A MULTIPLE-CASE STUDY EXAMINING ELEMENTARY PRINCIPALS IN HIGH-POVERTY SCHOOLS WITH TEACHERS INTEGRATING NEW LITERACIES

by

BRIDGET STEGMAN

B.Ed., Washburn University, 1997
M.Ed., Washburn University, 2000

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF EDUCATION

Department of Educational Leadership
College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2014

Abstract

Today, students enter school with a variety of knowledge about technology. They are accustomed to using the Internet, cell phones, instant messaging, social networking, but that does not mean they have a deep understanding of the reading skills necessary to be successful at online reading (Leu et al., 2013). Reading on the Internet requires critical literacy skills and requires a different set of reading comprehension skills when compared to traditional print (Coiro & Dobler, 2007; Eaglerton & Dobler, 2007; Henry, 2006; Karchmer-Klein & Shinas, 2012; Leu et al., 2008; Leu et al., 2013).

The purpose of this study was to gain insight into the knowledge, dispositions, and actions of principals perceived to be most meaningful by both the principals themselves and the teachers under their supervision in high-poverty schools with classroom teachers integrating new literacies. This study also examined the dimensions of instructional leadership (Hallinger & Murphy, 1985) and how these dimensions intersect with knowledge, dispositions, and actions of principals. Using a qualitative design, specifically a multiple-case study, the researcher interviewed teachers and principals at four, high-poverty elementary schools to gain insight into the principals' role in the integration of new literacies.

This study provides a deeper understanding of the many components involved in the leadership of a high-poverty school with classroom teachers integrating new literacies. The findings of this study include that the principals were literacy leaders. They were knowledgeable about the curriculum; ensured teachers had the appropriate resources to integrate new literacies (Internet, iPads, laptops, and tablets); and had high expectations for teachers in terms of technology integration. The principals created equitable opportunities for all students to

participate in the integration of technology and literacy. Finally, the principals in this study created a culture of trust and professional growth for teachers.

A MULTIPLE-CASE STUDY EXAMINING ELEMENTARY PRINCIPALS IN HIGH-POVERTY SCHOOLS WITH TEACHERS INTEGRATING NEW LITERACIES

by

BRIDGET STEGMAN

B.Ed., Washburn University, 1997
M.Ed., Washburn University, 2000

A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF EDUCATION

Department of Educational Leadership
College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2014

Approved by:

Major Professor
Dr. Trudy Salsberry

Copyright

Abstract

Today, students enter school with a variety of knowledge about technology. They are accustomed to using the Internet, cell phones, instant messaging, social networking, but that does not mean they have a deep understanding of the reading skills necessary to be successful at online reading (Leu et al., 2013). Reading on the Internet requires critical literacy skills and requires a different set of reading comprehension skills when compared to traditional print (Coiro & Dobler, 2007; Eaglerton & Dobler, 2007; Henry, 2006; Karchmer-Klein & Shinas, 2012; Leu et al., 2008; Leu et al., 2013).

The purpose of this study was to gain insight into the knowledge, dispositions, and actions of principals perceived to be most meaningful by both the principals themselves and the teachers under their supervision in high-poverty schools with classroom teachers integrating new literacies. This study also examined the dimensions of instructional leadership (Hallinger & Murphy, 1985) and how these dimensions intersect with knowledge, dispositions, and actions of principals. Using a qualitative design, specifically a multiple-case study, the researcher interviewed teachers and principals at four, high-poverty elementary schools to gain insight into the principals' role in the integration of new literacies.

This study provides a deeper understanding of the many components involved in the leadership of a high-poverty school with classroom teachers integrating new literacies. The findings of this study include that the principals were literacy leaders. They were knowledgeable about the curriculum; ensured teachers had the appropriate resources to integrate new literacies (Internet, iPads, laptops, and tablets); and had high expectations for teachers in terms of technology integration. The principals created equitable opportunities for all students to

participate in the integration of technology and literacy. Finally, the principals in this study created a culture of trust and professional growth for teachers.

