focused on preparation for teaching fluency. It contained items that explored the participants’ experiences in both coursework and fieldwork as related to preparation in fluency instruction, as well as surveying the depth of knowledge and understanding of fluency the teachers possessed as they began their careers. Nine of the items were deemed either highly relevant or quite relevant by all eight experts, and received an I-CVI score of 1.00. One item was considered to be relevant

by seven out of eight of the experts, and therefore received a score of 0.88. The I-CVI scores for all 10 items were above the .80 threshold, and therefore met the parameters of relevancy and validity set forth by Polit and Beck (2006). All 10 items in the fluency section were included in the final survey.

Table 4

Content Validity Index: Expert Rankings and Initial Findings for Section 4

Section 4: Preparedness for Fluency										
Item #	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	# in Agree-ment	Item CVI
34	X	X	X	X	X	X	X	X	8	1.00
35	X	X	X	X	X	X	X	X	8	1.00
36	X	X	X	X	X	X	X	X	8	1.00
37	X	X	X	X	X	X	X	X	8	1.00
38	X	X	X	X	X	X	X	X	8	1.00
39	X	X	X	X	X	X	X	X	8	1.00
40	X	X	X	X	X	X	X	X	8	1.00
41	X	X	X	X	X	X	X	X	8	1.00
42	X	X	X	X	X	X	X	X	8	1.00
43	X	X	X	X	X	X	X	X	8	1.00

There were nine items in “Section 5: Preparedness for Comprehension” (Table 5). Three of the items were short-answer questions. Six of the items were Likert-scale statements. All nine items were deemed either highly relevant or quite relevant by the experts, so received an I-CVI score of 1.00 (Lynn, 1986; Polit & Beck, 2006). Some of the items in the section were related to the level of understanding the teachers possessed in the beginnings of their careers regarding comprehension, and how vocabulary acquisition was related to the process of comprehension. Other items focused on the level of coursework and fieldwork experiences the teachers had completed as part of their preparation programs. The section aimed to determine how prepared the participants had been to teach comprehension, including vocabulary, to beginning readers in

the primary grades. Because all nine items in the section met the validation criteria, they were retained for the final survey.

Table 5

Content Validity Index: Expert Rankings and Initial Findings for Section 5

Section 5: Preparedness for Comprehension										
Item #	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	# in Agree-ment	Item CVI
44	X	X	X	X	X	X	X	X	8	1.00
45	X	X	X	X	X	X	X	X	8	1.00
46	X	X	X	X	X	X	X	X	8	1.00
47	X	X	X	X	X	X	X	X	8	1.00
48	X	X	X	X	X	X	X	X	8	1.00
49	X	X	X	X	X	X	X	X	8	1.00
50	X	X	X	X	X	X	X	X	8	1.00
51	X	X	X	X	X	X	X	X	8	1.00
52	X	X	X	X	X	X	X	X	8	1.00

"Section 6: Preparedness for Assessment" focused on both curriculum-based assessments and progress monitoring assessments (Table 6). Section 6 contained 10 items total, three of which were short-answer questions and seven of which were Likert-scale statements. The section focused on the teachers' perceived levels of preparedness in both coursework and fieldwork in the subject of assessment. Some items focused on new teachers' levels of preparation with how to give curriculum-based assessments and progress monitoring assessments, as well as their beliefs regarding the importance of those types of assessments. Additional items focused on how well trained the teachers were in being able to read, understand, and analyze the data obtained from the assessments, as well as plan interventions and develop lessons from the assessment data. Three of the items were deemed highly relevant or quite relevant by all eight experts, causing those items to receive an I-CVI score of 1.00. Five of the items received an I-CVI score

of 0.88, as they were thought relevant by seven of the eight experts. Those eight items exceeded the relevancy cut score of .80. They were therefore deemed valid were included in the final survey. Two of the items were scored as either somewhat relevant or not relevant by two of the primary literacy teacher experts, which rendered a score of 0.75. The two items were consequently invalidated (Polit & Beck, 2006). These two items are shown grayed out in Table 6, and were not included in the final version of the survey.

Table 6

Content Validity Index: Expert Rankings and Initial Findings for Section 6

Section 6: Preparedness for Assessment

Item #	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	# in Agree-ment	Item CVI
53	X	X	X	X	X	X	X	-	7	0.88
54	X	X	X	-	X	X	X	X	7	0.88
56	X	X	X	X	X	X	X	X	7	0.88
57	X	X	X	X	X	X	X	X	8	1.00
58	X	X	X	X	X	X	X	X	8	1.00
59	X	X	-	X	X	X	X	X	7	0.88
60	X	X	-	-	X	X	X	X	6	0.75
61	X	X	-	-	X	X	X	X	6	0.75
62	X	X	X	X	X	X	X	X	8	1.00
63	X	X	X	-	X	X	X	X	7	0.88

In Table 7, the scores are displayed for the final section of the survey, “Section 7: Conclusion.” The section contained five Likert-scale statements and one short-answer question. The Likert-scale items focused on overall thoughts regarding the participants’ individual preparation programs, general perceptions of preparedness for teaching primary literacy, and their personal opinions of themselves as effective literacy teachers. The short-answer question asked for the teachers’ final thoughts regarding their levels of preparation for primary literacy instruction, or experiences in their first years of teaching primary literacy. Three of the six items

in Section 7 were rated as either highly relevant or quite relevant by all experts, for an I-CVI score of 1.00. Three of the items received relevancy ratings by seven of the experts, but had one expert rate the item as either somewhat relevant or not relevant. This generated an I-CVI score of 0.88 for those three items, judging them still relevant and valid. According to the Content Validity Index rating system, all items in this section were deemed valid (Lynn, 1986; Polit & Beck, 2006). All six items in this section were included in the final survey.

Table 7

Content Validity Index: Expert Rankings and Initial Findings for Section 7

Section 7: Conclusion

Item #	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	# in Agree-ment	Item CVI
63	X	X	X	X	X	X	X	-	7	0.88
64	X	X	X	X	-	X	X	X	7	0.88
65	X	X	X	X	X	X	X	X	8	1.00
66	X	X	X	X	X	X	X	X	8	1.00
67	X	X	X	X	X	X	X	-	7	0.88
68	X	X	X	X	X	X	X	X	8	1.00

In addition to item content validity, research recommends calculating an overall expert proportion to further determine if the survey as a whole was considered relevant and valid by the expert raters (Lynn, 1986; Polit & Beck, 2006). In doing this, the Mean-Item CVI (MI-CVI) was calculated to show the average validity for all of the items. Then each expert's cumulative item rating was averaged, shown as the proportion deemed relevant by each expert. Those proportions were averaged, shown as the Mean Expert Proportion (MEP). If all calculations are performed correctly, the MI-CVI should mathematically match the MEP. One additional calculation recommended is the Scale CVI of Universal Agreement (S-CVI/UA), which discerns the level at which all experts universally agree on which items were relevant and valid to the survey (Polit &

Beck, 2006). Table 8 shows the cumulative calculations for the survey in its original form, with all items included.

Table 8

Content Validity Index: Cumulative Calculations

Cumulative Calculations									
Proportion Deemed Relevant by Each Expert								MI-CVI	0.96
Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	S-CVI/UA	0.75
1.00	0.93	0.96	0.88	0.96	1.00	1.00	0.94	MEP	0.96

For the survey in its original form, the MI-CVI, which was the average of all Item-CVI scores, was calculated to be 0.96, which exceeded the minimum preferred average of .90 (Lynn, 1986; Polit & Beck, 2006). In addition, the proportion of items constituted as relevant by each expert was calculated by dividing the number of items found relevant by each individual by the total number of items. Shown across the bottom of the table, each of these proportions met the minimum .80 recommendation. The MEP was determined by averaging the expert proportional relevant scores, which mathematically corresponds to the MI-CVI score of .96. The MEP met the minimum preferred average of .90 (Lynn, 1986; Polit & Beck, 2006). In addition, Polit and Beck (2006) discussed the S-CVI/UA as being a difficult-to-achieve measure of validity, because it requires all experts to agree on all questions. As S-CVI/UA approaches .80, the survey is considered more highly valid. The initial survey, with all items counted, including those rated as not relevant, had a ranked S-CVI/UA at .75 (Polit & Beck, 2006).

The expert literacy teachers who served as relevancy raters for this survey had determined three items in the original survey were not fully relevant to the overall scope of the research. The researcher removed the three items that did not meet the .80 relevancy score rating,

in an effort to authenticate both validity and reliability. Upon discarding the three irrelevant items, the cumulative CVI calculations were run again, as shown in Table 9.

Table 9

Content Validity Index: Cumulative Recalculations Following Striking of Irrelevant Items

Cumulative Recalculations Following Striking of Irrelevant Items									
Proportion Deemed Relevant by Each Expert								MI-CVI	0.97
Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	S-CVI/UA	0.78
1.00	0.95	0.98	0.95	0.95	1.00	1.00	0.94	MEP	0.97

Following the removal of the three survey items deemed invalid by the expert raters, the individual proportions of the experts were recalculated. The new scores were all above .90. This demonstrates the overall rating of the adjusted survey by each individual expert as highly valid. The recalculated corresponding MI-CVI and MEP scores were .97. This meant the adjusted survey was highly rated for validity (Polit & Beck, 2006). The recalculated S-CVI/UA was .78, which more closely approached the sought-after, yet rarely met .80 universal agreement score (Polit & Beck, 2006). With the removal of the three items deemed not valid, the adjusted survey met all requirements for validity and reliability, as established by Lynn (1986) and Polit and Beck (2006). All other items were retained. The validated form of the survey was rewritten into the Qualtrics online survey application in preparation for distribution.

To maintain dependability of the expert ratings of the survey questions, specific procedures were followed and security measures were taken to ensure expert reliability and trustworthiness, and to prevent any outside tampering with information. None of the expert literacy teacher raters were part of the data pool targeted for research. All of the expert literacy teacher raters were highly regarded in their field. The university-based e-mail account the

researcher used to communicate with the experts was password protected. None of the raters knew the names of the other participating experts. Each of the raters agreed to nondisclosure prior to receiving a copy of the survey, and provided the researcher with a password secured private e-mail address for survey communication. Each expert rater received an individual e-mail from the researcher with clear instructions and the survey attachment. Once the expert completed the task of rating the survey and returned their rating to the researcher, the researcher instructed the expert to permanently delete their copy of the survey. Remuneration for their time and effort was provided to each expert rater in the form of a mailed thank you note that included an enclosed $5 coffee gift card.

The cumulative survey validation results were accessible only to the researcher. Once all data were collected and downloaded, records were kept in a password-protected electronic data folder. Validity calculations were completed using the Microsoft Excel (2010) spreadsheet software. According to the guidelines set by the CVI experts Lynn (1986) and Polit and Beck (2006), the survey created by the researcher for this study could be judged as relevant and valid.

Instrument

This survey-based research sought to answer the question: Are new teachers entering the profession feeling better prepared to teach literacy at the primary level now than in the past? Three subquestions were utilized to fully answer this question: In which components of primary literacy instruction do new teachers perceive themselves as strong, and in which components do they perceive themselves as weak? In which areas of primary literacy instruction did new teachers feel better prepared by their preparation programs than in the past, and in which areas did they wish they had received greater preparation? Has there been a change over time in what new teachers believe were the strengths and weaknesses of their preparation programs? The

research was conducted using the Qualtrics (2013) survey application. Qualtrics is a secure, online information-gathering tool which was recommended by the researcher's university.

Qualtrics is a user-friendly, widely known online research survey instrument that met all the needs of this research. Qualtrics allowed the survey to be created to keep all participant data completely anonymous. The researcher was allowed to direct the site to not collect any identifying information from any participants, including names, e-mail addresses, or IP addresses. The application allowed the delineation of specific item parameters. This allowed the researcher to design the survey so participants could not continue if they did not agree to the consent statement. The researcher set the rest of the survey to allow for the skipping of items. This was done so that a participant would not be required to respond to an item that potentially made them feel uncomfortable, yet could still continue on in the survey. The item options also allowed the requirement of survey submission before accessing the remuneration link.

Qualtrics allowed for the variety of item types the researcher needed for the survey. Multiple choice items were utilized in the demographics section. There were Likert-scale statements for quantitative analysis and short answer questions for qualitative analysis. Qualtrics permitted various item types in each section, allowing the short-answer questions to be interspersed throughout the Likert-scale statements. The short-answer survey questions were written in relation to the Likert-scale statements, with a clear intention of gathering opinions and experiences, which provided the researcher with explicit, detailed results. Due to this reliability and flexibility, the Qualtrics application allowed for the validated mixed-methods online survey to be fully designed following research-based guidelines (Borland, 2001; Carifio & Perla, 2008; Griffin & Museus, 2011; Johns, 2010; Keeley, Smith, & Buskist, 2006; Likert, 1932; Marshall & Rossman, 2011; Roszkowski & Soven, 2010).

The researcher created a voluntary link to another survey page at the end of the research survey for remuneration purposes. Following submission of survey responses, participants could choose to click a link that would take them to a separate Qualtrics survey. This survey was one page, created for the sole purpose of collecting information for remuneration. The remuneration survey page was also designed to not automatically collect any identifying information such as IP addresses. It did not link to the answers previously provided by the participant in the research survey. The text on the page explained the remuneration guidelines and timeline. For a chance at one of four $25 Amazon gift cards, participants could choose to enter their name and personal e-mail address. No identifying information was collected beyond what was voluntarily entered on the page. All names and e-mails were kept confidential. The remuneration survey page was not accessible to anyone except the researcher in any way other than via the link at the end of the research survey, which survey participants received access to following submission of their final survey responses. This prevented anyone from entering the remuneration drawing who had not been a research participant.

Delimitations and Limitations

The study was delimited to teachers who were teaching kindergarten through third grade general education in a public school in one of three target districts located in a designated northwestern state. Districts were chosen because of the variety of urban and rural populations they served, and because of the disbursement of their locations throughout the southern region of the state. The districts were also primarily serviced by different universities, which assisted in expanding the pool of preparation programs from which the surveyed teachers may have matriculated.

The survey delimited participant responses to their experiences and views during the first years of teaching, because research has shown the university effect levels off after the first 3 years (Harris & Sass, 2008; Johnson et al., 2005). Due to experience, Johnson, Berg, and Donaldson (2005) stated teachers are automatically more effective after 3 full years in the classroom, and, furthermore, experience often completely negates the university effect after five years. Therefore, although all K-3 teachers in the three districts were encouraged to participate, those who had been teaching for 4 or more years were asked to complete the survey in reflection of their thoughts and experiences from their first years of teaching.

The study was delimited to kindergarten through third grade, given that it is crucial to receive high-quality, explicit, systematic, science-based literacy instruction in the primary grades (Bornfreund, 2012; Early Warning, 2010). In addition, teaching primary literacy effectively requires so much additional knowledge, skill, and expertise that many teachers who believe they are quite prepared to teach upper elementary grades begin a position in the primary grades feeling tremendously underprepared (Bornfreund, 2012). Success by the end of third grade is indicative of a greater chance of academic success throughout students' lives, so it is crucial that all primary grade students are put in classrooms with highly skilled, well-prepared teachers (Connor et al., 2009; Early Warning, 2010; Hernandez, 2011; Wood et al., 2005). This research sought to determine if in recent years, new primary teachers have been receiving the increased amount of preparation necessary for them to enter the profession fully equipped for success.

Limitations of the study included those based on the districts. This research was vulnerable to the limitation of coverage error (Sivo et al., 2006). The superintendents of the three participating districts had agreed to allow their K-3 teachers to participate in the research. The researcher had pre-established the conduct parameters of the research with the superintendents,

which included the researcher not personally contacting the teachers individually in order to maintain participant anonymity. Therefore, the researcher had to trust that the research invitation and follow-up e-mails with survey links were actually distributed to all of the K-3 teachers at all schools in the three districts, as was agreed to by the superintendents of each district. In addition, the utilization of e-mail for distribution of the research survey presents its own limitations (Creswell, 2012). The researcher had to presume that the e-mail invitation was only sent to those for whom it was meant, that all participants were actually K-3 teachers in the targeted districts, and that no one took the survey who was not in the designated survey pool.

Another limitation was based on participants. All survey participants voluntarily and anonymously partook in the study, and submitted personally subjective data to the researcher. The information submitted via the surveys was respondent direct response, which negated the chance for interviewer error (Sivo et al., 2006). However, the researcher had to presume all participants submitted accurate information and answered questions truthfully. In addition, the groups of practiced and veteran teachers were asked to reflect upon their initial experiences as new teachers in the primary grades. The researcher had to presume all of the responses were accurate reflections that truly represented the participants' thoughts, feelings, and experiences at the beginnings of their careers.

This survey research had a low 32% response rate, which is a limitation but does not invalidate results (Anseel et al., 2010). The limitation of the low response rate may be attributable to nonresponse error, which refers to people of a same group commonly not responding to requests for survey research due to a similar reason (Sivo et al., 2006). Primary teachers have multiple demands on their time, causing them to often feel overwhelmed with just completing what is absolutely necessary (Johnson et al., 2005). This puts primary teachers in the

category of busy nonrespondents, as they are too busy trying to accomplish everything required of them to be able to find extra time to complete the survey (Anseel et al., 2010; Sivo et al., 2006). In effort to diminish the effect of the busy nonrespondent limitation, the researcher followed suggested methodology of sending follow-up invitations (Anseel et al., 2010). The follow-up invitations served to remind possible participants of the importance of the survey and to encourage participation. The follow-up invitations had the potential of arriving at a time when the individual teachers were not feeling as busy or overwhelmed. The researcher was a primary grade teacher in addition to being a graduate student, and therefore in the e-mail invitations tried to relate to the busy nonrespondents' levels of time constraints and teaching load expectations. This type of communication was encouraged by Anseel, Lievens, Schollaert, and Choragwicka (2010), who said it "underscores the importance of the questionnaire and instills some form of regret or guilt in the participant" (p. 337), which, when done in a mild or relatable form, has been shown to encourage participation.

Another limitation was the small sample size that was a result of the low response rate (Creswell, 2012). The sample consisted of 74 primary literacy teachers. A small sample size can negatively affect the confidence level of the statistical results, making it more difficult to generalize the results of the research study and assign the outcomes to the population as a whole (Tanner, 2012). Therefore, the results of this study may not be fully generalizable to the entire primary teacher population. Also, within that sample size of 74, the respondents were divided into groups of new, practiced, and veteran teachers. A limitation of this study is that the groups were not all of the same size (Creswell, 2012). Since participation was voluntary and anonymous, it was not feasible to anticipate the same number of participants in each category to complete the survey.

Chapter IV

Results

Introduction

This research was designed as a mixed-methods study to help determine if new teachers feel they are entering the profession better prepared to teach primary literacy than their predecessors. The central research question asked, Are new teachers entering the profession feeling better prepared to teach literacy at the primary level now than in the past? This question was supported by three subquestions: In which components of primary literacy instruction do new teachers perceive themselves as strong, and in which components do they perceive themselves as weak? In which areas of primary literacy instruction did new teachers feel better prepared by their preparation programs than in the past, and in which areas did they wish they had received greater preparation? Has there been a change over time in what new teachers believe were the strengths and weaknesses of their preparation programs? Participants in the survey helped answer these research questions as they evaluated both strengths and weaknesses in their teacher preparation programs in the domain of primary literacy. The evaluation included experiences in coursework and fieldwork, as well as perceptions of preparation as experienced in participants' first years of teaching. By highlighting the perceptions of what actual primary literacy teachers felt was executed either well or poorly by their preparation programs, this research has the possibility of aiding in curricular or programmatic choices at some colleges and universities.