Table of Contents

List of Tables

Acknowledgements

The completion of my dissertation would not be possible without the support of many people. To my major professor, Dr. Trudy Salsberry, for her patience, understanding, and always challenging me to think beyond what I thought was possible.

The encouragement and feedback I received from my committee members helped me remain motivated and focused. Dr. Carolyn Carlson, Dr. Lotta Larson, and Dr. Teresa Miller, I thank you for your recommendations that made this research study even stronger.

A special thank you to Dr. Sheryl Hodge for serving as outside chair. Dr. Donna Augustine-Shaw, thank you for being on my committee at that last minute and taking time to learn about my research.

Dr. Jill Castek, I admire your work as a pioneer in the field of new literacies. I am grateful for your feedback and clarification of ideas.

I'm honored to have had such a hard working peer reviewer. Jill Gonzales-Bravo, I look forward to working with you more in the future.

To my wonderful friends and amazing leadership team members at school, Mandy Czechanski and Tara Martin, you always remind me how important it is to have a growth mindset and to stay focused on the big picture! I value your integrity and high standards for education.

I would like to extend my gratitude to the principals and teachers that participated in this study. Your insight into the integration of new literacies and dedication to providing all students equitable opportunities to integrate new literacies was inspirational.

Finally, to my dear friend Vicki Seeger, I am very appreciative of your time and guidance. When I embarked on this journey, I asked if you thought a doctorate was something I could complete. You not only encouraged me, but you told me you knew I could do it. There were so many times that I was not sure I would be able to complete this endeavor, and I would think of your words. It is amazing what one person can accomplish when they know someone believes in them. I use this same philosophy when I work with teachers and students, because every learner, no matter how old they are, needs to know that someone believes in them! Not only did you believe in me, your wisdom and insight made this dissertation a reality.

Dedication

Beyond my academic colleagues, I have been blessed with the most amazing support system to help me complete this journey. I dedicate this dissertation to my family.

To Ann Claire and Liam, I am the luckiest mom in the world! I hope I have inspired you to work hard and accomplish all your dreams.

To my parents, Terrence and Ann Boyle, thank you for your unwavering support and love. There is no way I could have completed this without your encouragement. To my sister, Gail Daly, I value your advice immensely and look up to you as a mom and teacher. To my in-laws, Wayne and Judy Stegman, thank you for your willingness to drive four hours and help out anytime we needed you. My children are very fortunate to have a wonderful family of support. You have provided Ann Claire and Liam with many fun and exciting adventures while I've been studying; without your assistance this dissertation would never have become a reality. Words are simply not enough of a thank you for your kindness, generosity, and belief in me.

To my Aunt Kathy Murray, thank you for letting me "talk your ear off" and thinking out loud so I could process all my jumbled thoughts, especially on late night drives home from Manhattan. You definitely are a true cheerleader!

To my husband, Steve, you wore many extra hats so I could complete my dissertation. I give my deepest expression of love and appreciation for the encouragement given and the sacrifices made during this process. I wholehearted appreciate your faith in me. Thank you for being my best friend.

Chapter 1 - Introduction

Introduction

Technology may hold the potential to increase student motivation and engagement in literacy learning. However, the lessons of the past suggest that new approaches may be needed if the potential of new literacies are to be reached (McKenna, 2006). Four years after McKenna (2006) discussed the lack of potential occurring with the integration of new literacies, Duncan (2010), United States Secretary of Education, discussed how schools were not embracing the transformative potential that technology offered. Leu, Kinzer, Coiro, Castek, and Henry (2013) agreed when they argued the importance of schools integrating new literacies into classrooms, if students are to be prepared for the literacy futures they deserve.

"Social forces, and the technologies they produce, define the changing nature of literacy" (Leu et al., 2013, p. 1151). The New Literacies theory (Leu et al., 2013) acknowledges that the Internet is this generation's defining technology for literacy and learning, and requires additional new literacies to fully access their potential. New literacies include the skills, strategies, dispositions, and social practices that are required to utilize new technologies and the Internet; are central to full civic, economic, and personal participation in a global community; are rapidly changing as defining technologies change; and are multiple, multimodal, and multifaceted (Coiro, Knobel, Lankshear, & Leu, 2008; Leu, Kinzer, Coiro, & Cammack, 2004; Leu et al., 2013).