Data was collected using an online survey hosted by the survey application Qualtrics (2013). The mixed-methods survey contained Likert-scale statements and related open-ended, short-answer questions. Participants delineated their beliefs and perceptions with their levels of

agreement or disagreement on the Likert statements (Johns, 2010; Likert, 1932). They noted their opinions and experiences with the short answer questions (Marshall & Rossman, 2011). The researcher analyzed the participants' perceptions of their levels of preparedness in several components of primary literacy, and in areas related to being prepared to effectively teach primary literacy. Research participants were questioned on their general preparatory experiences for literacy, as well as their preparatory experiences in the four main components of literacy education. The four key components of teaching primary literacy are phonemic awareness, phonics, fluency, and comprehension (Macaruso & Shankweiler, 2010; Moats, 1999; Walsh et al., 2006).

The survey was developed by the researcher and validated using the Polit and Beck (2006) Content Validity Index (CVI) procedures, which were developed from research by Lynn (1986). The researcher tasked eight primary literacy teacher experts with rating each item of the draft survey. The draft version of the survey consisted of 68 items. There were 52 Likert-scale statements, and 16 short-answer questions, broken into seven separate sections. The primary literacy teacher experts rated each item on its relevancy to the research. Using Polit and Beck's 2006 guidelines, at least seven of the eight experts had to agree that an item was either highly relevant or quite relevant for the item to be deemed valid and remain in the survey. If two or more experts believed the item was just somewhat relevant or not relevant, than the item was to be considered not valid.

Following all calculation recommendations, 49 of the Likert-scale statements were found by the experts to be relevant and valid, but three were not. Those three items were subsequently removed to increase the validity of the survey. The experts rated all 16 of the short-answer questions as relevant and valid. Therefore, the short-answer questions were all retained in the

final version of the survey. The CVI process for each section and the survey as a whole was delineated in Chapter 3. The final version of the survey, after the irrelevant items were removed, received a Mean Item-CVI rating of 0.96, which exceeded the necessary 0.90 level for content validity. See Appendix C for the initial CVI chart, and Appendix D for the CVI chart following the removal of the items deemed not relevant. The content of the researcher-created survey was rated as relevant by the teacher literacy experts, and was therefore able to be considered a valid and reliable instrument to use in conducing this research (Lynn, 1986; Polit & Beck, 2006).

The researcher created the survey with distinct segments. Participants first read the introduction, which gave the purpose of the survey, provided information about the researcher, and delineated all legal clauses. Next, participants had to read and agree to an informed consent statement. If choosing to continue, the participants then provided demographic information. The remainder of the survey was broken into seven sections that related to the participants' perceptions of preparation for primary literacy instruction:

1. Teacher Preparation Program. In this section, teachers rated their teacher preparation program using Likert-scale statements. The statements focused on both coursework and fieldwork preparation in relation to becoming a quality primary literacy teacher.
2. Preparedness for Phonemic Awareness. This section contained both Likert statements and short-answer questions. Responses were recorded regarding perceived preparation for teaching phonemic awareness and the knowledge new teachers possessed about phonemic awareness.
3. Preparedness for Phonics. This section contained both Likert statements and short-answer questions. The section focused on participants' training and perceived

preparation for teaching phonics, and their knowledge and experiences as new teachers teaching phonics.

4. Preparedness for Fluency. This section contained both Likert statements and short-answer questions. Participants shared their preparatory experiences for understanding and teaching fluency, as well their experiences as new teachers teaching fluency to primary students.
5. Preparedness for Comprehension. This section contained both Likert statements and short-answer questions. Items in this section focused on the alleged level and type of training received in learning how to teach comprehension to primary level students, and the beginning teacher experiences with teaching comprehension.
6. Preparedness for Assessment. This section contained both Likert statements and short-answer questions. Participants shared their experiences with preparation and training in both giving and utilizing the data from curriculum-based assessment and progress monitoring assessments. They also shared their experiences with assessments as new primary literacy teachers.
7. Conclusion. This section contained both Likert statements and short-answer questions. Items in this final section focused on overall perceptions and ratings of teacher training programs in preparing the survey participants to be highly effective, quality primary literacy teachers at the beginnings of their careers. It also offered space for participants to write their final thoughts regarding their preparation for primary literacy instruction, and to relate any of their experiences as new primary literacy teachers.

The seven afore-mentioned sections each contained items that concentrated on a different element of the focus component. Each section also inquired about the participants' level of preparation for teaching that component of primary literacy, and about the instruction experiences they had as new teachers in relation to the targeted component.

The seven main sections of the survey all contained Likert-scaled statements, and six of the sections also included short-answer questions. For the Likert-scale statements, participants were asked to rate each statement on a 5-point scale, where:

5 = Strongly Agree

4 = Agree

3 = Neither Agree Nor Disagree

2 = Disagree

1 = Strongly Disagree

The short-answer questions encouraged teachers to share their experiences related to each subtopic of the survey. Practiced and veteran teachers were reminded at the top of each section to reflect upon their preparatory experiences and their first years of teaching when answering the questions, and to write about the thoughts and experiences they had undergone as new primary literacy teachers.

Response

The survey was distributed electronically to 232 kindergarten through third-grade teachers in three districts of varying size, location, and population in a western state. The survey was distributed through district superintendents to the teachers, in order to maintain participant anonymity. The survey collected responses from teachers of all experience levels. Those who were not new teachers were asked to reflect upon their first years of teaching when completing

the survey. The respondents were broken into three groups: new teachers with 0-3 years of experience; practiced teachers who had been teaching 4-10 years; and veteran teachers, with 11 or more years of experience. Data was collected from all of these groups to allow for a comparative analysis to determine if there had been a change over time in their perceived levels of preparedness to teach primary literacy.

Despite three electronic reminders with an easy clickable link, one paper-based follow-up invitation, and a chance at remuneration, all of which are encouraged by the literature to enhance response rates (Anseel et al., 2010; Sivo et al., 2006), only 82 teachers logged onto the survey. Of those 82 teachers who began the survey, 74 participants agreed to the consent form and submitted responses for the majority of the survey. This resulted in an overall 32% response rate. The response rate for veteran teachers was the greatest, at 41 out of a possible 107 participants, or 38% of the categorical survey population. There were 15 participants in the practiced teacher category out of 72 possible, which calculated to a 21% categorical response rate. The new teacher category had 18 respondents out of 53 possible, or a 34% categorical response rate.

A low response rate is a potential drawback of all survey research, especially survey research targeting those who are likely to be deemed “busy nonrespondents,” such as primary teachers, who are often very busy, feel overwhelmed, and feel overloaded with everything they have to accomplish every day at school (Anseel et al., 2010; Johnson et al., 2005; Sivo et al., 2006). The researcher timed the survey request to be sent after first quarter report cards and parent-teacher conferences were completed, but before the holidays, in an attempt to reach teachers when they were not quite as busy. But Anseel et al. (2010) warned that busy nonrespondent groups such as teachers may not participate in survey research no matter the timeline, goal, number of reminders, or offers of remuneration, as they are completely focused

on only doing what they must absolutely do to just make it through each day. The subject or purpose of the survey participation request often has nothing to do with busy nonrespondents' choice to not partake. Busy people are found to have an average response rate of 34% (Anseel et al., 2010), and most random research surveys receive a 22% to 59% response rate (Sivo et al., 2006). While the researcher had aspired to a greater response rate and had especially tried for higher participation from brand new teachers, the data collected did fall within acceptable response rate ranges.

According to Sivo et al. (2006), the 32% response rate should be regarded as nonresponse error in reference to statistical analysis, as it "refers to the condition wherein people of a particular ilk are systematically not represented in the sample because such people are alike in their tendency not to respond" (p. 352). Nonresponse error does not invalidate results, but those who respond may have different viewpoints and experiences than those who do not (Anseel et al., 2010; Sivo et al., 2006; Tanner, 2012). Tanner (2012) offers additional cautions regarding generalizing the results of the statistical analysis. He says a low response rate likely gives an accurate picture of the sample population, but conclusions reached from data analysis might not be generalizable to the population as a whole. The analysis of this research was meant to convey the experiences and attitudes of the teachers who participated in the survey, and therefore the statistical results have been treated as a valid representation of the sample population.

Demographic questions were posed to the sample population. The demographic information was collected for two purposes. Creswell (2012) advises collecting demographic information to "assess the personal characteristics of individual in your sample" to allow for greater understanding of the data. The second purpose was for data analysis purposes. The researcher sought to compare the experiences and results of the various independent

demographic groups. According to Tanner (2012), independent groups should have a minimum of 9 members for accurate statistical comparative analyses. Because of the anonymous nature of the survey, and the researcher's inability to control who of the target population actually participated, not all demographic groups contained enough members to allow for accurate comparative analysis.

The demographic categories that did not have a large enough response in each independent group or categorical analysis were those of gender, type of preparation, student teaching, and certification type. Of the 74 participants, 73 were female and 1 was male. There were 65 respondents who attended a traditional teacher education program that culminated in a bachelor's degree, 6 who attended a traditional teacher education program that culminated in a master's degree, 2 who completed an alternative certification route, and 1 who specified "other." 67 respondents spent at least an 8-week block of time student teaching in a primary grade level prior to earning certification, and 7 did not. Of the respondent population, 65 held general elementary certification (K–6 or K–8), 6 held early childhood certification (P–3), and 3 chose "other." In the state where the research took place, teachers may be teaching a primary grade without full certification if they are an emergency hire to fill a temporary position, or hold another type of certification. These "other" teachers have a limited number of years to earn the appropriate certification in order to remain in the position (SDE, 2012).

The two demographic questions that yielded more than 9 participants in each independent group were the categories of years taught and the primary grade level taught. There were 18 new teacher respondents who had been teaching 0-3 years, 15 practiced teacher respondents with 4-10 years of experience, and 41 veteran teacher respondents who had been teaching 11 or more years. Of those who partook in the study, 12 participants taught kindergarten, 23 taught first

grade, 23 taught second grade, and 16 taught third grade. These two demographic groups were the only ones with large enough numbers in each independent group to allow for a statistically accurate comparative analysis (Tanner, 2012). However, for the purpose and parameters of this study, which was to determine if new teachers are better prepared to teach primary literacy now than the practiced and veteran teachers were when they started, the comparison of groups of grade taught was not a focus. If there had been a high enough response rate to yield a minimum of 9 new, practiced, and veteran teachers in each grade level, the researcher would have deemed it appropriate and relevant to the focus of the research to proceed with grade level statistical comparative analyses. Due to noted parameters, the results of this research are predominantly focused on the differences among new, practiced, and veteran teacher responses.

Results

Are new teachers entering the profession feeling better prepared to teach literacy at the primary level now than in the past? This mixed-methods study attempted to answer that question, along with three supporting subquestions: In which components of primary literacy instruction do new teachers perceive themselves as strong, and in which components do they perceive themselves as weak? In which areas of primary literacy instruction did new teachers feel better prepared by their preparation programs than in the past, and in which areas did they wish they had received greater preparation? Has there been a change over time in what new teachers believe were the strengths and weaknesses of their preparation programs? This section delineates the results of the quantitative and qualitative analyses in relation to the research focus.

Quantitative analyses were applied to the Likert-scale data. Laerd Statistics (Lund Research Ltd., 2013) advises that when Likert-scaled surveys are developed to measure more than one construct, such as the one developed for this research with seven individual categories,

the results should be multi-dimensional. Therefore, a statistical analysis of internal consistency of responses was necessary to determine the reliability of the results of both the survey as a whole, and of the individual sections of the survey. Following recommendations by statistical experts, the Cronbach's alpha test was utilized for this purpose (Connelly, 2011; Gliem & Gliem, 2003; Lund Research Ltd., 2013; Tanner, 2012).

Once the survey responses were deemed wholly reliable by the Cronbach's alpha test, the data were broken into the three independent subgroups of teachers. There were 18 new teachers with 0 to 3 years of experience, 15 practiced teachers with 4 to 10 years of experience, and 41 veteran teachers with 11 or more years of experience. The researcher ran the Kruskal-Wallis test to determine if there were statistically significant differences among the groups, followed by post-hoc pairwise analyses to determine between which two groups the differences existed (Lund Research Ltd., 2013; Tanner, 2012). Next, the areas in which all respondents statistically agreed was discussed. Subsequently, a qualitative analysis was completed on the short-answer responses and how they relate to the quantitative data. Finally, the researcher summarized the mixed-methods data as a whole and reviewed its relation to the research question.

Internal consistency and reliability. Cronbach's alpha is a statistical analysis used to determine the internal consistency of responses and, therefore, overall reliability of results of a Likert-scale survey (Connelly, 2011; Gliem & Gliem, 2003; Lund Research Ltd., 2013; Tanner, 2012). This statistical test is not used to analyze the meaning of the data, it is used merely to determine if the survey item results are interrelated enough to provide a consistent and reliable picture of the data reported (Connelly, 2011). Cronbach's alpha determines consistency and reliability by relating the Likert-scale ratings of each item to every other item to determine if they produce a consistent type of score throughout the survey for each participant (Connelly,

2011). As Gliem and Gliem (2003) stated, “Cronbach’s alpha is the average value of the reliability coefficients one would obtain for all possible combinations of items when split into two half-tests” (p. 84). Cronbach’s alpha should be used to assess the reliability and consistency of the entire survey, or of an entire block of related questions within a survey, but never for individual item analysis (Gliem & Gliem, 2003; Lund Research Ltd., 2013). Analyzing individual items defeats the interrelational purpose of Cronbach’s alpha (Gliem & Gliem, 2003; Connelly, 2011).

Cronbach’s alpha analysis normally results in a reliability coefficient that ranges between 0 and 1 (Gliem & Gliem, 2003; Lund Research Ltd., 2013). Survey results with a very reliable internal consistency will have coefficients above .80, although .70 and higher are normally deemed acceptably reliable (Gliem & Gliem, 2003; Lund Research Ltd., 2013). To ensure an accurate coefficient, before running a Cronbach’s alpha analysis, any negatively worded items were recoded in the opposite scale. This prevented items that were answered with the same intention from being reported as conflicting (Lund Research Ltd., 2013).

This research survey produced reliable internal consistency for the entire survey as a whole, as well as for each section of the survey. Table 10 delineates the Cronbach’s alpha results.

Table 10

Cronbach's alpha Results

Survey Section Tested	Cronbach's alpha
Full survey	0.96
Section 1: General Preparation	0.90
Section 2: Phonemic Awareness	0.90
Section 3: Phonics	0.89
Section 4: Fluency	0.91
Section 5: Comprehension	0.74
Section 6: Assessment	0.87
Section 7: Conclusion/General	0.77

The internal consistency of the full survey was well above acceptable levels, with a reliability coefficient of .96. Sections 1, 2, 3, 4, and 6 were considered very reliable, with coefficients above .80. Sections 5 and 7 were deemed acceptably reliable, with coefficients above .70 (Gliem & Gliem, 2003; Lund Research Ltd., 2013). In conclusion, the results of the Cronbach's alpha analysis of the research survey judged the Likert-scale results to be valid and reliable.

Statistically significant differences. The research question for this study was: Are new teachers entering the profession feeling better prepared to teach literacy at the primary level now than in the past? This question was supported with three subquestions: In which components of primary literacy instruction do new teachers perceive themselves as strong, and in which components do they perceive themselves as weak? In which areas of primary literacy instruction did new teachers feel better prepared by their preparation programs than in the past, and in which

areas did they wish they had received greater preparation? Has there been a change over time in what new teachers believe were the strengths and weaknesses of their preparation programs? To answer the research question, the Likert-scale data were categorized into three groups: new teachers with up to 3 years of experience; practiced teachers with 4 to 10 years of experience; and veteran teachers with more than 10 years of experience. Practiced and veteran teachers were asked to think back to the beginnings of their teaching careers when answering the Likert statements. This was done to allow for a comparison to determine if there had been any statistically significant changes in the perceptions of levels of preparation and beginning-of-career experiences among the three groups.

The participant pool was disaggregated demographically into the three experience level groups for analysis:

- 18 respondents labeled as new teachers with 3 or fewer years of experience;
- 15 respondents labeled as practiced teachers with 4 to 10 years of experience; and
- 41 respondents labeled as veteran teachers with 11 or more years of experience.

The Kruskal-Wallis test was chosen for statistical analysis of this research because it is a nonparametric statistical test used to determine significant differences between three or more independent groups of ordinal data that are not normally distributed (Lund Research Ltd., 2013; Tanner, 2012). Three independent groups of teachers participated in this research study. The groups were deemed independent because the selection of participants for analysis in one group was not dependent upon the selection of the participants in the other groups (Tanner, 2012). The group parameters for the study were predetermined to be new teachers, practiced teachers, and veteran teachers. The researcher did not know in advance into which groups the anonymous participants would fall, nor how many from each group would choose to participate. The groups

were designed to be fully independent of each other for the analytical purposes set forth by this research. The data met the Kruskal-Wallis requirement of containing three independent groups.

The data set of this research is not normally distributed because it is not a large set of continuous random variables. The sample population is relatively small and targeted, which makes it impossible for the data to represent a normal, symmetrical distribution (Tanner, 2012). In addition, the Likert-scale scores collected is ordinal data, and ordinal data does not meet standards of normality (Tanner, 2012). The ordinal data collected in this research was based on a ranked scale on which participants could rate their thoughts and views on their preparation programs, their levels of perceived preparedness in the four fundamental components of literacy, and of preparedness for primary literacy teaching in general. The ordinal data did not provide exact numerical scores related to proficiency in literacy instruction for the participants. For these reasons, ordinal data cannot be normally distributed (Tanner, 2012).

The data set in this research met the parameters for nonparametric statistical analysis, which is what is used when the data is not normally distributed, and is ordinal scale. There were three independent groups with more than nine participants in each group, yet no group had an identical number of participants. Therefore, the recommended statistical test to determine statistically significant differences between the responses of each group was the Kruskal-Wallis test (Lund Research Ltd., 2013; Tanner, 2012).

The Kruskal-Wallis test provided information on whether or not the groups being analyzed had statistically-identical scores. If the Kruskal-Wallis score was not statistically significant, then all three groups were statistically identical, meaning they generally felt the same way about the Likert-scale statement. If the Kruskal-Wallis did show statistical significance, then at least one of the three groups differed significantly from the others on its view of the Likert-

scale statement (Lund Research Ltd., 2013; Tanner, 2012). However, the Kruskal-Wallis does not tell which of the three groups differs from the other two, or if they all three differ significantly from each other (Lund Research Ltd., 2013).

When the Kruskal-Wallis test resulted in a statistically significant score on a specific Likert-scale statement, which meant there was a statistical difference in opinion with at least one of the three groups, the researcher performed a post-hoc test. A post-hoc test is specifically used for that situation, to determine which of the three groups varied significantly from the others. The post-hoc test chosen for this situation was a pairwise comparison using Dunn's (1964) procedure with a Bonferroni correction (Lund Research Ltd., 2013). The pairwise comparison assessed each possible pair of scores against the complete data set for that statement. The Bonferroni correction adjusted the significance levels, due to the increased risk of error that naturally occurs when performing multiple comparisons (Lund Research Ltd., 2013). By using the pairwise comparison and adjusting the significance levels with the Bonferroni correction, the researcher was able to determine which group or groups differed significantly from the others in their responses to individual Likert-scale statements.

The researcher conducted the Kruskal-Wallis test on the Likert-scaled items using SPSS (IBM Corp., 2011). The independent variable, or categorical variable, was the experience group to which the teacher belonged. The ordinal data dependent variables were the various Likert-scale statement segments. The researcher based analysis on the following hypotheses:

H_0: The three groups will have the same distribution of scores.

H_A: At least two of the groups will contain a statistically significant difference in the distribution of scores.

In running the Kruskal-Wallis test, SPSS first calculated the medians for the three different experience groups. Next, it calculated the statistical significance of the test results, which either affirmed or denied the null hypothesis. Then SPSS provided information regarding the which items demonstrated a statistically significant difference between groups. Out of 49 Likert-scale statements on the survey, 22 resulted in a statistically significant difference between groups as noted by the Kruskal-Wallis score, where $p < 0.05$. Because the Kruskal-Wallis score does not detail between which two groups the differences occur, the researcher analyzed the SPSS pairwise comparison post-hoc tests on those items with statistically significant differences to determine which two groups differed significantly in their responses. The pairwise comparisons were performed using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons, for which statistical significance was accepted at the adjusted $p < 0.05$ level (Lund Research Ltd., 2013). Not all of the statements that showed statistical significance in the Kruskal-Wallis analysis retained the paired significance after submitting to the Bonferroni correction for multiple comparisons, so were therefore deemed marginally significant.

Data tables for each section of the survey are embedded below. For each survey item number that was a Likert-scale statement, the chi-square score (χ^2), and the Kruskal-Wallis *p* value are displayed. Items resulting in statistically significant *p* values, where $p < 0.05$, are highlighted. Highlighted items include the results of the post-hoc test that established which paired groups differed. If two sets of paired groups differed on one item, the second pair is listed under the first pair. Each initial pairwise *p* score is shown, which indicates the paired score originally calculated at $p < 0.05$. The final column discloses the results of the Bonferroni correction, which determined if the difference between the two groups was still statistically significant following an adjustment for multiple comparisons. Items remained statistically

significant if the adjusted *p* values (*adj. p*) maintained scores where *adj. p* < 0.05. If the adjusted value maintained significance, the cell remained highlighted. If the adjusted value was no longer less than 0.05, the difference was deemed to only be marginally significant, and highlighting was removed from the final cell. The tables follow, with discussion of items with resulting statistically significant Kruskal-Wallis scores.

There were statistically significant differences between groups of teachers on five items in Section 1, with two items being deemed marginally significant (Table 11). The items are discussed below, and include the Likert-scale statement for the item. The discussion explains the results of the analysis for each item.

Table 11

Independent Samples Kruskal-Wallis Test of Survey Section 1: Teacher Preparation Program

Item	χ^2	*p*	Differing Pairs*	Pairwise *p*	*adj. p*
1	4.106	0.128			
2	8.943	0.011	N/V	0.003	0.009
3	4.180	0.124			
4	7.727	0.021	P/V	0.031	0.092
			N/V	0.023	0.069
5	2.107	0.349			
6	5.710	0.058			
7	3.198	0.202			
8	8.172	0.017	N/V	0.027	0.027
			N/P	0.043	0.043
9	0.027	0.987			
10	3.250	0.197			
11	9.158	0.010	N/V	0.003	0.008
12	7.769	0.021	P/V	0.011	0.033

Note. The Kruskal-Wallis score was deemed statistically significantly different among the three experience groups with *df* of $\chi^2(2)$ when $p < 0.05$. Post-hoc testing determined paired differences, and the *p* of the pair. The Bonferroni correction for multiple comparisons was calculated, resulting in adjusted *p* levels that maintained statistical significance when the *adj. p* < 0.05.

* N = New teachers, P = Practiced Teachers, V = Veteran Teachers.

Item 2 stated, “My teacher preparation consisted of course work that offered in-depth knowledge of best practices in teaching reading.” This item showed a difference between new and veteran teachers on their beliefs regarding the statement. The difference maintained statistical significance following the Bonferroni correction, where *adj*. $p = 0.009$. New teachers were much more likely to believe they had been offered such coursework in their preparation programs than veteran teachers. Of this survey sample population, 76% of new teachers believed their university course work offered in-depth knowledge of best practices in teaching reading, yet only 32% of veteran teachers did. This type of coursework is vital for preservice teachers, for without it they are much more likely to struggle when trying to teach primary students how to read (Bornfreund, 2012; Dillon, 2004; Moats, 1999; Walsh et al., 2006).

Item 4 stated, “Professors in my program often taught using the same pedagogical techniques they were instructing me to use as a teacher (i.e., collaboration, hands-on, reflection).” The results of the Kruskal-Wallis on Item 4 resulted in a significant score of $p = 0.021$. The post-hoc pairwise analysis showed the differences to be between two pairs of independent groups, practiced teachers and veteran teachers, and new teachers and veteran teachers. The statistical significance did not hold up to the Bonferroni correction for either pairing, rating these differences as marginally significant. Original levels noted statistical significance between practiced teachers and veteran teachers $p = 0.031$, but the adjusted level was *adj*. $p = 0.092$. Data showed 86% of practiced teachers in the survey sample agreed or strongly agreed with the statement, versus only 46% of veteran teachers.

Item 4 pairwise analysis also originally determined statistically significant differences between new teachers and veteran teachers at $p = 0.023$. When adjusted for multiple comparisons using the Bonferroni correction however, the *adj*. $p = 0.069$, reflecting marginal

significance. There was still a noted difference, with 77% of new teachers versus 46% of veteran teachers who believed they had been taught by professors using pedagogical techniques similar to those they were expected to use when they became primary teachers. Studies have shown that preservice teachers who learn in pedagogical styles using scientifically-based methods similar to those they will be expected to utilize in the primary classroom are more effective when they begin their careers (Morris, 2011; NCATE, 2013; Pimentel, 2007).

Item 8 stated, "My teacher preparation program included courses that helped fully prepare me to develop lessons and teach using Common Core State Standards in literacy." The Kruskal-Wallis resulted in a $p = 0.017$ score, which was statistically significant. Following post-hoc pairwise comparison and the Bonferroni correction, this item showed significant statistical difference between new teachers and veteran teachers at *adj*. $p = 0.027$, and new teachers and practiced teachers at *adj*. $p = 0.043$. A significantly higher level of new teachers, 56%, believed they had received adequate levels of coursework and fieldwork that prepared them to be able to teach under the new standards required by CCSS. Only 21% of practiced teachers and 10% of veteran teachers believed their preparation programs provided them with what they would have needed if they would have been required to teach using CCSS in their first years of teaching. This means the new teachers in this sample population felt they were entering the profession better prepared to teach the core elements of literacy while helping primary students to utilize those core skills to create deeper comprehension of complex text, analyze nonfiction text, and demonstrate their understanding through narrative, argumentative, and evaluative writings (Greenberg et al., 2013; Hiebert & Pearson, 2012; NGAC/CCSSO, 2010; VanTassel-Baska, 2014). However, the data showed still only about half of these new teachers felt adequately prepared in this area.

Item 11 stated, “My student teaching experience included adequate amounts of time spent collaborating or team planning with other teachers.” The Kruskal-Wallis score demonstrated a statistically significance difference with a score of $p = 0.010$. Pairwise analysis showed there was a statistically significant difference between veteran teachers and new teachers. That difference remained significant following the Bonferroni correction, with the *adj*. $p = 0.008$. There were 71% of new teachers who said they received adequate collaboration or team planning time in their student teaching experience, which has been in the past three years. Only 39% of veteran teachers, who went through preparation programs more than 10 years ago, felt they had received adequate collaboration or team planning time as a part of their student teaching experience. This shows an increase over time in this sample population in learning how to team plan and collaborate as part of their preparation program. Research has shown team planning and collaboration is vital to maintaining understanding of practice and improving performance in all areas, including literacy instruction (Ballard & Bates, 2008; Brilhart, 2010; Dillon, 2004; Johnson et al., 2005).

Item 12 stated, “My university outlined specific guidelines for my student teaching experience, delineating the roles of the university mentor, the supervising teacher, and the student teacher.” The Kruskal-Wallis score for this item was statistically significant at $p = 0.021$. Pairwise analysis determined the significant difference to lie between practiced and veteran teachers, with an adjusted significance level at *adj*. $p = 0.033$. Practiced teachers agreed at a 93% rate that their universities had adequately outlined guidelines for student teaching, while only 60% of veteran teachers thought so. New teachers fell in the middle on this question, with 76% believing the guidelines were specific. When universities provide specific guidelines for expectations of the university supervisors, school administrators, mentor teachers, and student

teachers, especially in regards to teaching expectations, collaboration, and evaluation, the student teaching experience has been shown to be more effective and to better prepare the student teacher for the realities of teaching (Allen, 2002; Fuhrken, 2006; Heller et al., 2007; Russell & Russell, 2011; Smith, 2009).

The first section of the survey was comprised of broad statements regarding the participants' teacher preparation program as a whole. The strength of a preparation program is indicative of the level of effectiveness that can be expected of the teachers who matriculate from the program. Successful primary literacy teachers possess a knowledge of content and pedagogy that can best be obtained through a comprehensive, highly effective preparation program (Allen, 2002; Bornfreund, 2012; CAEP, 2013; Greenberg et al., 2013; Maloch et al., 2003; NCATE, 2013; Scott & Baker, 2003; Shuls & Ritter, 2013). The results of Section 1 indicate a general improvement over time in the overall perceived strength of teacher preparation programs attended by the sample population.

Section 2 of the survey focused on levels of preparedness teachers felt they had received in phonemic awareness. Likert-scale items obliged survey participants to rate their levels of agreement with the importance of elements of phonemic awareness as related to early literacy development, in relation to the beliefs fostered by their teacher preparation. Participants also rated their teacher preparation as it related to phonemic awareness.

Table 12 delineates the results of the Kruskal-Wallis test of Section 2.

Table 12

Independent Samples Kruskal-Wallis Test of Survey Section 2: Preparedness for Phonemic Awareness

Item	χ^2	*p*	Differing Pairs*	Pairwise *p*	*adj. p*
14	5.382	0.068			
15	2.285	0.319			
16	5.434	0.066			
17	2.921	0.232			
18	8.419	0.015	N/V	0.018	0.053
			P/V	0.026	0.078
19	6.550	0.038	N/V	0.024	0.071

Note. The Kruskal-Wallis score was deemed statistically significantly different among the three experience groups with *df* of $\chi^2(2)$ when $p < 0.05$. Post-hoc testing determined paired differences, and the *p* of the pair. The Bonferroni correction for multiple comparisons was calculated, resulting in adjusted *p* levels that maintained statistical significance when the *adj. p* < 0.05.

* N = New teachers, P = Practiced Teachers, V = Veteran Teachers.

Items 14–17 were not statistically significant. However, items 14 and 16 did show marginal significance at $p = 0.068$ and 0.066, respectively. Item 14 stated, “Phonemic awareness is a strong predictor of reading success.” There were 93% of new teachers who recognized having been taught this fact, but only 69% of practiced teachers and 67% of veteran teachers began their careers with this understanding. In relation, the same strong 93% of new teachers also understood the importance of Item 16, which stated, “The ability to orally segment and blend sounds in words is a strong predictor of reading success,” yet 31% of practiced teachers and 33% of veteran teachers reported having not begun teaching with this understanding.

Item 18 stated, “My preparation program included learning research-based theories and/or techniques regarding phonemic awareness.” The Kruskal-Wallis score demonstrated a statistically significant difference in results at $p = 0.015$. The pairwise comparison determined a

significant difference between the responses of new teachers versus veteran teachers, and between practiced teachers versus veteran teachers. However, the adjusted statistical significance did not hold up to the Bonferroni correction for either pairing, so the item has been rated as marginally significant.

The initial significance level calculated exhibited a difference between new and veteran teachers at $p = 0.018$. When adjusted for multiple comparisons, the significance level for the difference between new teachers, at 64%, and veteran teachers, at 28%, was *adj*. $p = 0.053$, allowing for marginal significance between the affirmative responses. In addition, the original significance level between practiced teachers, at 54%, and veteran teachers, at 28%, was $p = 0.026$, yet the score when adjusted using the Bonferroni correction was *adj*. $p = 0.078$.

Item 19 stated, "My preparation program provided me adequate fieldwork experiences teaching phonemic awareness in a primary (K–3) setting." The original Kruskal-Wallis score for this item was $p = 0.038$, which denoted a statistically significant difference among the groups. The pairwise analysis determined the significance existed between new teachers and veteran teachers at $p = 0.024$, where new teachers believed they had adequate fieldwork experiences teaching phonemic awareness, and veteran teachers did not. When adjusted using the Bonferroni correction, the *adj*. $p = 0.071$, so the pairing was no longer considered to have a highly statistically significant difference, but was still considered marginally significant. The numerical data indicated 57% of new teachers believed they had engaged in adequate fieldwork experience teaching phonemic awareness, compared to 38% of practiced teachers and a mere 15% of veteran teachers.

While this section on phonemic awareness yielded no highly statistically significant differences between the groups, the data do indicate a small increase over time in the level of

preparation for teaching phonemic awareness, which is a key building block of early literacy. Without a solid foundation in phonemic awareness, many children struggle to become highly functioning, successful readers (Bone et al., 2002; Frey & Fisher, 2010; Koutsoftas et al., 2009; Moats, 1999; Sousa, 2006; Tyler & Burnham, 2006; Walsh et al., 2006). In conclusion, the data demonstrated that the three groups statistically agreed as to the importance of the elements of phonemic awareness in literacy instruction. The groups did not feel as prepared as they needed to be to successfully teach phonemic awareness, although numerical data shows the level of preparedness has increased over time.

Table 13 shows the statistical analysis of Section 3: Preparedness for Phonics. There were five items in the section that did not result in a statistically significant Kruskal-Wallis score, and three that did. Two of the significant items showed differences between two experience groups, new versus practiced, and new versus veteran. The results are discussed further below the table.

Table 13

Independent Samples Kruskal-Wallis Test of Survey Section 3: Preparedness for Phonics

Item	χ^2	*p*	Differing Pairs*	Pairwise *p*	*adj. p*
23	1.696	0.428			
24	3.657	0.161			
25	13.830	0.001	N/P	0.022	0.065
			N/V	0.000	0.001
26	14.343	0.001	N/P	0.035	0.106
			N/V	0.000	0.000
27	10.749	0.005	N/V	0.001	0.003
28	1.986	0.370			
29	5.943	0.051			
30	2.997	0.223			

Note. The Kruskal-Wallis score was deemed statistically significantly different among the three experience groups with *df* of $\chi^2(2)$ when $p < 0.05$. Post-hoc testing determined paired differences, and the *p* of the pair. The Bonferroni correction for multiple comparisons was calculated, resulting in adjusted *p* levels that maintained statistical significance when the *adj. p* < 0.05.

* N = New teachers, P = Practiced Teachers, V = Veteran Teachers.

The first two items in the section demonstrated received high levels of consensus among the groups of teachers taking the survey. Almost all teachers believed that phonics was a critical skill for emergent readers, including 92% of new teachers, 81% of practiced teachers, and 92% of veteran teachers. Additionally, a large amount of the teachers in this survey began their careers believing they should be delivering systematic, explicit phonics instruction to their primary students, including 100% of new teachers, 82% of practiced teachers, and 78% of veteran teachers, which is a view highly supported by research (Gehsmann & Templeton, 2012; Goswami, 2006; Moats, 1999; Roundy & Roundy, 2009; Shaywitz & Shaywitz, 2007).

Items 25-27 inquired about the level of understanding the survey participants possessed in regards to teaching some fundamental elements of phonics, which underlined the amount of

training the teachers had received from their programs in teaching these elements. These three items showed significant differences among groups, demonstrating a marked increase in the level of phonics preparation over time.

Item 25 stated, “I have a solid understanding of how to teach digraphs.” All of the new teachers believed they possessed a solid understanding of how to teach digraphs, demonstrating a substantially stronger regard than both practiced (36%) and veteran (32%) teachers possessed in their first years. The Kruskal-Wallis noted a statistically significant difference among the groups at $p = 0.001$. The pairwise comparison determined which pairs differed, and showed an initial significant difference between new and practiced teachers at $p = 0.022$, and new and veteran teachers at $p = 0.000$. When the Bonferroni correction was applied, the statistically significant difference between the new and practiced teachers was not sustained, at *adj*. $p = 0.065$. However, significant difference between new and veteran teachers was upheld with an *adj*. $p = 0.001$.

Item 26 stated, “I have a solid understanding of how to teach diphthongs.” This item produced very similar data to Item 25, as 92% of new teachers believed they were secure in their understanding of teaching diphthongs, as opposed to 27% of practiced teachers and 25% of veteran teachers in their first years. The initial Kruskal-Wallis score resulted in a significant $p = 0.001$ score. The pairwise analysis showed differences between new and practiced teachers at $p = 0.035$, and new and veteran teachers at $p = 0.000$. Following the Bonferroni correction, the difference between new and practiced teachers was no longer found to be significant, with at *adj*. $p = 0.106$. The significant difference between new and veteran teachers was maintained, with an adjusted statistical significance of $p = 0.000$. This data pointed to an increased knowledge among new teachers with regards to being prepared to teach basic phonics skills.

Item 27 stated, “I have a solid understanding of how to teach spelling in relation to phonics rules.” The Kruskal-Wallis signified a statistical difference with a score of $p = 0.005$. The pairwise comparison found the significant difference to be between new and veteran teachers, with an original result of $p = 0.001$. When corrected for multiple comparisons, the *adj*. $p = 0.003$, which demonstrated a statistically significant difference between the groups. Veteran teachers did not feel they possessed a solid understanding of how to teach phonics in relation to spelling rules when they were new teachers, whereas current new teachers did. The numerical result from practiced teachers supported the upswing in preparation. Only 38% of veteran teachers felt they had received adequate training to possess the skills and knowledge necessary to teach spelling using phonics rules. Of the sample population, 45% of practiced teachers were confident in this area their first years of teaching, whereas 100% of new teachers either strongly agreed (25%) or agreed (75%) to the statement.

The final three items in Section 3 dealt with being taught how to understand the science of reading in relation to phonics, being trained in research-based theories and pedagogical techniques for teaching phonics, and having completed adequate fieldwork teaching phonics as part of the survey participants’ teacher preparation. None of these items showed a statistically significant difference between any two groups. All of the groups had fairly split percentages between those who agreed or disagreed to the statements. Research has shown the importance of primary literacy teachers possessing a deep understanding of how the brain works in relation to phonics and overall reading development (Frey & Fisher, 2010; Keller & Just, 2009; Moats, 1999; Shaywitz & Shaywitz, 2004, 2007; Sousa, 2006; Walsh et al., 2006), as well as gaining preservice experience in teaching phonics (Bornfreund, 2011; Copeland et al., 2011; Dillon,

2004; Dyrli,1999; Maloch et al., 2002; NCATE, 2013). The results of Items 28-30 varied widely, demonstrating the need for continued improvement in teacher preparation in those areas.

Section 4: Preparedness for Fluency included seven Likert-scale statements that requested survey participants' opinions on their preparatory knowledge of fluency and teaching of fluency, and their levels of agreement related to being fully prepared in primary fluency instruction. Five of the statements showed a statistically significant difference among groups as shown by a Kruskal-Wallis score of $p < 0.05$. Table 14 shows the results of the analysis of Section 4.