Therefore, it is critical that teachers recognize the new literacy demands brought about by the use of the Internet and 21st century literacy (Karchmer-Klein & Shinas, 2012). Twenty-first century literacy includes skills such as developing proficiency with the tools of technology; solving problems by working collaboratively and cross-culturally; designing and sharing

information to meet a variety of purposes; managing, analyzing, and synthesizing multiple streams of simultaneous information; creating, critiquing, analyzing, and evaluating multi-media texts; and attending to the ethical responsibilities required by these complex environments (National Council of Teachers of English, 2013). However, Hutchins and Reinking (2011) argued that teachers cannot be expected "to bear the sole responsibility for increasing integration of information and communication technologies (ICTs) into literacy instruction" (p. 331). ICTs are the technologies that provide possibilities for and access to communication and information. Examples include: blogs, video editors, web browsers, e-mail, social networking sites, instant messaging, and many others (Leu et al., 2013).

Having students college and career ready includes the integration of technology in literacy in elementary classrooms (Castek & Gwinn, 2012; Drew, 2012). Labbo and Reinking (1999) argued that integrating ICTs in literacy instruction included the following: acquiring digital technology, employing it to teach conventional instructional goals, allowing it to transform instruction, adopting new instructional goals consistent with new forms of reading and writing, and empowering students.

Students must be taught the skills they need to be successful online readers and researchers which include finding and locating information, answering questions, synthesizing information, and communicating their findings to others (Coiro et al., 2008; Henry, 2006; Karchmer-Klein & Shinas, 2012). In order for students to integrate new literacies, time in teachers' schedules for teaching new literacies is also required (Hutchison & Reinking, 2011). Finally, in addition to resources and time, teachers need professional development on not only how to use the technology, but how to integrate technology and literacy in the classroom

(Hutchison & Reinking, 2011; International Reading Association, 2009; Lankshear & Knobel, 2011).

Castek (2012) argued that students must have opportunities to learn skills required to use online resources and new media responsibly. Students must think critically to evaluate the message they contain or determine their validity. Additionally, they must understand point of view and potential bias when viewing YouTube videos, reading blogs, or listening to podcasts. These skills foster the growth of responsible citizens, and students must be given opportunities for online learning at school (Castek, 2012).

However, without the support of the building principal, no matter how much professional development teachers receive, most will not integrate technology (Dawson & Rakes, 2003). The principal is a key factor in the integration of technology into classrooms with a goal of improving instruction and learning (Bauer & Kenton, 2005; Dawson & Rakes, 2003). Unfortunately, too many schools see technology as an isolated way to improve student learning, when in fact, technology integration must be tied to instructional objectives and learning outcomes (Creighton, 2003).

Statement of the Problem

The Internet has created an unprecedented dimension to the speed and scale of change in the technologies for literacy. So many people around the world have adopted the Internet as a way of communication, which allows information to be transmitted instantly (Coiro et al., 2008). With this potential for knowledge, challenges are occurring when looking at the integration of new literacies in elementary schools.

Since new literacies are a specific component of technology integration, there are issues that challenge schools in terms of integrating technology. Coiro et al. (2008) used the term

"converge" when describing the literacy and technology research involved in new literacies (p. 6). It is in this convergence that issues arise. Sometimes the issues intersect, while other times they are isolated. There are numerous issues documented in the research that are related to technology integration in classrooms. These issues impede the integration of new literacies. Examples of these issues include students not having enough time at computers, extra time involved in planning time for technology lessons, outdated technology, too much curriculum to cover, high-stakes testing, lack of support from administrators, funding issues, and lack of professional development (Bauer & Kenton, 2005; Cuban, Kirpatrick, & Peck, 2001; Kara-Soteriou, 2009; Mouza, 2008; Schrum, Galizio, & Ledesma, 2011).