Table 14

Independent Samples Kruskal-Wallis Test of Survey Section 4: Preparedness for Fluency

Item	χ^2	*p*	Differing Pairs*	Pairwise *p*	*adj. p*
34	8.123	0.017	N/P	0.023	0.068
			N/V	0.006	0.019
35	9.215	0.010	N/V	0.007	0.020
			P/V	0.048	0.143
36	6.285	0.043	N/P	0.021	0.063
			N/V	0.030	0.090
37	1.068	0.586			
38	5.921	0.052			
39	11.081	0.004	N/V	0.001	0.003
40	7.250	0.027	N/V	0.008	0.024

Note. The Kruskal-Wallis score was deemed statistically significantly different among the three experience groups with *df* of $\chi^2(2)$ when $p < 0.05$. Post-hoc testing determined paired differences, and the *p* of the pair. The Bonferroni correction for multiple comparisons was calculated, resulting in adjusted *p* levels that maintained statistical significance when the *adj. p* < 0.05.

* N = New teachers, P = Practiced Teachers, V = Veteran Teachers.

Item 34 stated, "The ability of K–1 students to read lists of letters or sounds fluently, without having to stop to think, is an indicator of future reading success." The teachers were asked to rate their level of agreement with this statement in relation to what they had been taught

in their preparation programs. The Kruskal-Wallis test showed a statistically significant difference among the levels of agreement at $p = 0.017$. Post-hoc analysis determined the groups that differed were new teachers versus practicing teachers, with an original pairwise significance score of $p = 0.023$, and new teachers versus veteran teachers, with an original pairwise significance score of at $p = 0.006$. When the scores were adjusted for multiple comparisons using the Bonferroni correction, the new and practicing teachers were no longer statistically significantly different in their views, with an *adj*. $p = 0.068$. However, new and veteran teachers maintained a significant difference with an *adj*. $p = 0.019$.

Research has proven fluency to be a strong indicator of reading success, as long as its meaning is truly understood, and it is measured correctly and taught appropriately (Baker et al., 2008; Bomer, 2006; Moats, 1999; Shaywitz and Shaywitz, 2004; Winn et al., 2006). The past decade has brought increased understanding of the importance of explicitly teaching fluency strategies to students to build literacy development (Pruitt & Cooper, 2008; Roundy & Roundy, 2009). In reflection of this emerging research, 100% of new teachers either agreed or strongly agreed to the statement, whereas 57% of veteran teachers and 54% of practiced teachers agreed reflecting on their beliefs from their first years of teaching.

Item 35 stated, “Fluency is reading correctly with speed and prosody.” This statement was included to determine if teachers began their careers with the understanding that fluency focuses not just on reading with speed, but also includes the critical elements of accuracy and prosody (Baker et al., 2008; Bomer, 2006). Neither veteran teachers nor practiced teachers were secure in this concept when they were new teachers, yet current new teachers all had an understanding of the terminology, as represented by the data. The Kruskal-Wallis test of Item 35 resulted in a significance level of $p = 0.010$. The pairwise analysis determined a statistically

significant difference lied between new and veteran teachers at $p = 0.007$, and practiced and veteran teachers at $p = 0.048$. Following the Bonferroni correction for multiple comparisons, the adjusted significance levels supported a difference between new and veteran teachers at *adj*. $p = 0.020$. However, the difference between practiced and veteran teachers did not hold up to the correction, with an adjusted significance level of $p = 0.143$. Numerical data showed 100% of new teachers either agreed or strongly agreed with the statement, followed by 82% of practiced teachers, and 73% of veteran teachers. The sample population has shown an increase over time in their beginning-of-career understanding of fluency.

Item 36 stated, "Fluency timings are a valuable progress indicator for holistic reading growth." Research has shown this to be true (Alber-Morgan, 2006; Baker et al., 2008; Mellard et al., 2001; Pruitt & Cooper, 2008), yet many teachers have not been taught the science behind this statement by their preparation programs. They begin their careers with an unclear understanding of the purpose and utilization of fluency timings, despite expert recommendations for extensive training in fluency for new teachers (Baker et al., 2008; Moats, 1999; Pruitt & Cooper, 2008; Roundy & Roundy, 2009; Winn et al., 2006). In this sample population, new teachers were exposed in their programs to the value of fluency timings in relation to holistic reading growth at a higher rate (92%) than were practiced teachers (36%) and veteran teachers (51%). The Kruskal-Wallis test demonstrated an overall statistically significant difference between groups, with a significance level of $p = 0.043$. The pairwise analysis determined the differences were between new and practiced teachers, with a significance level of $p = 0.021$, and between new and veteran teachers, with the significance level of $p = 0.030$. However, when the two relationships were adjusted using the Bonferroni correction for multiple comparisons, neither pair retained a statistically significant difference as determined by a score of *adj*. $p < 0.05$. New teachers as

compared to practiced teachers showed an *adj. p* = 0.063, and new teachers as compared to veteran teachers revealed an *adj. p* = 0.090. The numerical data evidenced that new teachers are receiving a higher level of preparation in understanding and utilizing fluency timings in literacy instruction.

Item 39 stated, “My preparation program included learning research-based theories and/or techniques regarding fluency.” New teachers received significantly greater exposure to learning research-based theories and techniques regarding fluency than veteran teachers did in their preparation programs. The Kruskal-Wallis test revealed a significant difference among the groups with $p = 0.004$. The pairwise analysis revealed the significant difference was between new and veteran teachers, with $p = 0.001$. The Bonferroni correction revealed an adjusted significance score of *adj. p* = 0.003. With the guideline of significance being *adj. p* < 0.05, the difference between new and veteran teachers on this item is considerable. New teacher respondents noted 83% agreement or strong agreement with the statement, as compared to 30% of practiced teachers and only 24% of veteran teachers. The data demonstrates an evolvement in teacher preparation programs in regards to teaching research-based theories and techniques in fluency.

Item 40 stated, “My preparation program provided me adequate fieldwork experiences teaching fluency strategies in a primary (K–3) setting.” The responses to this statement differed significantly according to the Kruskal-Wallis significance score of $p = 0.027$. The pairwise analysis showed the statistically significant difference was between the new and veteran teacher groups, with a pairwise significance rating of $p = 0.008$. When corrected for multiple comparisons, the pair retained a statistically significant difference with an *adj. p* = 0.024, as new teachers acknowledged having a greater amount of fieldwork in their preparation programs that

allowed them to better learn to teach fluency. None of the three groups overwhelmingly agreed to having adequate amounts of fieldwork experience in teaching fluency strategies to primary students, though, as only 58% of new teachers, 37% of practiced teachers, and 24% of veteran teachers believed they had been provided such. Researchers acknowledge the vital role fieldwork plays in helping a preservice teacher establish knowledge and pedagogical techniques in fluency instruction that they can later utilize in their teaching to help them be more effective literacy teachers (Bornfreund, 2012; Gehsmann & Templeton, 2012; Greenberg et al., 2013).

Section 5 of the survey was focused on the teachers' level of preparation for teaching comprehension to emergent readers, and their related experiences in their first years of teaching. Initial analysis revealed this this was the component of literacy instruction in which veteran teachers had been best prepared, and in which all groups of teachers had been well prepared. There were no statistically significant differences among the teachers in their ratings of the following statements:

- Vocabulary is a critical component of comprehension instruction.
- Emergent readers who read fluently demonstrate better comprehension overall.
- Multiple readings encourage better comprehension of text.
- Higher-order thinking questions are an essential piece of comprehension instruction.
- My preparation program included learning research-based theories and/or techniques regarding comprehension instruction.

The majority of veteran teachers, practiced teachers, and new teachers who participated in this survey strongly agreed or agreed with all of those statements. Comprehension instruction, including vocabulary development, has long been agreed on by experts to be a vital component

of literacy education (Bomer, 2006; Connor et al., 2009; Dymock & Nicholson, 2010; Frey & Fisher, 2010; Gerstl-Pepin & Woodside-Jiron, 2005; Heller et al., 2007; Hiebert & Pearson, 2012; Moats, 1999; Shaywitz & Shaywitz, 2004; Ylimaki & McClain, 2005). It is the one component that was a strong preparatory focus for all groups of survey participants.

Table 15 shows the results of the statistical analysis of Section 5.

Table 15

Independent Samples Kruskal-Wallis Test of Survey Section 5: Preparedness for Comprehension

Item	χ^2	*p*	Differing Pairs*	Pairwise *p*	*adj. p*
44	2.310	0.315			
45	1.313	0.519			
46	3.961	0.138			
47	4.115	0.128			
48	5.714	0.057			
49	11.529	0.003	N/V	0.008	0.025
			P/V	0.007	0.021

Note. The Kruskal-Wallis score was deemed statistically significantly different among the three experience groups with *df* of $\chi^2(2)$ when $p < 0.05$. Post-hoc testing determined paired differences, and the *p* of the pair. The Bonferroni correction for multiple comparisons was calculated, resulting in adjusted *p* levels that maintained statistical significance when the *adj. p* < 0.05.

* N = New teachers, P = Practiced Teachers, V = Veteran Teachers.

The Kruskal-Wallis test determined one item in Section 5 presented a statistically significant difference among groups, with a significance score of $p = 0.003$. Item 49 stated, “My preparation program provided me adequate fieldwork experiences teaching comprehension in a primary (K–3) setting.” The pairwise analysis established the differences between new and veteran teachers at $p = 0.008$, as well as between practiced and veteran teachers at $p = 0.007$. Following the Bonferroni correction for multiple comparisons, both pairs retained significant difference. The adjusted score for the new teacher group and veteran teacher group pairing was

adj. p = 0.025, and for the practiced teacher group and veteran teacher group pairing was *adj. p* = 0.021. The conclusion reached by this data is veteran teachers did not believe they received an adequate amount of fieldwork in their teacher preparation programs in preparation for teaching comprehension. Only 35% of veteran teachers agreed or strongly agreed with the statement, as compared to 73% of practiced teachers and 75% of new teachers. This result highlighted the point that a degree of progress has been made with preparation programs providing more fieldwork opportunities for their preservice teachers.

Section 6 was directed toward participants' perceptions of their preparation for assessment, as related to effective teaching of primary literacy. Researchers have argued that assessment plays a key role in primary literacy instruction, and all new teachers need their preparation programs to prepare them to proficiently utilize it (Connor et al., 2009; Moss et al., 2008; NCATE, 2013). Progress monitoring assessments aid teachers in not only knowing how students are progressing, but also in determining skill weaknesses, growth trends, and intervention requirements. It is recommended that teachers enter the profession already skilled in giving assessments, scoring assessments, and utilizing assessment data to guide curricular decisions (Connor et al., 2009; Dillon, 2004; Maloch et al., 2003; Morris, 2011; Moss et al., 2008; Walsh et al., 2006).

Section 6 included five Likert-scale items. Two of the items did not show a statistically significant difference among the participant teacher groups. Three of the items did indicate a significant difference in beliefs or experiences. The statistical data for Section 6 is displayed in Table 16 below.

Table 16

Independent Samples Kruskal-Wallis Test of Survey Section 6: Preparedness for Assessment

Item	χ^2	*p*	Differing Pairs*	Pairwise *p*	*adj. p*
53	4.928	0.085			
54	5.263	0.072			
55	9.542	0.008	N/V	0.003	0.009
56	13.876	0.001	N/V	0.000	0.001
57	6.749	0.034	N/V	0.010	0.030

Note. The Kruskal-Wallis score was deemed statistically significantly different among the three experience groups with *df* of $\chi^2(2)$ when $p < 0.05$. Post-hoc testing determined paired differences, and the *p* of the pair. The Bonferroni correction for multiple comparisons was calculated, resulting in adjusted *p* levels that maintained statistical significance when the *adj. p* < 0.05.

* N = New teachers, P = Practiced Teachers, V = Veteran Teachers.

Overall, the statistically teachers agreed that they should frequently collect data on their students to ensure growth in literacy development. They were also statistically similar in their ambivalence toward believing they had received an adequate amount of coursework in assessment theory and practice.

The Kruskal-Wallis test revealed a statistically significant difference on Item 55, which stated, “My teacher preparation program provided adequate fieldwork time to practice giving progress monitoring assessments.” The significance score was $p = 0.008$. The pairwise analysis revealed the difference to be between new and veteran teacher groups, with a pairwise significance score of $p = 0.003$. Following the Bonferroni correction, the item maintained significance *adj. p* = 0.009, with new teachers more often believing they had been provided adequate fieldwork time in this area. Further breakdown of the data shows a potential upward trend over time toward programs providing adequate fieldwork for learning how to give

assessments. There were 58% of new teachers in agreement with the statement, yet only 27% of practiced teachers and 22% of veteran teachers agreed.

With similar results, Item 56 stated, “My teacher preparation program provided adequate fieldwork time to practice using progress monitoring data to develop interventions for my students.” The Kruskal-Wallis showed a significant difference existed, at $p = 0.001$. The pairwise comparison noted it was new and veteran teacher groups who differed, at the significance level of $p = 0.000$. The pair retained the significant difference following the Bonferroni correction, with the *adj*. $p = 0.001$. New teachers more often believed that their programs gave them adequate fieldwork time to develop interventions using progress monitoring data, at 58%, as compared to 27% of practiced teachers and only 11% of veteran teachers. While the sample population data showed a positive trend toward greater amounts of fieldwork time spent dedicated to learning to develop interventions from assessment, the percentage of new teachers who acknowledged receiving adequate amounts of time was not sufficient according to professional recommendations (NCATE, 2013).

Item 57 stated, “I believe assessment data should be used to drive instruction.” A significant difference was found to exist among the groups as to their levels of agreement with this statement, according to the results of the Kruskal-Wallis, at $p = 0.034$. The pairwise comparison determined the difference was significant between new and veteran teachers, with a paired $p = 0.010$. Following the Bonferroni correction for multiple comparisons, the adjusted significance level was *adj*. $p = 0.030$. Further evaluation of the data supports this significant difference, since 100% of new teacher respondents began teaching with this belief, as compared to 64% of practiced teachers and 49% of veteran teachers who began their careers in agreement

with the researcher-recommended (Dillon, 2004; Morris, 2011; NCATE, 2013) practice of utilizing assessment data in lesson planning.

The final section of the survey was the Conclusion. The Likert-scale statements were broad reflections upon the participants' understanding of and preparation for primary literacy instruction. Regardless of their experience level or preparation level, all of the teachers statistically agreed to Item 60, "I believe a solid foundation in literacy is essential for overall student academic success." Decades of research have proven this to be true. Students who possess proficient literacy skills by the end of third grade are more likely to be successful in school and career (Connor et al., 2009; Early Warning, 2001; Gewertz, 2011; Hernandez, 2011; Morris, 2011; Wood et al., 2005). In the sample population, 100% of new teachers, 100% of practiced teachers, and 84% of veteran teachers began their teaching careers agreeing with this viewpoint.

Table 17 below portrays the significance of the differences among the teacher groups in their responses to Likert-scale items in Section 7, as determined by the Kruskal-Wallis.

Table 17

Independent Samples Kruskal-Wallis Test of Survey Section 7: Conclusion

Item	χ^2	*p*	Differing Pairs*	Pairwise *p*	*adj. p*
60	5.886	0.053			
61	7.410	0.025	N/V	0.007	0.020
62	7.755	0.021	N/V	0.006	0.017
63	11.714	0.003	N/V	0.001	0.002
64	0.369	0.832			

Note. The Kruskal-Wallis score was deemed statistically significantly different among the three experience groups with *df* of $\chi^2(2)$ when $p < 0.05$. Post-hoc testing determined paired differences, and the *p* of the pair. The Bonferroni correction for multiple comparisons was calculated, resulting in adjusted *p* levels that maintained statistical significance when the *adj. p* < 0.05.

* N = New teachers, P = Practiced Teachers, V = Veteran Teachers.

The test determined there was a statistically significant difference among groups on three items. Item 61 stated, “I believe my university provided me with strong foundational knowledge of the science of reading.” The Kruskal-Wallis significance level on this item was $p = 0.025$. The pairwise analysis determined the difference to be significant between the groups of new and veteran teachers, with a paired level of $p = 0.007$. When adjusted using the Bonferroni correction for multiple comparisons, the significance level was *adj*. $p = 0.020$. A significant difference between new and veteran teachers remained. New teachers felt much more confident in their foundational knowledge of the science of reading than veteran teachers. Teachers should understand how the brain works in relation to reading (Connor et al., 2009; Frey & Fisher, 2010; Gehsmann & Templeton, 2012; Keller & Just, 2009; Moats, 1999; Moss et al., 2008; Shaywitz & Shaywitz, 2004, 2007; Sousa, 2006; Walsh et al., 2006). Only 27% of veteran teachers began their first year believing they had been provided a strong foundational knowledge of the science of reading, as compared to 36% of practiced teachers and 75% of new teachers. This data support a conclusion of progress being made in preparation programs providing preservice teachers with requisite knowledge of developing science-based reading research.

Item 62 stated, “My first year of teaching, I felt very prepared to effectively teach all the core elements of literacy.” The results of this item contradict the expectations placed upon new teachers to be highly qualified and fully effective at teaching primary literacy at the outset of their careers (Bornfreund, 2011, 2012; Early Warning, 2010; IRA, 2003a; O’Donnell, 2010). New teachers believed they were better prepared than the other groups, with 58% agreeing to the statement, yet none strongly agreed. Practiced teachers had only 27% in agreement, and veteran teachers had 13% who agreed or strongly agreed. The Kruskal-Wallis test of this item yielded a significant difference among the groups, at the level $p = 0.021$. The pairwise analysis determined

the significant difference to be between new and veteran teachers, with the paired $p = 0.006$. Following the Bonferroni correction, the *adj.* $p = 0.017$. The difference between new and veteran teachers who agreed to this statement was statistically significant. A significantly greater portion of new teachers believed they had been prepared to effectively teach all the core elements of literacy their first year of teaching than veteran teachers felt they had in their first year.

Confidence in Item 63 appeared related to that in Item 62. Item 63 stated, "My first year of teaching, I felt very prepared to determine appropriately focused interventions for struggling students." Veteran teachers did not feel well prepared in this area, with only 13% answering in the affirmative. Practiced teachers agreed at a 27% rate, and 66% of new teachers denoted agreement, yet none in those two groups strongly agreed to the statement. The Kruskal-Wallis test determined there was a statistically significant difference among the groups in their responses to this question, with a significance level of $p = 0.003$. The pairwise analysis established the difference was between new and veteran teachers, with a paired significance level of $p = 0.001$. The Bonferroni correction for multiple comparisons was applied, resulting in an adjusted significance level of *adj.* $p = 0.002$, which maintained the determination of a statistical significance between the two groups since the *adj.* $p < 0.05$.

The final item in the survey sought to determine the level at which participants agreed with the statement, "Regardless of the strength my preparation program, I began my teaching career optimistically, knowing I would be a good reading teacher." The sample population demonstrated a strong level of agreement with this statement, regardless of experience group. Either strongly agreeing or agreeing were 100% of new teachers, 73% of practiced teachers, and 86% of veteran teachers. The teachers in this survey represented themselves in a way that supports the research, which has said most teachers will begin their careers optimistically,

despite their level of training (Brilhart, 2010; Maloch et al., 2003; Ye, 2009). New teachers are said to possess an intrinsic sense of mission, and usually enter their classroom prepared to work diligently to meet the needs of all students (Ballard & Bates, 2008; Freedman & Appleman, 2009; Gentry et al., 2011; Johnson et al., 2005).

The survey consisted of 49 Likert-scale statements. The survey was completed by teachers who belonged to one of three experience groups: new teachers with 0-3 years of experience; practiced teachers with 4-10 years of experience; and veteran teachers with 11 or more years of experience. Practiced and veteran teachers were asked to reflect upon their preparation and their first years of teaching while answering the survey, to allow for comparison. The survey aimed to determine if teacher preparation in primary literacy instruction is improving over time, as determined by the beliefs and experiences conveyed by the teachers in the three groups. A Kruskal-Wallis test was run on each statement to ascertain if a statistically significant difference existed among the three experience groups of teachers. If a significance level of $p < 0.05$ was found, then a pairwise comparison was run to determine between which two groups of teachers the differences lay. The significance level of the pair was subjected to a Bonferroni correction for multiple comparisons, which yielded an adjusted level that was significant at $adj.\ p < 0.05$.

There were 22 items that initially possessed significant differences between groups as determined by their Kruskal-Wallis score, which yielded 31 pairwise comparisons. Following the Bonferroni correction, there were 20 pairs that retained the $adj.\ p < 0.05$ significance. For these 20 items, the researcher rejects the null hypothesis, H_0: The three groups will have the same distribution of scores. Of those 20 pairs, 17 were new versus veteran teacher pairings, 2 were practiced versus veteran teacher pairings, and one was a new versus practiced teacher pairing.

These broad results indicate the greatest differences in preparation for primary literacy instruction were between new and veteran teachers, with new teachers agreeing to more of the statements than veteran teachers, and practiced teachers often falling in the middle of the two. This suggests a trend of increased preparation in primary literacy instruction over time as represented by this sample population. According to the analysis of the qualitative data derived from this survey, new teachers seem to be entering the classroom having acquired greater knowledge of the science of reading, having taken more coursework in pedagogy, and having participated in far more fieldwork experiences as part of their teacher preparation than practiced and veteran teachers.

Qualitative analysis. Survey respondents also wrote several short answers to open-ended questions that were related to each survey segment. Practiced teachers and veteran teachers were asked to reflect upon the beginnings of their careers when answering all questions. The researcher utilized the open-coding strategy to generate conceptual categories, followed by axial coding to relate the commonalities of responses and deduce overarching themes (Marshall & Rossman, 2011). There were several correlations observed among the three experience segments of teachers.

Phonemic awareness and phonics. The first focus of the survey was on phonemic awareness, which is based on oral language. It is the ability to count and manipulate phonemes, or individual sounds, in spoken words (Annenberg Foundation, 2013). The second section of the survey was focused on phonics, which is the understanding of how individual phonemes are connected to written language, the understanding of sound–spelling correspondence, and the rules of orthography (Annenberg Foundation, 2013). Most of the teachers surveyed did not completely comprehend the difference between phonemic awareness and phonics and defined

them as nearly the same thing. While phonemic awareness and phonics do work in connection with each other, very few teachers surveyed, only 7%, understood that phonemic awareness was an oral-only skill. They confused it with phonics, believing both were when sounds are connected to letters and letter combinations or decoding. Because the two skills are very interrelated and many of the teachers referenced them interchangeably in their comments, the two sections' results have been somewhat connected in this report.

Teachers were asked to write about their experiences in relation to learning how to teach and assess phonemic awareness and phonics in their training programs. Veteran teachers clearly stated they had little to no experience or learning opportunities regarding phonemic awareness or phonics in their preparation programs, and practiced teachers expressed having had just slightly more. However, more than half of new teachers had received a great number of opportunities to learn to teach phonemic awareness and phonics. Figures 2 and 3 show the percentages of teachers who wrote about receiving focused, high-quality training in phonemic awareness and in phonics, which included both course work and fieldwork; percentages of teachers who received unfocused or mediocre training, which may have included course work but no practical application; and percentages of teachers who reported receiving no training in phonemic awareness or phonics at all.

Figure 2

Remembered Level of Preparation or Training in Phonemic Awareness

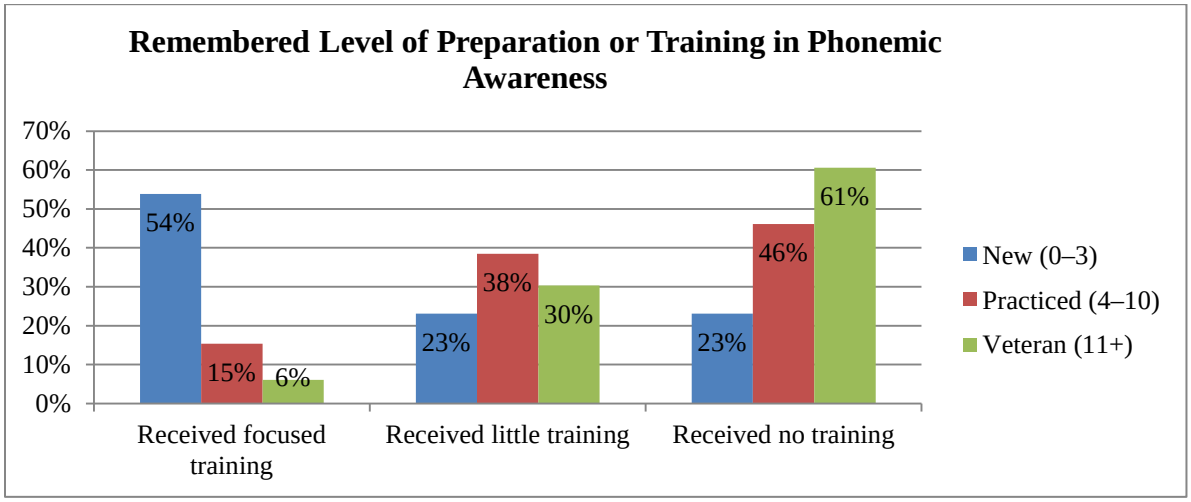
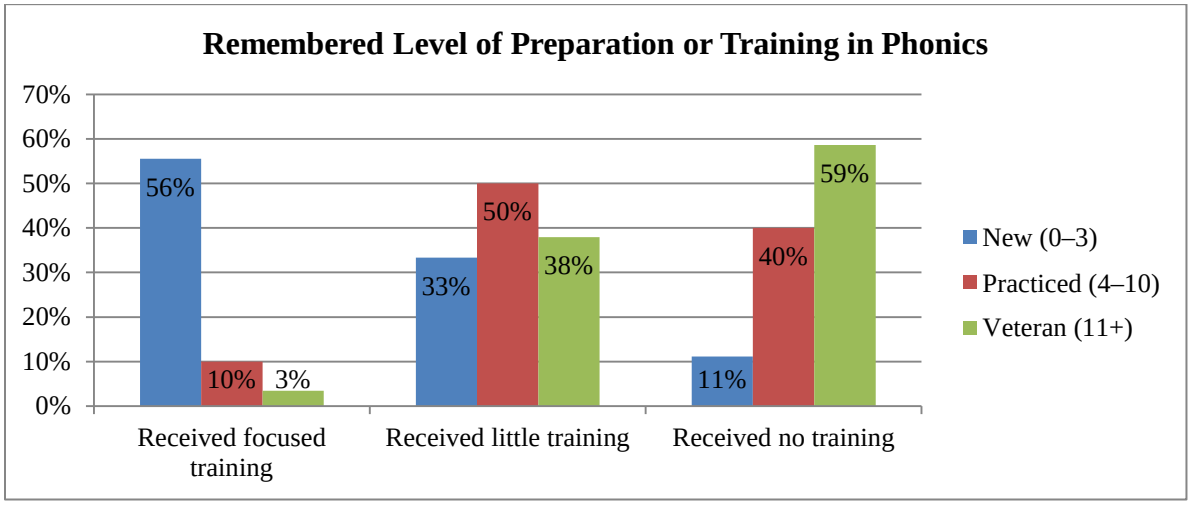


Figure 3

Remembered Level of Preparation or Training in Phonics



Many of the veteran teachers and practiced teachers commented that they had gone through their teacher preparation courses during a time when whole language was the focus, and oftentimes phonemic awareness and phonics were discouraged. One veteran teacher said, “My university instructors strongly felt that phonics and phonemic awareness was [*sic*] totally unnecessary and basically a waste of time. I was unprepared in this area even though I had a

minor in reading." Another veteran teacher wrote, "We were taught whole-language approaches. It wasn't until I began teaching that I had to discover for myself why some of my students could not read."

The practiced teachers fell in the middle of the pedagogical change from whole-language to scientific-based reading instruction, so their answers were very diverse. Many believed they had been introduced to the concepts of phonemic awareness and phonics because it had become required, but they did not actually receive adequate training in how to teach phonemic awareness or phonics. One practiced teacher stated, "I think this was skimmed over with the assumption that since we knew how to read, we could teach kids to read. I remember a lot of drill and practice on terms but not a lot of experience in working with the methods behind the terms." Several of those who had received some training referenced being exposed to the concepts of phonemic awareness and phonics just enough to pass a state literacy test required for graduation. This was corroborated by a practiced teacher stating she had taken one 50-minute course on phonemic awareness and phonics. Another commented, "When I took the reading methods course, I memorized diphthongs, digraphs, and irregular vowels. However, I was not told how to apply this knowledge to teaching."

The underlying sentiment in the short answers of the new teachers was completely opposite. They wrote about the opportunities they had in learning to teach both phonemic awareness and phonics through demonstration, fieldwork, and student teaching. A common theme emerged regarding role-playing in class as both teacher and student, which is a pedagogical technique supported by research to help the preservice teachers (Maloch et al., 2003; Morris, 2011; Pimentel, 2007). One teacher wrote, "I remember sitting in class and listening to my professors go through phonics lessons with us. We were able to put ourselves in the role of

our students and sit through a phonics lesson. Then we would look at the research behind why and how phonics works." The majority of new teacher respondents were overwhelmingly positive about the coursework their university had provided them in phonemic awareness and phonics. Their biggest complaint was not enough fieldwork time to implement and practice what they had learned.

The new teachers who did not feel they had received adequate training in teaching phonemic awareness and phonics all stated they had entered education in a nontraditional way, be it via an online program or the state's alternative certification route program. They expressed great frustration with their lack of knowledge compared to other new teachers and referenced how important their teaching team had been in helping them learn on the job.

After reflecting on the amount and type of preparation they had received, teachers were asked to write about their experiences in teaching phonemic awareness and phonics their first year. An overarching theme among all experience groups was the common feeling of being overwhelmed with how much they did not know. They wrote of not feeling as ready to teach as they had thought they were, and of being thankful for the help of mentors and curricula, regardless of the amount of training and practice they had accumulated. A few of the numerous comments that reflect this theme were:

- "The first year of teaching is just surviving. Some concrete examples of what works would have been very helpful."
- I literally went every morning to the teacher next door for tips and a quick phonics lesson. I would not have survived without her help!
- "I feel that I have played the 'learn as you go' game since I have had my own classroom. I have been told I'm doing a great job, but I do not feel as prepared as I

should. I am very glad that we have a great reading program that can guide me along, it's been helpful."

Fluency. The next segment of the survey was focused on fluency, which is defined as the ability to read quickly, smoothly, automatically, and with prosody, allowing for concentration on the meaning of the text rather than the decoding of the text (Annenberg Foundation, 2013). All of the new teachers had a solid understanding of what fluency is, knew that it included the critical elements of prosody (reading with voice, phrasing, and appropriate pauses to make text reflect spoken language [Bomer, 2006]), and understood that it led to better comprehension. Most of the practiced teachers and veteran teachers, when reflecting back to their understanding of fluency at the beginning of their careers, said they just thought fluency meant reading as fast as possible. Some practiced and veteran teachers said they had not really learned the term before they started teaching.

When it came to their preservice training in understanding and teaching fluency, all of the new teachers had received some training, and over half believed they had received a great amount of training that gave them a solid foundation and an understanding of how to teach fluency to their primary students. One teacher stated, "We practiced taking and testing for fluency on a regular basis." Another went into more detail describing one of her preservice training experiences, writing:

I took a summer course for my literacy endorsement where I worked with a small group of individuals going into the third grade. Each day, we had the students read the same passage two or three times into the iPad, recording themselves. They could listen to themselves and determine which passage they liked the best. We assessed them weekly on pace, smoothness,

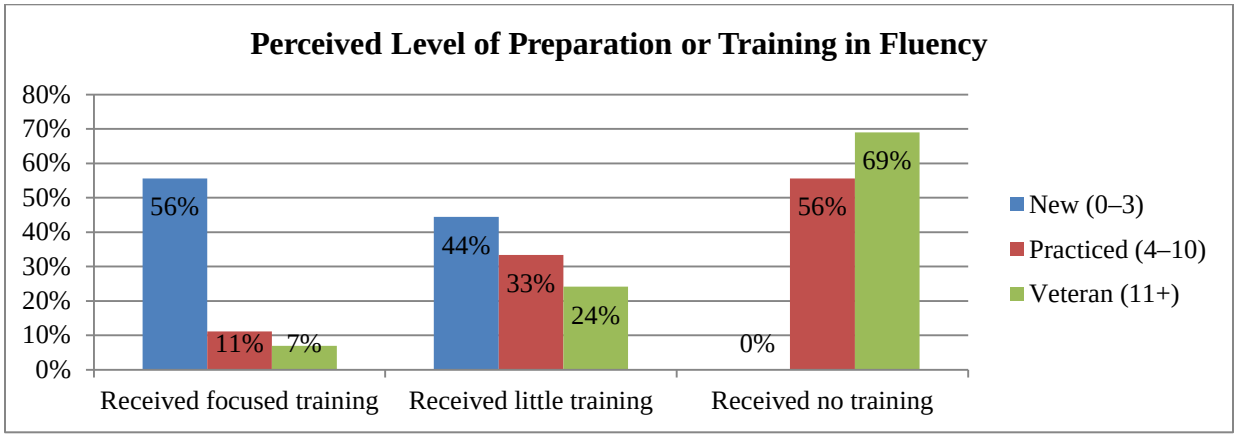
volume, and phrasing. It was great to learn how students read when by themselves and how they do on various passages each day.

Preservice teachers who get to have fieldwork experiences such as the one described are much more likely be successful teaching fluency in the primary classroom in their first years of teaching (Baker et al., 2008; Moats, 1999; Pruitt & Cooper, 2008; Roundy & Roundy, 2009).

The majority of practiced teachers and veteran teachers received very little to no training on fluency. They again referenced their first year as being a "trial by fire" and how much learning on the job they had to do. They were thankful for mentor teachers and curricular training. One experienced teacher even wrote, "Not to beat a dead horse, but I wasn't taught how to teach children to read. Everything I know, I learned hands-on in the classroom." Figure 4 delineates the remembered amount of preparation and training the surveyed teachers received from their programs in fluency.

Figure 4

Perceived Level of Preparation or Training in Fluency



Very few veteran teachers had even heard about fluency when they began teaching. The ones who had experienced minute exposure to the term had received no training on how to teach students to improve their fluency. The experiences of those who had heard of the term were

similar to the one who mentioned, “We read a book about fluency but did not look at it in the light of how it would play out in the classroom.”

When it came to actually teaching fluency their first year, teachers again showed overwhelming gratitude for mentor teachers or reading coaches. Many of the practiced teachers began their careers about the time the state first mandated thrice-yearly fluency assessments, so they were focused on getting their students to read faster, but did not necessarily correlate the push for increased speed with lessons on prosody or error correction. New teachers were evenly split on either being excited to teach fluency and really seeing it make a difference in their students’ overall reading ability, or being frustrated that they were just focused on words per minute and having to do too many assessments without seeing the benefit. This lack of understanding in half of the teachers reflected the split in the amount and quality of preservice training they had received in fluency instruction.

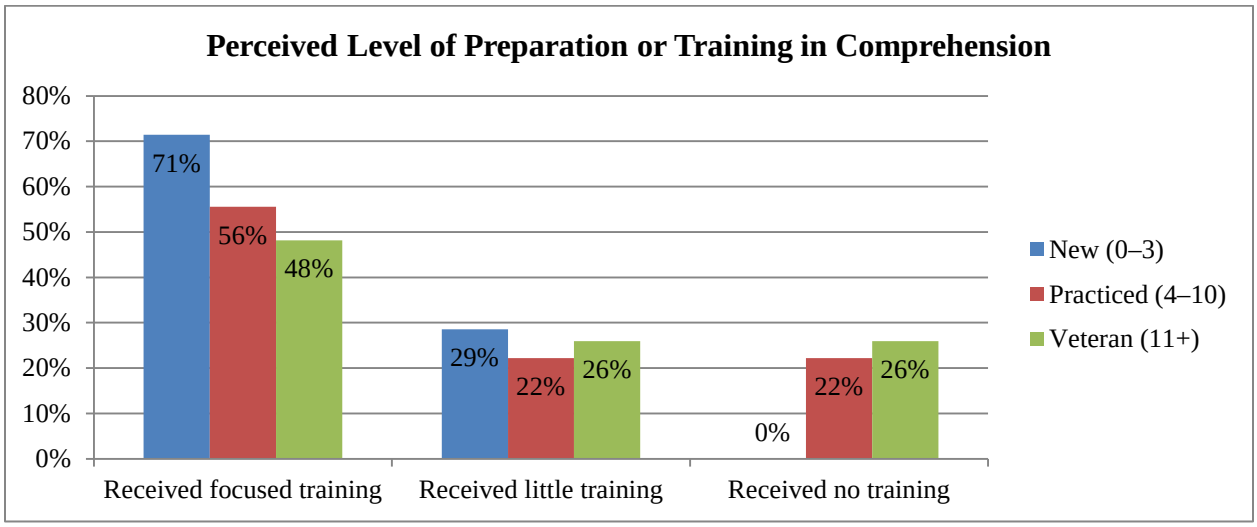
Comprehension. The next section of the survey focused on comprehension. Teacher participants were again asked to comment on their understanding of comprehension, their perception of their preservice training in how to teach comprehension, and their first-year teaching experiences regarding comprehension. All of the teachers surveyed had a solid understanding of what comprehension meant.

When asked about their preservice training in comprehension, the majority of respondents had positive things to say. Overall, they believed that their level of training in comprehension, including vocabulary, had been the strongest of all of the four elements of literacy. In fact, many said that comprehension was the only area of literacy in which they felt they were well trained by their preparation programs. This finding is not surprising, as comprehension is an element of both scientific, research-based reading instruction and whole-

language-theory reading instruction. The teachers were taught questioning strategies, and several veteran teachers said this was supported by intensively learning Bloom's taxonomy. Both a new teacher and an practiced teacher wrote about making binders with comprehension activities while in their preservice program, and said they have often utilized these materials in their classrooms. Figure 5 shows the amount of preparation and training in comprehension the surveyed teachers reported receiving.

Figure 5

Perceived Level of Preparation or Training in Comprehension



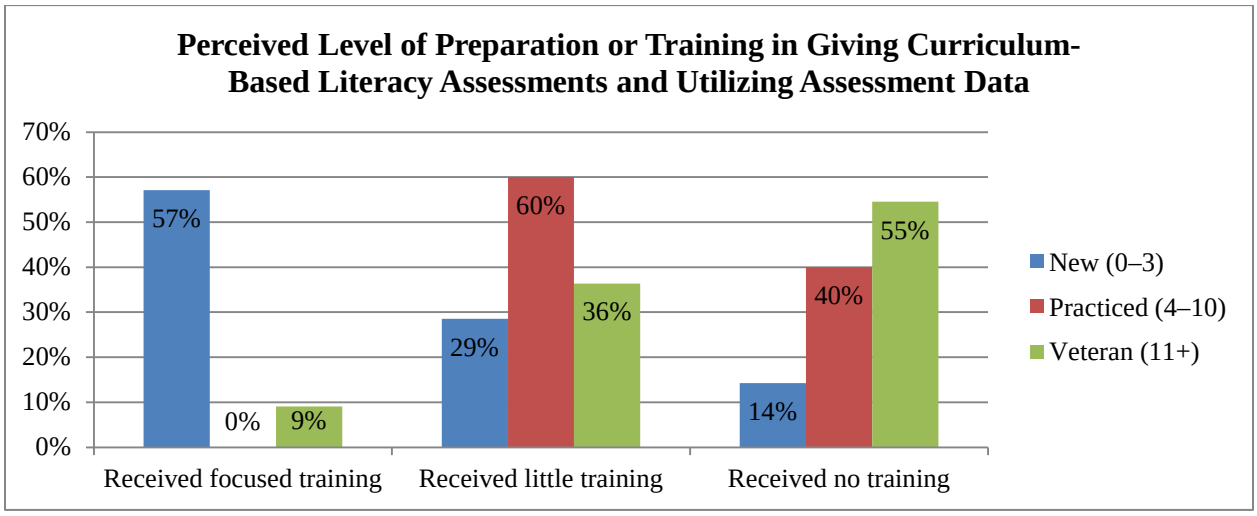
Those teachers who did not receive instruction in how to teach comprehension overwhelmingly gave one of two reasons: (a) They were just to assume if a student could read, then the student understood what was being read or (b) they were just taught to follow the teacher's manual and do whatever it said to do, with no further direction. One veteran teacher bemoaned, "My experiences in comprehension were similar to all of the others. I was highly underprepared!"