The systematic integration of literacy and technology is not happening in many classrooms, and many times teachers who are integrating literacy and technology are not providing students with the opportunities and potential that new literacies offer to literacy instruction (Coiro et al., 2008; McKenna, 2006). Hutchison and Reinking (2011) pointed out that despite the fact that teachers perceive literacy and technology integration to be important, it is not happening on a large scale.

Principals face overwhelming pressure to increase student achievement and are publicly accountable for their schools' literacy scores (Bean, 2012; Beers, Beers, & Smith, 2010; Davis & Darling-Hammond, 2012). As a result, many teachers are not integrating new literacies, since new literacies are not tested on high-stakes accountability assessments (Leu et al., 2008). If teachers are not aware of the potential that the Internet and other ICTs offer, then in some classrooms technology can be misused. For example, sometimes technology is reserved for students that complete their work first, or technology is used to keep students occupied during literacy center activities, without actually integrating new literacies (McKenna, 2006). Access to

the latest technology does not translate into effective use of the technology (Karchmer-Klein & Shinas, 2012; Leu et al., 2004; Reinhart, Thomas, & Toriskie, 2011).

The complexity of integrating technology and literacy from a leadership standpoint goes beyond simply purchasing hardware or software. In a single school, some students may have access to technology, while another class does not have that same opportunity because a teacher lacks the knowledge to integrate new literacies, which only increases the digital divide (Franklin, 2007; Reich, Murnane, & Willett; 2012; Reinhart et al., 2011). High-stakes testing adds another layer of complexity in terms of integrating new literacies in classrooms. According to Leu et al. (2009a), the poorest schools focused on traditional reading skills because they are under the most pressure to raise test scores, and the assessments have no questions that support online reading comprehension.

Integrating new literacies into the classroom requires more than just the integration of technology. The integration of new literacies uses technology and is critical to the use of information along with the acquisition of knowledge (Leu et al., 2004). Leu, O'Byrne, Zawilinski, McVerry, and Everett-Cacopardo (2009b) pointed out how even though new literacies include technology, the focus needs to be on the Internet as a literacy issue, not a technology issue.

Currently, there is little research on the leaders who are in schools that are integrating new literacies in the classrooms. Leu et al. (2008) discussed that one of the needs for research on new literacies involves leadership and how leaders provide the vision and leadership to direct the changing nature of reading comprehension instruction in their schools and districts. With the demands of the Common Core State Standards (CCSS) (National Governors Association for the Best Practices & Council of Chief State Officers, 2010), and the access to technology in

classrooms, it is critical for principals to provide the leadership necessary so students can be prepared with 21st century literacy skills.

Definitions

For this study, the definitions of knowledge, dispositions, and actions will be based on definitions from the National Council for the Accreditation of Teacher Education (NCATE) (2008).

- Knowledge will be defined as the empirical research, disciplined inquiry, informed theory, and the wisdom of practice.
- Dispositions will be defined as professional attitudes, values, and beliefs.
- Actions will be a working definition based on the definition of skills. Actions include the steps taken by principals based on content, professional, and pedagogical knowledge in a manner that ensures that all students are integrating new literacies.

Purpose of the Study

The principal's leadership is a key factor in terms of school effectiveness (Hallinger & Heck, 1998; Leithwood & Riehl, 2003; Fullan, 2007). The purpose of this study was to look at the roles of principals in high-poverty elementary schools with classroom teachers integrating new literacies to learn how a principal's knowledge, dispositions, and actions influence the integration of new literacies in their elementary schools.

In these schools, teachers are incorporating traditional literacies that are necessary to the integration of literacy and technology in classrooms (Leu et al., 2004) as well as new literacies to teach students the skills they need be successful 21st century learners. Since the research has documented challenges in the integration of new literacies in less affluent schools (Leu et al.,

2008; Reich et al, 2008), this study will focus on high-poverty schools, which have higher rates of students receiving free and reduced lunch.

This multiple-case study (Yin, 2009) identified leadership characteristics perceived by both principals and teachers to be necessary in the integration of new literacies in elementary classrooms. Using the conceptual framework of instructional leadership (Hallinger & Murphy, 1985), teachers' and principals' responses to interview questions were analyzed to find out what principals believe, know, and what skills they demonstrate to successfully integrate new literacies at their elementary school.