Assessment. The next section of the survey focused on curriculum-based progress monitoring assessments, including how prepared the teachers were to administer them, to

interpret the results, and to use the results to formulate interventions and drive instruction. Science-based literacy instruction requires teachers to understand their students' strengths, weaknesses, and progress or lack thereof, in multiple skills. Developing appropriate interventions for struggling learners and utilizing progress monitoring assessments are ways to accomplish that (Connor et al., 2009; Moss et al., 2008; NCATE, 2013). Based on the responses of survey participants, universities have been doing more in recent years to prepare preservice teachers to give curriculum-based progress monitoring assessments, understand the data, and utilize that data to develop interventions for struggling students. Figure 6 charts the response commonalities from the participants regarding the amount of preparation they received in this area.

Figure 6

Perceived Level of Preparation or Training in Giving Curriculum-Based Literacy Assessments and Utilizing Assessment Data



Practiced teachers and veteran were divided on this subject, due to paradigm shift that occurred over the past two decades. Those whose universities had retained a whole-language focus at the time said they had received no training in assessment. The others, whose programs had begun to disseminate scientific knowledge and research-based best practices in early

literacy, reflected a common theme of being introduced to assessment, but not taught what to do with it. Over time, preparation programs improved their training in this subject, as evidenced by the new teacher sample population.

All of the new teachers who had gone through traditional university preparation programs said they received intense, explicit training and practice in assessment. One reflected, “This was definitely something drilled into my brain during college.” Another reported learning that, “frequent reading probes helped the teacher evaluate if a student was progressing in their reading skills. It enabled the teacher to accommodate the students who are in need of more individualized teaching and repetition.” The new teachers who had not been well prepared in giving and utilizing assessment data had received their training online or through a nontraditional route. One of those non-traditionally trained teachers expressed, “I thought assessment was only for the parents to see what their child learned.”

Next, teachers were asked to reflect upon their experiences in their first year of teaching with giving assessments and planning interventions based on assessment data. New teachers were all overwhelmed by how much data they were required by their schools to collect. Even though most of them understood how to give the assessments and what to do with the data on a conceptual level, and they had practiced with individual or small groups of students as part of their fieldwork assignments, reality was much more difficult. First, the pure magnitude of the data they were required to collect for an entire class, in addition to everything else they were learning as first-year teachers, was overwhelming for them. Second, they said it was much more difficult to assess and plan for an entire class than the small groups they had practiced with. They cited time as a stressor, because it takes quite a long time to assess the entire class. The new

teachers often relied on the help of mentors or team teachers to assist them in understanding and sifting through all of the data and learning to plan more effectively from it.

Practiced teachers had vastly different experiences, reflected in three overarching themes. Some taught their first years in schools focused on whole language and never gave progress monitoring assessments. Others gave the tests from the basal reading series and progressed through the curriculum regardless of test scores, wondering what to do for the students who did not do well, but not really knowing where to start in planning how to help them. The third group began their teaching careers at schools that embraced science-based literacy instruction and progress monitoring curriculum-based assessments, but had no idea how to meet the school's curricular expectations. One teacher said she was "not prepared at all. Everything had to be spoon fed to me from when to test, who to test, how often, and how to read the data." Another reflected, "I stumbled and fell down a lot. . . . [they were] slow and low and it took them several years to catch up—some had a harder time catching up than others. I was never sure how to assess the students in my class, and the assessment results just made me cry."

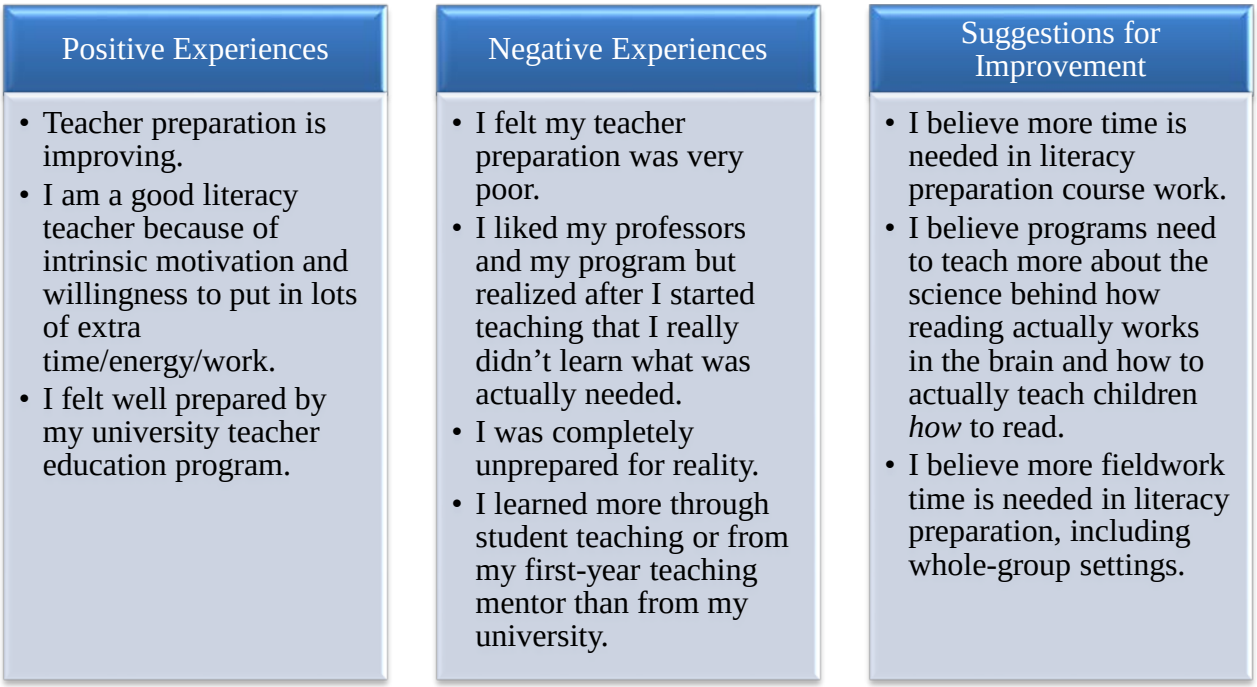
The veteran teachers expressed very mixed experiences in this area. Some merely taught the basal series, gave accompanying assessments, and progressed through the basal program. Those who began their careers in the era of whole language used discussions and projects to assess their students' learning. A few said they made up their own assessments to figure out where their students needed extra help. The most common theme throughout the veteran teachers' responses was that there was not any standard curriculum-based progress monitoring assessment data being collected or used when they began their careers.

Final thoughts. At the end of the survey, participants were asked to share any final thoughts they had regarding the level of preparation they had received in relation to becoming a

successful, quality, primary literacy teacher. The answers were as individual as the teachers providing them. However, there emerged three dominant themes: positive experiences, negative experiences, and suggestions for improvement. Figure 7 delineates the generalized statements that supported each theme.

Figure 7

Teachers' Final Thoughts on Preparation in Primary Literacy Instruction



These three themes were repeated throughout the categories of teachers, whether they were new, practiced, or veteran teachers. There were no overarching themes that related to just one category of teacher for this response. In utilizing this final section to reference the research question, Are new teachers entering the profession feeling better prepared to teach literacy at the primary level now than in the past? one could conclude that these teachers believed there is progress being made. They expressed the belief that yes, new teachers are entering the classroom better prepared to effectively teach primary literacy now than in the past, but there is still much

that needs to be addressed to help all future teachers enter the profession fully prepared to be successful primary literacy teachers.

Remuneration

At the conclusion of the survey, participants were offered the opportunity to follow a link to a separate Qualtrics survey that in no way connected to their original anonymous responses. In this confidential survey, participants were asked to provide their names and e-mail addresses for a chance at a $25 Amazon e-gift card. Of the 74 survey participants, 35 chose to click the link and provide the requisite information for the remuneration survey. The researcher used online randomizer software, random.org, which is touted to provide a true random number drawing result, rather than an algorithmic result (Randomness and Integrity Services, Inc., 2012). The researcher used the randomizer to determine four numbers, which were then matched to the corresponding survey participants. Those four participants were each sent the e-gift card. All four gift cards were claimed within 48 hours.

Chapter V

Discussion

Introduction

This mixed-methods study posed the primary research question, Are new teachers entering the profession feeling better prepared to teach literacy at the primary level now than in the past? This question was supported by three subquestions: In which components of primary literacy instruction do new teachers perceive themselves as strong, and in which components do they perceive themselves as weak? In which areas of primary literacy instruction did new teachers feel better prepared by their preparation programs than in the past, and in which areas did they wish they had received greater preparation? Has there been a change over time in what new teachers believe were the strengths and weaknesses of their preparation programs?

The researcher sought to begin to answer the question by surveying current kindergarten through third-grade teachers throughout three districts in a western state that varied somewhat in location and demographics. All current K–3 teachers in the districts were given the opportunity to participate. The survey was completed by 74 teachers. The researcher disaggregated the participants into three groups: new teachers with 0 to 3 years of experience; practiced teachers who have been teaching 4 to 10 years; and veteran teachers who have 11 or more years of experience. To maintain focus on the research topic, all teachers, regardless of experience level, were asked to reflect upon their training programs and the beginnings of their careers when answering the questions, and to respond with the knowledge or experiences they had had during that time.

The survey began by collecting demographic data on participants. This data allowed for the researcher to group the results and conduct comparative analyses. Participants provided

information on gender, years of teaching, the type of teacher preparation program they had attended, and the type of teacher certification they possessed. The subsequent survey items consisted of 5-point Likert-scale statements and short-answer questions. The survey was broken into seven segments: an introductory section, a section for each of the four core elements of literacy instruction (phonemic awareness, phonics, fluency, and comprehension), a section on assessment, and the conclusion. The researcher performed a quantitative statistical analysis of Likert-scaled items and a qualitative analysis of open-ended responses.

Summary of the Results

The overarching research question of this research was: Are new teachers entering the profession feeling better prepared to teach literacy at the primary level now than in the past? The undeniable answer to that general question by participants in this survey was a resounding yes. Based on the answers to the Likert-scale statements and open-ended survey questions on the participants' personal perceived levels of preparation in primary literacy, the new teachers, practiced teachers, and veteran teachers who participated in this survey wholly indicated that teacher preparation in primary literacy is stronger now than in the past.

This question was supported by three subquestions: In which components of primary literacy instruction do new teachers perceive themselves as strong, and in which components do they perceive themselves as weak? In which areas of primary literacy instruction did new teachers feel better prepared by their preparation programs than in the past, and in which areas did they wish they had received greater preparation? Has there been a change over time in what new teachers believe were the strengths and weaknesses of their preparation programs? A mixed discussion of the quantitative and qualitative results of the subquestions follows.

The first two subquestions are interrelated in their answers, so will be addressed in the same section. They are: In which components of primary literacy instruction do new teachers perceive themselves as strong, and in which components do they perceive themselves as weak? In which areas of primary literacy instruction did new teachers feel better prepared by their preparation programs than in the past, and in which areas did they wish they had received greater preparation? In short, the teachers in this sample population perceived themselves as strongest and best-prepared in the component of comprehension, and weakest or needing more preparation in the components of phonemic awareness, phonics, and fluency. They also considered themselves as slightly weak and needing greater preparation in both giving and utilizing progress monitoring and other assessment data. Even though participants indicated said components were still somewhat weak, overall there was definite growth in newer teachers toward a greater level of both preparation and strength.

The component in which teachers across all experience categories rated the strongest, both in levels of perceived preparation received and personal strength as beginning teachers, was comprehension. There was widespread agreement on the importance of vocabulary instruction in comprehension (100% of new teachers, 73% of practiced teachers, and 92% of veteran teachers). In addition, the majority of teachers in all categories understood that fluent readers often have greater levels of overall comprehension, and that multiple readings encourage higher levels of comprehension. The greatest agreement on the comprehension section was regarding higher order thinking questions. 100% of new teachers, 82% of practiced teachers, and 73% of veteran teachers began their teaching careers understanding the importance of high-level questioning to aid in student comprehension (Dymock & Nicholson, 2010; Heller et al., 2007; Hiebert &

Pearson, 2012), and a similar percentage believed that it was a strength of their preparation program.

The responses of the sample population demonstrated that their weaknesses and the perceived weaknesses in their preparation were spread throughout the key components of phonemic awareness, phonics, and fluency. However, new teachers rated themselves as significantly stronger in these three components than practiced and veteran teachers believed they had been at the beginnings of their careers. This finding supports the literature, which has reported ad infinitum since the implementation of NCLB the importance of preparing new primary literacy teachers to be knowledgeable in the science of reading, and to be highly effective in all components of literacy instruction (Ballard & Bates, 2008; Barnyak & Paquette, 2010; Bornfreund, 2011, 2012; Connor et al., 2009; Dillon, 2004; Dymock & Nicholson, 2010; Early Warning, 2010; Frey & Fisher, 2010; Gehsmann & Templeton, 2012; Goswami, 2006; Heibert & Pearson, 2012; Heller et al., 2007; IRA, 2003a; Keller & Just, 2009; Macaruso & Shankweiler, 2010; Maloch et al., 2003; Mellard et al., 2001; Moats, 1999; Morris, 2011; NCATE, 2013; O'Donnell, 2010; Piasta et al., 2009; Pimentel, 2007; Roundy & Roundy, 2009; Shaywitz & Shaywitz, 2004, 2007; Smith, 2009; Sousa, 2006; Walsh et al., 2006).

Almost two-thirds of new teachers, 64%, felt they had received adequate preparation in theories and techniques of teaching phonemic awareness, as compared to about half, or 54%, of practiced teachers, and just over a quarter, or 28%, of veteran teachers. In addition, the amount of fieldwork experience provided in teaching phonemic awareness was deemed inadequate by large percentages of the survey participants. Only 57% of new teachers, 38% of practiced teachers, and 15% of veteran teachers began their careers having had what they felt was adequate field experience in teaching phonemic awareness. According to this sample population,

preparation programs have definitely made progress in phonemic awareness preparation. But with only half of new teachers feeling secure in their preparation in phonemic awareness, there is still much progress to be made. New teachers more often report having had some experience with phonemic awareness in their preparatory programs, but still demonstrated confusion as to what exactly phonemic awareness was. They expressed uncertainties in how to explicitly and effectively teach phonemic awareness, assess it, and help students who struggle. Given that phonemic awareness is the building block of language and literacy development (Gehsmann & Templeton, 2012; Goswami, 2006; Moats, 1999; Roundy & Roundy, 2009; Shaywitz & Shaywitz, 2007), it is crucial that future new teachers receive an even stronger preparatory experience in phonemic awareness than that which was reported by survey participants.

Teachers also felt overwhelmingly that they were underprepared in phonics. In fact, many of the teachers surveyed did not fully understand the difference between phonemic awareness and phonics, as noted by numerous instances of confusion of the two in participants' short answer responses. Teachers who do not understand the differences between the two components have more difficulty in successfully teaching those foundational skills to young children who are in the throes of language and literacy development. In spite of the confusion regarding definition, the vast majority of all participants, including 92% of new teachers, 81% of practiced teachers, and 92% of veteran teachers, agreed that phonics was an important skill for emergent readers. They also agreed phonics should be taught systematically and explicitly, a view held by 100% of new teachers, 82% of practiced teachers, and 78% of veteran teachers. This view was even expressed by some who had not been taught in their preparation programs how to teach phonics. These respondents had received their teacher preparation during the whole language movement, at which time the participants stated that teaching phonics was actively discouraged by their

programs. Subsequently, many of these teachers wrote about feeling inept, at a loss of how to teach and help their struggling readers in those times, and actively wishing they knew more about teaching phonics when they began their careers.

The survey inquired about teachers' understandings of some basic elements of phonics and how to teach them, which resulted in a clear trend of greater understanding among the new teacher sample population. The survey inquired about participants' knowledge of how to teach digraphs, diphthongs, and spelling in relation to general phonics rules. Overall, the new teachers conveyed much more understanding of these elements and how to teach them, answering in the affirmative 100%, 92%, and 100% of the time respectively, versus veteran teachers at 32%, 25%, and 38% respectively. The new teachers also reported having had greater coursework and fieldwork experiences in the specifics of teaching phonics, assessing phonics, and planning interventions in phonics. However, many new teachers are still unclear about how the brain actually works and learns from systematic explicit phonics instruction, how exactly to deliver said instruction well, and how to utilize their small-group training experiences in a whole-group classroom setting. One new teacher wrote, "[Universities] should be teaching more of the science behind how young minds work when developing reading skills." The data from the survey showed a significant perceived increase in the level of teacher preparation in phonics, with new teachers being more prepared than practiced and veteran teachers, but also demonstrated that the new teachers in this sample population still lacked some vital preparation.

Fluency was a more controversial element, as indicated in comments that demonstrated a misunderstanding of the concept of fluency. The teachers who believed fluency was merely speed reading, as opposed to reading at a comfortable pace correctly with prosody and comprehension, were at times disparaging to the concept and to their training in it. One teacher

who clearly misunderstood the concept of fluency instruction stated, “To read words with speed alone is NOT my goal as a teacher.” Several veteran teachers wrote they had never heard the word when they started teaching. This is in direct opposition to many of the new teacher participants, who were very clear in their understanding. One new teacher wrote:

> Fluency refers to the student ability to see the letters or words and respond quickly or instantly without hesitation so that the students reading flows. It is very important, especially when it comes to comprehension. A fluent reader typically means that they can comprehend what they are reading because they have sentence fluency as opposed to choppy, inconsistent reading which makes it difficult to understand. I also think it is important when it comes to a student wanting to read. Once they “get it” and can read fluently, they love it.

This teacher’s understanding of fluency is what all new teachers should be entering the profession with. Research has shown that fluent readers demonstrate greater comprehension, a larger vocabulary, and greater writing ability (Frey & Fisher, 2010; Macaruso & Shankweiler, 2010; Mellard et al., 2001; Moats, 1999; Walsh et al., 2006). Teachers who understand and embrace the true concept of fluency and recognize the need for fluency instruction are better able to pass that understanding and excitement for fluency growth onto their students.

In the fluency section of the survey, almost all items showed a statistically significant difference between veteran teachers and new teachers. Fluency has been a focus of changing teacher preparation recommendations (NCATE, 2013), but according to the participants in this survey, programs still have much to do in that realm. New teachers are receiving coursework and fieldwork training in fluency, but the fieldwork is still not adequately preparing them for real world classroom experiences. One teacher stated, “It was highly stressed [in my program] to

teach a child to read fluently… I felt pressure to get them to read faster without really understanding why it was important." Although 83% of new teachers reported having learned research-based theories and techniques regarding teaching fluency, the short answer response section consisted of polarized responses when asked about feeling prepared to actually teach the skill to their students, especially when taken in relation to the primary grade level taught. One new teacher stated, "I didn't feel nearly as prepared as I probably needed to be," yet another new teacher wrote, "So far, I think I am pretty prepared on teaching and assessing fluency." Both those teachers had recently graduated from bachelor's degree programs. This difference shows that perhaps not all preparation programs are yet preparing their teacher candidates to be skilled in teaching fluency.

The section on assessment was related to the four sections on the elements of literacy. Giving, analyzing, and utilizing curriculum-based assessment is a way for teachers to understand student strengths and weaknesses, and provides teachers a focus in preparing for differentiated instruction, including intervention lessons. These are skills researchers have recommended teachers enter the profession possessing (Connor et al., 2009; Dillon, 2004; Maloch et al., 2003; Morris, 2011; Moss et al., 2008; Walsh et al., 2006). The data in this section showed a trending increase toward new teacher preparation in curriculum-based assessment based on the experiences of survey participants.

Zero veteran teachers or practiced teachers strongly agreed to having received coursework regarding theories and techniques of assessment, fieldwork time giving assessment, or practice utilizing assessment data to develop interventions for struggling students, and only 42% of veteran teachers and 50% of practiced teachers agreed. This agreement was given in conjunction with the frequently-written caveat on the short answer questions that their

coursework on assessment had basically taught them to follow the teacher's manual, give programmatic assessments, and then move along in the curriculum. They wrote that they did this without ever knowing much about how to determine exactly what their low-achieving students were struggling with, or how to help them. Only 27% of practiced teachers and 22% of veteran teachers agreed to having had preparatory fieldwork time dedicated to giving literacy assessments and learning to utilize the assessment data for instructional interventions.

Conversely, about 25% of new teachers strongly agreed and 42% agreed to having had coursework strongly focused on assessment. Also, 17% of new teachers strongly agreed and 42% agreed they had received adequate fieldwork preparation in assessment. They reported having participated in field work experiences where they gave curriculum-based literacy assessments, and learned to disaggregate the data gleaned from student assessments to assist in planning interventions for struggling learners. However, in the short answer questions, new teachers still reported feeling underprepared, because most of their field experiences had been with small groups of students. They reported being overwhelmed in regards to managing the multitudes of data they were required to collect, report on, and plan from when they began teaching their own classes. They called for more universities to require more fieldwork experiences in whole-group settings. Nevertheless, new teachers reported feeling much more comfortable and more prepared to help struggling students by collecting assessment data and planning from said data than either practiced or veteran teachers did.

The third subquestion of this research was: Has there been a change over time in what new teachers believe were the strengths and weaknesses of their preparation programs? There has been a change over time in the strengths and weaknesses of teacher preparation programs in regard to preparing teachers for primary literacy, according to the experiences of the teachers

who participated in this survey. New teachers report having had better preparation in how to teach phonemic awareness, phonics, and fluency, and how to utilize assessment data to better inform instructional practice. The responses indicate new teachers spend more preparatory coursework time and fieldwork time developing the knowledge and skills to be successful teachers in those components of primary literacy instruction.

Weaknesses in coursework were spoken to by all categories of participants, although the responses did seem to indicate progression over time. The new teacher participants noted much greater strength in coursework required by their programs to prepare them for primary literacy instruction. The veteran and practiced teachers often noted having little to no in-depth coursework in the science behind phonemic awareness, phonics, fluency, and assessment. Their courses were more focused on comprehension and holistic language experiences. The new teachers wrote of having benefitted from in-depth coursework in the science of literacy, in each of the components of phonemic awareness, phonics, fluency, and comprehension, and in utilizing assessment to inform instructional practice.

The greatest weakness noted was in being prepared to implement the knowledge gleaned from preparation into practice once the teachers began their careers and had their own classrooms. This was a weakness noted by all categories of respondents, although the magnitude did change over time. Veteran and practiced teachers had little to no fieldwork experiences in the components of phonemic awareness, phonics, and fluency, or in giving, scoring, or planning from assessment, which many stated they wished they had received. New teachers noted having experienced much greater numbers of fieldwork hours in those areas, yet still wished for more, especially in regard to whole-group practice. One new teacher said,

> I felt like I had a lot of great professors and learned a lot of content throughout my time as a student, but I strongly feel like I wasn't prepared to do all of these things amongst all the other things teachers are expected to do… I did not realize that it would be as difficult as it is. I do not think I had a realistic view of how difficult it would be, how time-consuming [the grading of assessments and planning] it was even after school hours, and the amount of stress it would be.

This type of sentiment was expressed more than once. In contradiction to those types of requests, in being realistic about preparation, another new teacher wrote, "I think it is difficult for a university to provide a student teacher with the kind of experience a "real classroom" teacher has. They are only there for a short time!"

In conclusion, the answer to subquestion three would indicate that the component which has been historically strong, comprehension, has remained strong, and there was not much change over time in that component. However, there has been a significant change over time in the historically weaker components of phonemic awareness, phonics, and fluency, and in assessment preparation. These areas have all gotten stronger, although they are not yet at the level of strength needed. Overall, the new teachers surveyed reported having received a much greater level of preparation in the foundational elements of teaching primary literacy than the practiced and veteran teachers did, but still wanted for even more in-depth, practical, useful preparation. One new teacher indicated such by this statement, "Many of the things that the education program required were not helpful or beneficial when I actually became a teacher. It seems there were many unnecessary hoops to jump through." Teacher preparation programs have made great strides toward improvement, but there is still more to be done, according to the participants of this survey.

The overarching question for this research was, *Are new teachers entering the profession feeling better prepared to teach literacy at the primary level now than in the past?* While the subquestions assisted in determining improvement in focal points of preparation, many other details of preparation programs play key parts in effective teacher preparation in primary literacy instruction. These details help enhance the understanding teacher's feelings of adequate preparation, as discussed below.

Some general experiences that assist teachers in becoming more effective teachers of literacy are having experiences collaborating and team planning with other teachers (Ballard & Bates, 2008; Brilhart, 2010; Dillon, 2004; Fuhrken, 2006; Johnson et al., 2005). New teachers noted significantly many more experiences with collaboration and teaming while in their preparation programs than did veteran teachers. There were 71% of new teachers who either strongly agreed or agreed to having had adequate time learning to team plan and collaborate during their teacher preparation, as compared to 54% of practiced teachers and 39% of veteran teachers. Because a large number of comments from teachers at all levels referenced the gigantic role fellow teachers played in helping them through their first years in multiple areas of literacy instruction, it is a definite benefit to preservice teachers for preparation programs to continue to increase required experiences in teaming, and to continue teaching the importance of the collaboration process.

In addition, when preservice teachers engage in role-playing and are taught by professors using the same pedagogical techniques they will be expected to utilize in their elementary teaching, they will be better teachers (Maloch et al., 2003; Morris, 2011; Pimentel, 2007). There were no statistically significant differences in the groups, yet the results show an upward trend of new teachers, at 76%, receiving more of these course work experiences than veteran teachers, at

46%, which was supported further by the qualitative analysis. In support of the importance of role-play in preservice training, one participant stated, “I took a course in college that allowed me to decode words myself acting as a young reader. We learned how to teach different students at all levels how to decode words into sounds and structures.” This type of instruction helped this new teacher to feel more secure in her understanding of phonics pedagogy.

One of the most critical components of teacher preparation is the student teaching period. This is a time when preservice teachers truly develop their pedagogical and management skills, work with a full-time mentor who is there to help with reflection and improvement, and begin the final transition from student into teacher (Maloch et al., 2003; Morris, 2011). The qualitative analysis of this survey research overwhelmingly supported the importance teachers at all levels placed on their student teaching experience. It was noted time and again that they learned more in that experiential time than they had in all their course work combined. Because of this, it is crucial that the student teaching time be effective and meaningful, that student teachers should be paired with quality teacher mentors, supervised by university liaisons, and have explicit guidelines of expectations of all parties (Allen, 2002; CAEP, 2013; Harmon et al., 2001; Heller et al., 2007; Russell & Russell, 2011). This is the one area in which the participants in this survey indicated a decrease in preparation program effectiveness in recent years. A full 93% of practiced teachers strongly agreed or agreed to the statement, “My university outlined specific guidelines for my student teaching experience, delineating the roles of the university mentor, the supervising teacher, and the student teacher.” New teachers agreed at a rate of 76%, and veteran teachers at 61%. In this survey pool, practiced teachers received the benefit of better guidelines.

The data derived from this survey research indicates an affirmative response to the survey question, Are new teachers entering the profession feeling better prepared to teach literacy at the

primary level now than in the past? The quantitative analysis often demonstrated statistically significant differences between veteran and new teachers, demonstrating an upward trend over time in the level of preparation offered to preservice teachers. That analysis showed new teacher participants feeling better prepared in their first year to be highly effective primary literacy teachers than the practiced and veteran teacher participants felt in their first years. Qualitative analysis further supported the upward trend in preparation. Veteran teachers and practiced teachers often wrote about being woefully underprepared, as opposed to new teachers citing specific experiences from their preparation programs that represented an increased level of preparedness. Furthermore, many of the survey participants noted personal beliefs that university programs have been making progress, and have recently been doing a much better job at preparing teachers for primary literacy instruction. One veteran teacher wrote in her final thoughts section, “Teachers coming from universities today are much better prepared to teach reading than I was many years ago.” Overall, based on the survey data provided by participating primary teachers, it has been concluded that teachers are entering the profession feeling better prepared to teach literacy at the primary level now than in the past.

Implications for Professional Practice

This survey research has shed light on the great strides that have been made in teacher education on the part of universities in general, as reported by survey participants, to better prepare their preservice teachers to be skilled, competent, effective, primary literacy teachers. Education is an evolving practice. Teachers face new requirements every year, and teacher preparation programs must keep up so their graduates are ready to face the classroom. According to the results of this survey, improvements have been made in teaching the science of reading, helping preservice teachers to know how their students’ brains are working when learning to

read. Yet a great percentage of teachers surveyed longed for even more knowledge in that area. Teachers also asked for greater development of background knowledge in phonemic awareness and phonics, more pedagogical instruction, and more fieldwork opportunities to practice implementing their knowledge and skills while working with an effective teacher mentor. This researcher calls on universities to train their teachers with in-depth knowledge of brain science, as well as phonemic awareness and phonics and how to effectively teach them.

In addition, many teacher participants held misconceptions regarding the definition of fluency, and its importance in literacy development. This researcher calls on preparation programs to teach their preservice teachers this vital information, to make sure they understand the research behind fluency development, and train them in the pedagogical skills necessary to be able to help their students develop high levels of comprehensive fluency. University preparation programs have also made vast improvements in teaching their preservice teachers how to assess fluency using curriculum-based progress monitoring assessments, but the survey participants feel they need more field practice in reading the data and using the data to formulate interventions or to drive instructional decisions. This researcher asks universities to provide greater opportunity for their preservice teachers to utilize the data they have learned to gather and teach them more practical applications for teaching fluency skills to students.

Student teaching is the most critical fieldwork experience in which a preservice teacher participates (CAEP, 2013). It is the time when preservice teachers apply all their previous coursework and fieldwork to the real classroom, while being supported by a teacher mentor. Previous research has shown the importance of a successful student teaching assignment, which is best when supported by the university, the mentor teacher, and the school administrator (Russell & Russell, 2011). Specific guidelines should be provided by the university for the

student teaching experience that delineates the expectations of all parties involved. In an effort to address the deficiencies in preparation noted by the sample population, this researcher recommends more specific guidelines in primary literacy instruction experiences for student teaching assignments. Universities owe it to future generations of students to train preservice teachers to teach reading well.

Recommendations for Further Research

This survey was conducted in one western state. Although an attempt was made to utilize a significant sample size, the response rate was low. This survey included teachers with any number of years of experience, in an attempt to determine if university preparation in primary literacy has improved over time, and the survey results were positive in relation to the sample population. However, there are still several weaknesses that survey participants noted in their preparation. Teaching literacy is one of the most important jobs a primary teacher has, as learning to read by third grade sets students up for success for the rest of their educational careers (Connor et al., 2009; Early Warning, 2001; Gewertz, 2011; Hernandez, 2011; Morris, 2011; Wood, Hill, Meyer, & Flowers, 2005). Having shown the improvement that has happened over time as related to this small sample population, the researcher now recommends a more widespread study.

This survey collected demographic information on participants. This demographic data provided several groups that could have been utilized for further disaggregation of the data if the sample population had been larger. A recommendation is for a similar study to be conducted with a much larger sample population to allow for the disaggregation of several subpopulations in addition to new, practiced, and veteran teachers. It would be interesting to determine if the level of preparation felt by the survey population was affected by the primary grade level taught.

For instance, did third grade teachers feel better prepared than kindergarten, first, or second grade teachers? The statistical analysis of all possible grade level pairings could shed light on the types of preparation the new teachers of each grade level felt they lacked. For example, if phonemic awareness is much more explicitly taught in kindergarten than third grade, and comprehension is more explicitly taught in second and third grade than kindergarten and first grade, did the new teachers of each grade possess the knowledge and skill necessary to be highly effective at their grade level?

Other demographic groupings that are recommended for further analysis in a similar, larger-scale study would be the types of preparation programs the teachers matriculated from, the degree level possessed, the route to certification (traditional or alternative), and gender. Similar studies could be focused solely on newer teachers to see what improvements still need to be made in literacy components of university teacher preparation programs.

Conclusion

The research question this dissertation focused on was, Are new teachers entering the profession feeling better prepared to teach literacy at the primary level now than in the past? To fully answer this question, there were three supporting subquestions: In which components of primary literacy instruction do new teachers perceive themselves as strong, and in which components do they perceive themselves as weak? In which areas of primary literacy instruction did new teachers feel better prepared by their preparation programs than in the past, and in which areas did they wish they had received greater preparation? Has there been a change over time in what new teachers believe were the strengths and weaknesses of their preparation programs?

The answer to this question is complex, but the data gathered in this research survey suggests it is affirmative. New teachers are entering the profession feeling better prepared to

teach literacy at the primary level than practiced and veteran teachers. New teachers perceive themselves to be strong in teaching comprehension, which has not changed much over time. They are better at teaching fluency than in the past, but fluency is still an area of difficulty. New teachers feel weakest in teaching phonics and phonemic awareness. However, the level of preparation and preparedness in phonics and phonemic awareness has increased drastically from veteran to new teachers. The weaknesses of programs have improved over time, but survey participants still call for more training and fieldwork in phonemic awareness and phonics instruction. The sample population showed a belief that preparation programs have gotten better at offering pedagogically strong coursework, and requiring substantially more relevant fieldwork.

Due to variances in university programs, be it the course work options, fieldwork options, or student teaching options, as well as variances in alternative paths to certification, not all teachers enter the field equally qualified. But what this research has shown is there has been improvement over time in the level of teacher preparation for primary literacy instruction. Teachers today are learning more from their preparation programs than in the past about how to teach the science of reading, and are more prepared to enter the classroom as effective primary literacy teachers.

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Appendix A

Human Research Review Committee Approval

From: Northwest Nazarene University

Date: Wednesday, June 12, 2013

Subject: [Northwest Nazarene University] RE: New Teacher Preparedness in Primary Literacy Instruction: A Mixed-Methods Study

Dear Amanda,

The HRRC has reviewed your protocol: New Teacher Preparedness in Primary Literacy Instruction: A Mixed-Methods Study. You received a "Full Approval." Congratulations, you may begin your research. If you have any questions, let me know.

Dr B Lester

Protocol #: 8062013

Appendix B

National Institutes of Health Certification

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Amanda Eller** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 10/27/2012

Certification Number: 1037840

Appendix C

Content Validity Index: Expert Rankings and Initial Findings

Section 1: Teacher Preparation Program										
Item	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	Number in Agree-ment	Item CVI
1	x	x	x	x	-	x	x	x	7	0.88
2	x	x	x	x	x	x	x	x	8	1.00
3	x	x	x	x	x	x	x	x	8	1.00
4	x	x	x	x	x	x	x	x	8	1.00
5	x	x	x	-	x	x	x	x	7	0.88
6	x	x	x	x	x	x	x	x	8	1.00
7	x	x	x	x	x	x	x	x	8	1.00
8	x	-	x	x	x	x	x	x	7	0.88
9	x	x	x	x	x	x	x	x	8	1.00
10	x	x	x	x	x	x	x	x	8	1.00
11	x	-	x	x	x	x	x	x	7	0.88
12	x	-	x	-	x	x	x	x	6	0.75
13	x	-	x	x	x	x	x	x	7	0.88
Section 2: Preparedness for Phonemic Awareness										
Item	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	Number in Agree-ment	Item CVI
14	x	x	x	x	x	x	x	x	8	1.00
15	x	x	x	x	x	x	x	x	8	1.00
16	x	x	x	x	x	x	x	x	8	1.00
17	x	x	x	x	x	x	x	x	8	1.00
18	x	x	x	x	x	x	x	x	8	1.00
19	x	x	x	x	x	x	x	x	8	1.00
20	x	x	x	x	x	x	x	x	8	1.00
21	x	x	x	x	x	x	x	x	8	1.00
22	x	x	x	x	x	x	x	x	8	1.00

Section 3: Preparedness for Phonics										
Item	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	Number in Agree-ment	Item CVI

23	x	x	x	x	x	x	x	x	8	1.00
24	x	x	x	x	x	x	x	x	8	1.00
25	x	x	x	x	x	x	x	x	8	1.00
26	x	x	x	x	x	x	x	x	8	1.00
27	x	x	x	x	x	x	x	x	8	1.00
28	x	x	x	x	x	x	x	x	8	1.00
29	x	x	x	x	x	x	x	x	8	1.00
30	x	x	x	x	x	x	x	x	8	1.00
31	x	x	x	x	x	x	x	x	8	1.00
32	x	x	x	x	x	x	x	x	8	1.00
33	x	x	x	x	x	x	x	x	8	1.00

Section 4: Preparedness for Fluency										
Item	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	Number in Agree-ment	Item CVI
34	x	x	x	x	x	x	x	x	8	1.00
35	x	x	x	x	x	x	x	x	8	1.00
36	x	x	x	x	x	x	x	x	8	1.00
37	x	x	x	x	x	x	x	x	8	1.00
38	x	x	x	x	x	x	x	x	8	1.00
39	x	x	x	x	-	x	x	x	7	0.88
40	x	x	x	x	x	x	x	x	8	1.00
41	x	x	x	x	x	x	x	x	8	1.00
42	x	x	x	x	x	x	x	x	8	1.00
43	x	x	x	x	x	x	x	x	8	1.00

Section 5: Preparedness for Comprehension										
Item	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	Number in Agree-ment	Item CVI
44	x	x	x	x	x	x	x	x	8	1.00
45	x	x	x	x	x	x	x	x	8	1.00
46	x	x	x	x	x	x	x	x	8	1.00
47	x	x	x	x	x	x	x	x	8	1.00
48	x	x	x	x	x	x	x	x	8	1.00
49	x	x	x	x	x	x	x	x	8	1.00
50	x	x	x	x	x	x	x	x	8	1.00
51	x	x	x	x	x	x	x	x	8	1.00
52	x	x	x	x	x	x	x	x	8	1.00

Section 6: Preparedness for Assessment										
Item	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	Number in Agree-ment	Item CVI
53	x	x	x	x	x	x	x	-	7	0.88
54	x	x	x	-	x	x	x	x	7	0.88
55	x	x	x	x	x	x	x	-	7	0.88
56	x	x	x	x	x	x	x	x	8	1.00
57	x	x	x	x	x	x	x	x	8	1.00
58	x	x	-	x	x	x	x	x	7	0.88
59	x	x	-	-	x	x	x	x	6	0.75
60	x	x	-	-	x	x	x	x	6	0.75
61	x	x	x	x	x	x	x	x	8	1.00
62	x	x	x	-	x	x	x	x	7	0.88

Section 7: Conclusion										
Item	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	Number in Agree-ment	Item CVI
63	x	x	x	x	x	x	x	-	7	0.88
64	x	x	x	x	-	x	x	x	7	0.88
65	x	x	x	x	x	x	x	x	8	1.00
66	x	x	x	x	x	x	x	x	8	1.00
67	x	x	x	x	x	x	x	-	7	0.88
68	x	x	x	x	x	x	x	x	8	1.00

Cumulative Calculations									
Proportion Deemed Relevant by Each Expert								MI-CVI	0.96
Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	S-CVI/UA	0.75
1.00	0.93	0.96	0.88	0.96	1.00	1.00	0.94	MEP	0.96

Appendix D

Content Validity Index: Expert Rankings and Final Findings

Item	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	Number in Agree-ment	Item CVI
Section 1: Teacher Preparation Program										
1	x	x	x	x	-	x	x	x	7	0.88
2	x	x	x	x	x	x	x	x	8	1.00
3	x	x	x	x	x	x	x	x	8	1.00
4	x	x	x	x	x	x	x	x	8	1.00
5	x	x	x	-	x	x	x	x	7	0.88
6	x	x	x	x	x	x	x	x	8	1.00
7	x	x	x	x	x	x	x	x	8	1.00
8	x	-	x	x	x	x	x	x	7	0.88
9	x	x	x	x	x	x	x	x	8	1.00
10	x	x	x	x	x	x	x	x	8	1.00
11	x	-	x	x	x	x	x	x	7	0.88
13	x	-	x	x	x	x	x	x	7	0.88
Section 2: Preparedness for Phonemic Awareness										
14	x	x	x	x	x	x	x	x	8	1.00
15	x	x	x	x	x	x	x	x	8	1.00
16	x	x	x	x	x	x	x	x	8	1.00
17	x	x	x	x	x	x	x	x	8	1.00
18	x	x	x	x	x	x	x	x	8	1.00
19	x	x	x	x	x	x	x	x	8	1.00
20	x	x	x	x	x	x	x	x	8	1.00
21	x	x	x	x	x	x	x	x	8	1.00
22	x	x	x	x	x	x	x	x	8	1.00
Section 3: Preparedness for Phonics										
23	x	x	x	x	x	x	x	x	8	1.00
24	x	x	x	x	x	x	x	x	8	1.00
25	x	x	x	x	x	x	x	x	8	1.00
26	x	x	x	x	x	x	x	x	8	1.00
27	x	x	x	x	x	x	x	x	8	1.00
28	x	x	x	x	x	x	x	x	8	1.00
29	x	x	x	x	x	x	x	x	8	1.00
30	x	x	x	x	x	x	x	x	8	1.00

31	x	x	x	x	x	x	x	x	8	1.00
32	x	x	x	x	x	x	x	x	8	1.00
33	x	x	x	x	x	x	x	x	8	1.00
Section 4: Preparedness for Fluency										
34	x	x	x	x	x	x	x	x	8	1.00
35	x	x	x	x	x	x	x	x	8	1.00
36	x	x	x	x	x	x	x	x	8	1.00
37	x	x	x	x	x	x	x	x	8	1.00
38	x	x	x	x	x	x	x	x	8	1.00
39	x	x	x	x	-	x	x	x	7	0.88
40	x	x	x	x	x	x	x	x	8	1.00
41	x	x	x	x	x	x	x	x	8	1.00
42	x	x	x	x	x	x	x	x	8	1.00
43	x	x	x	x	x	x	x	x	8	1.00
Section 5: Preparedness for Comprehension										
44	x	x	x	x	x	x	x	x	8	1.00
45	x	x	x	x	x	x	x	x	8	1.00
46	x	x	x	x	x	x	x	x	8	1.00
47	x	x	x	x	x	x	x	x	8	1.00
48	x	x	x	x	x	x	x	x	8	1.00
49	x	x	x	x	x	x	x	x	8	1.00
50	x	x	x	x	x	x	x	x	8	1.00
51	x	x	x	x	x	x	x	x	8	1.00
52	x	x	x	x	x	x	x	x	8	1.00
Section 6: Preparedness for Assessment										
53	x	x	x	x	x	x	x	-	7	0.88
54	x	x	x	-	x	x	x	x	7	0.88
55	x	x	x	x	x	x	x	-	7	0.88
56	x	x	x	x	x	x	x	x	8	1.00
57	x	x	x	x	x	x	x	x	8	1.00
58	x	x	-	x	x	x	x	x	7	0.88
61	x	x	x	x	x	x	x	x	8	1.00
62	x	x	x	-	x	x	x	x	7	0.88
Section 7: Conclusion										
63	x	x	x	x	x	x	x	-	7	0.88
64	x	x	x	x	-	x	x	x	7	0.88
65	x	x	x	x	x	x	x	x	8	1.00
66	x	x	x	x	x	x	x	x	8	1.00
67	x	x	x	x	x	x	x	-	7	0.88

68	x	x	x	x	x	x	x	x	8	1.00

Cumulative Recalculations Following Striking of Irrelevant Items									
Proportion Deemed Relevant by Each Expert								MI-CVI	0.97
Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	S-CVI/UA	0.78
1.00	0.95	0.98	0.95	0.95	1.00	1.00	0.94	MEP	0.97

Appendix E

Survey Text

Introduction

My name is Amanda Eller. I am a doctoral student at Northwest Nazarene University conducting dissertation research entitled, *A Mixed-Methods Study Determining New Teachers' Level of Preparedness in Primary Literacy Instruction*. You are invited to participate in this research survey because you are a primary (kindergarten through third) grade teacher. As this is a survey regarding new teacher perceptions of preparation, experienced teachers are asked to reflect back upon their first year of teaching when answering the survey questions. The survey will take approximately 20-30 minutes to fill out. I understand the heavy workload you maintain, so in appreciation for your time spent in participation and completion of this survey, you will be offered an opportunity to participate in a random drawing to receive one of four $25 Amazon gift cards following completion of the survey.

Consent Form

The central research question for this mixed-methods study asks:

• Are new teachers entering the profession feeling well-prepared to teach literacy at the primary level?

This question will be answered by analyzing the results of sub-questions, which include:

• In which components of primary literacy instruction do new teachers feel strongest, and in which components are they weakest?

• In which areas of primary literacy instruction did new teachers feel well prepared by their university programs, and in which areas did they wish they had received greater preparation?

• What do teachers perceive were the strengths and weaknesses of their preparation programs, and have those strengths and weaknesses changed over time?

Teachers with **all** levels of experience are asked to participate in this study. However, for experienced teachers, when answering please **reflect back** to your beginning teaching experiences. A comparative analysis will be run to determine if literacy preparation is evolving.

Participation is voluntary and completely anonymous. This Qualtrics survey tool completely protects your identity and does not collect names, e-mail addresses, or IP addresses. Only basic demographic data will be collected to validate the participant meets the research parameters. The researcher will not know who participated, which school or district the participant is from, or any other information beyond that provided in the survey by the participant. All Qualtrics data will be kept in a password protected format.

Information you provide in this survey will only be used for scholarly purposes and may become part of the researcher's dissertation, which may be published in the future. The survey consists of Likert-scale questions and open-ended questions. Scaled questions will be quantitatively analyzed. Open questions will be qualitatively analyzed, and the researcher may choose to quote some answers. All responses are completely anonymous. You may choose to terminate your participation at any time by closing out of the survey and not submitting. If you have any questions regarding this research, please contact Amanda Eller at 208-420-2696 or aeller@nnu.edu.

Electronic Consent:

By choosing "I agree" below, you verify:

- You have read all of the information above.
- You voluntarily agree to participate and understand that you may opt out at any time by exiting the survey.
- You are a K-3 teacher.
- You are over 18 years of age.

□ I agree and choose to participate.

□ I disagree or choose not to participate.

Demographics				
Gender	Male	Female		
Years Teaching	0-3	4-10	11+	
Grade Currently Teaching	K	1	2	3
Elementary Teaching Certification Route	Traditional University		Alternative Certification	
Type of Certification	General Elementary (i.e. K-6 or K-8)		Early Childhood (i.e. Pre-3)	
Degree Level at Time of Initial Certification / First Teaching Position	Bachelors	Masters	Other	

Instructions

This survey is broken into sections. There is an introductory section, sections related to the core elements of literacy instruction, a section on assessment, and a conclusion section. Each core element section begins with a write-in question, followed by a few Likert-scaled questions, and ends with write-in comments. *Remember, experienced teachers should answer all questions in a reflective mode, thinking back to what their answers would have been their first year of teaching.*

On the Likert Scale questions, where 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, and 1 = Strongly Disagree, please answer with your initial reaction to each statement.

The researcher greatly appreciates your thoroughness and attention to detail in completing this survey.

	Section 1: Teacher Preparation Program	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	My teacher preparation program prepared me to be a strong K-3 reading teacher.	5	4	3	2	1
2	My teacher preparation consisted of course work that offered in-depth knowledge of best practices in teaching reading.	5	4	3	2	1
3	My teacher preparation program focused strongly on teaching me the "science of reading" (i.e. how the brain works, research behind techniques, etc.).	5	4	3	2	1
4	Professors in my program often taught using the same pedagogical techniques they were instructing me to use as a teacher (i.e. collaboration, hands-on, reflection).	5	4	3	2	1
5	I had adequate course preparation in child/brain development.	5	4	3	2	1
6	My teacher preparation courses included frequent fieldwork opportunities that offered in-depth experiences using best practices in teaching reading.	5	4	3	2	1
7	My course-based fieldwork included numerous hours at the primary (K-3) level.	5	4	3	2	1
8	My teacher preparation program included courses that helped fully prepare me to develop lessons and teach using Common Core State Standards in literacy.	5	4	3	2	1
9	My student teaching included a block of time (at least eight weeks) spent at the primary (K-3) level.	5	4	3	2	1
10	The supervising teacher I had while student teaching was a knowledgeable mentor in teaching using the "science of reading."	5	4	3	2	1

11	My student teaching experience included adequate amounts of time spent collaborating or team planning with other teachers.	5	4	3	2	1
12	My university outlined specific guidelines for my student teaching experience, delineating the roles of the university mentor, the supervising teacher, and the student teacher.	5	4	3	2	1

	Section 2: Preparedness for Phonemic Awareness *(Teachers who are not brand new, please answer these questions as you would have as you began your first year of teaching.)*	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
13	What is phonemic awareness?					
14	Phonemic awareness is a strong predictor of reading success.	5	4	3	2	1
15	The ability to recognize and produce rhyme is a strong predictor of reading success.	5	4	3	2	1
16	The ability to orally segment and blend sounds in words is a strong predictor of reading success.	5	4	3	2	1
17	The ability to orally syllabicate words is a strong predictor of reading success.	5	4	3	2	1
18	My preparation program included learning research-based theories and/or techniques regarding phonemic awareness.	5	4	3	2	1
19	My preparation program provided me adequate fieldwork experiences teaching phonemic awareness in a primary (K-3) setting.	5	4	3	2	1
20	Please comment on your university experiences related to learning to teach phonemic awareness. Detailed experiences would be greatly appreciated!					
21	Please comment on your teaching experiences in your first year as related to feeling prepared when teaching phonemic awareness. Detailed experiences would be greatly appreciated!					

	Section 3: Preparedness for Phonics *(Teachers who are not brand new, please answer these questions as you would have as you began your first year of teaching.)*	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
22	What is phonics?					
23	Letter-sound correspondence is a critical skill for beginning readers.	5	4	3	2	1
24	Students should receive systematic, explicit instruction in phonics.	5	4	3	2	1
25	I have a solid understanding of how to teach digraphs.	5	4	3	2	1
26	I have a solid understanding of how to teach diphthongs.	5	4	3	2	1
27	I have a solid understanding of how to teach spelling in relation to phonics rules.	5	4	3	2	1
28	Explicit phonics instruction can aid students with learning disabilities in retraining their brains to function more like brains of students without learning disabilities.	5	4	3	2	1
29	My preparation program included learning research-based theories and/or techniques regarding phonics.	5	4	3	2	1
30	My preparation program provided me adequate fieldwork experiences teaching phonics in a primary (K-3) setting.	5	4	3	2	1
31	Please comment on your university experiences related to learning to teach phonics. Detailed experiences would be greatly appreciated!					
32	Please comment on your teaching experiences in your first year as related to feeling prepared when teaching phonics. Detailed experiences would be greatly appreciated!					

	Section 4: Preparedness for Fluency *(Teachers who are not brand new, please answer these questions as you would have as you began your first year of teaching.)*	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
33	What is fluency?					

34	The ability of K-1 students to read lists of letters or sounds fluently, without having to stop to think, is an indicator of future reading success.	5	4	3	2	1
35	Fluency is reading correctly with speed and prosody.	5	4	3	2	1
36	Fluency timings are a valuable progress indicator for holistic reading growth.	5	4	3	2	1
37	Repeated readings of reading-level text are essential to fluency growth.	5	4	3	2	1
38	Fluency practice is a significant piece of my reading instruction.	5	4	3	2	1
39	My preparation program included learning research-based theories and/or techniques regarding fluency.	5	4	3	2	1
40	My preparation program provided me adequate fieldwork experiences teaching fluency strategies in a primary (K-3) setting.	5	4	3	2	1
41	Please comment on your university experiences related to learning to teach and assess fluency. Detailed experiences would be greatly appreciated!					
42	Please comment on your teaching experiences in your first year as related to feeling prepared when teaching fluency. Detailed experiences would be greatly appreciated!					

	Section 5: Preparedness for Comprehension *(Teachers who are not brand new, please answer these questions as you would have as you began your first year of teaching.)*	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
43	What is comprehension?					
44	Vocabulary is a critical component of comprehension instruction.	5	4	3	2	1
45	Emergent readers who read fluently demonstrate better comprehension overall.	5	4	3	2	1
46	Multiple readings encourage better comprehension of text.	5	4	3	2	1

47	Higher-order thinking questions are an essential piece of comprehension instruction.	5	4	3	2	1
48	My preparation program included learning research-based theories and/or techniques regarding comprehension instruction.	5	4	3	2	1
49	My preparation program provided me adequate fieldwork experiences teaching comprehension in a primary (K-3) setting.	5	4	3	2	1
50	Please comment on your university experiences related to learning to teach and assess comprehension. Detailed experiences would be greatly appreciated!					
51	Please comment on your teaching experiences in your first year as related to feeling prepared when teaching comprehension. Detailed experiences would be greatly appreciated!					

	Section 6: Preparedness for Assessment *(Teachers who are not brand new, please answer these questions as you would have as you began your first year of teaching.)*	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
52	Beginning your first year of teaching, what was your view of the role assessment plays in being an effective literacy teacher?					
53	Teachers should frequently (weekly/bi-weekly) gather data from progress monitoring of reading skills.	5	4	3	2	1
54	My preparation course work included learning research-based theories and/or techniques regarding giving and utilizing assessments.	5	4	3	2	1
55	My teacher preparation program provided adequate fieldwork time to practice giving progress monitoring assessments.	5	4	3	2	1
56	My teacher preparation program provided adequate fieldwork time to practice using progress monitoring data to develop interventions for my students.	5	4	3	2	1

57	I believe literacy assessment data should be used to drive instruction (i.e. planning interventions, creating effective lessons).	5	4	3	2	1
58	Please comment on your university experiences related to learning to give curriculum-based literacy assessments and utilize assessment data. Detailed experiences would be greatly appreciated!					
59	Please comment on your teaching experiences in your first year as related to feeling prepared when assessing students and planning from assessment. Detailed experiences would be greatly appreciated!					

	Section 7: Conclusion *(Teachers who are not brand new, please answer these questions as you would have as you began your first year of teaching.)*	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
60	I believe a solid foundation in literacy is essential for student academic success.	5	4	3	2	1
61	I believe my university provided me with strong foundational knowledge of the science of reading.	5	4	3	2	1
62	My first year of teaching, I felt very prepared to effectively teach all the core elements of literacy.	5	4	3	2	1
63	My first year of teaching, I felt very prepared to determine appropriately-focused interventions for struggling students.	5	4	3	2	1
64	Regardless of the strength my preparation program, I began my teaching career optimistically, knowing I would be a good reading teacher.	5	4	3	2	1
65	Final thoughts: Please share any final thoughts you have regarding the level of preparation you received in relation to becoming a successful, quality primary literacy teacher.					

Appendix F

Independent Samples Kruskal-Wallis Test of Survey

Item	χ^2	*p*	Differing Pairs*	Pairwise *p*	*adj. p*
1	4.106	0.128			
2	8.943	0.011	N/V	0.003	0.009
3	4.180	0.124			
4	7.727	0.021	P/V	0.031	0.092
			N/V	0.023	0.069
5	2.107	0.349			
6	5.710	0.058			
7	3.198	0.202			
8	8.172	0.017	N/V	0.027	0.027
			N/P	0.043	0.043
9	0.027	0.987			
10	3.250	0.197			
11	9.158	0.010	N/V	0.003	0.008
12	7.769	0.021	P/V	0.011	0.033
14	5.382	0.068			
15	2.285	0.319			
16	5.434	0.066			
17	2.921	0.232			
18	8.419	0.015	N/V	0.018	0.053
			P/V	0.026	0.078
19	6.550	0.038	N/V	0.024	0.071
23	1.696	0.428			
24	3.657	0.161			
25	13.830	0.001	N/P	0.022	0.065
			N/V	0.000	0.001
26	14.343	0.001	N/P	0.035	0.106
			N/V	0.000	0.000
27	10.749	0.005	N/V	0.001	0.003
28	1.986	0.370			
29	5.943	0.051			
30	2.997	0.223			
34	8.123	0.017	N/P	0.023	0.068
			N/V	0.006	0.019
35	9.215	0.010	N/V	0.007	0.020

			P/V	0.048	0.143
36	6.285	0.043	N/P	0.021	0.063
			N/V	0.030	0.090
37	1.068	0.586			
38	5.921	0.052			
39	11.081	0.004	N/V	0.001	0.003
40	7.250	0.027	N/V	0.008	0.024
44	2.310	0.315			
45	1.313	0.519			
46	3.961	0.138			
47	4.115	0.128			
48	5.714	0.057			
49	11.529	0.003	N/V	0.008	0.025
			P/V	0.007	0.021
53	4.928	0.085			
54	5.263	0.072			
55	9.542	0.008	N/V	0.003	0.009
56	13.876	0.001	N/V	0.000	0.001
57	6.749	0.034	N/V	0.010	0.030
60	5.886	0.053			
61	7.410	0.025	N/V	0.007	0.020
62	7.755	0.021	N/V	0.006	0.017
63	11.714	0.003	N/V	0.001	0.002
64	0.369	0.832			

Note. The Kruskal-Wallis score was deemed statistically significantly different among the three experience groups with *df* of $\chi^2(2)$ when $p < 0.05$. Post-hoc testing determined paired differences, and the *p* of the pair. The Bonferroni correction for multiple comparisons was calculated, resulting in adjusted *p* levels that maintained statistical significance when the *adj. p* < 0.05.

* N = New teachers, P = Practiced Teachers, V = Veteran Teachers.