Interpretive Frameworks and Philosophical Assumptions of the Researcher

The researcher in this multiple-case study was influenced by social constructivism. By having this interpretive framework, the researcher wanted to gain an understanding of the world in which she lived and worked, and believed in subjective meanings of experiences (Creswell, 2012). According to Creswell (2012), subjective meanings occur through social interactions with others. The researcher believed that the interactions between teachers and principals influence how teachers integrate new literacies with students as well as how they learn about new literacies themselves. It is through social interaction that students and teachers develop understanding (Cambourne, 2002). The researcher also recognized that her background and experiences as a literacy coach and reading teacher shaped the interpretations of the findings (Creswell, 2012).

Theoretical Frameworks

This study examined the leadership characteristics that principals exhibited in high-poverty elementary schools with classroom teachers integrating new literacies. To see what leadership practices were perceived as critical in establishing new literacies in their schools, it

was also important to understand the complexity of the integration of new literacies. The two dominant frameworks guiding this study will be: instructional leadership and the dual-level theory of New Literacies.

Instructional leadership provides many different dimensions that have been tied to student learning (Leithwood, Louis, Anderson, & Wahlstrom, 2004; Louis, Leithwood, Wahlstrom, & Anderson, 2010; Robinson et al., 2008; Waters, Marzano, & McNulty, 2003). The specific framework used in this study was the instructional leadership model by Hallinger and Murphy (1985). Hallinger and Murphy (1985) developed the Principal Instructional Resource Management Scale (PIRMS) based on empirical and theoretical analysis and included three dimensions: defining mission, managing the instructional program, and promoting a positive climate. Defining the mission has been a key component in instructional leadership because of the importance of goal setting and defining expectations (Leithwood et al., 2004; Louis et al., 2010; Murphy et al., 1983). Managing the instructional program included the components that emphasize teaching and learning (Leithwood et al., 2004; Louis et al, 2010, Marzano, Waters, & McNulty, 2005; Robinson et al, 2008). Promoting a positive climate has been cited as important because it included building a school community where collaboration among teachers was encouraged, building productive relations with families and communities was important, and promoting professional development was a priority (DuFour & Marzano, 2009; Fullan, 2007; Leithwood et al., 2004; Louis et al., 2010).

The second theoretical framework grounding the study was the dual-level theory of New Literacies. This theory was framed on two levels: New Literacies (uppercase), and new literacies (lowercase). This dual-level theory accounted for the continuous changes taking place in literacy, and accounted for the different perspectives (Leu et al., 2013). The New Literacies

theory (uppercase) looked at all of the research on new literacies and recognized the changes to literacy and common patterns being discovered (Leu et al., 2013). Leu et al. (2013) explained that the new literacies (lowercase) theory is more focused and keeps up with the rapidly changing nature of literacy.

Specifically, the new literacies of online research and comprehension guided this study, which falls under the umbrella of new literacies (lowercase). New literacies of online research and comprehension focused on the skills, strategies, and dispositions necessary for students to successfully adapt to the demands of the Internet and other ICTs to identify important questions, locate information, critically evaluate information, synthesize information to answer those questions, and communicate the answers to others (Leu et al., 2004). According to Leu et al. (2013), the definition of the new literacies of online research and comprehension was the following:

> The new literacies of online research and comprehension include the skills, strategies, dispositions, and social practices necessary to successfully use and adapt to the rapidly changing information and communication technologies and contexts that continuously emerge and influence all areas of our personal and professional lives. Online research and comprehension is a self-directed process of constructing texts and knowledge while engaged in several online reading practices: identifying important problems, locating information, critically evaluating information, synthesizing information, and communicating information. Online research and comprehension can take place individually, but often appears to be enhanced when it takes place collaboratively. (p. 1163-1164)

Research Questions

Knowing that the principal is a key factor in the successful integration of technology (Bauer & Kenton, 2005; Dawson & Rakes; 2003) and is the literacy leader of the elementary school (Bean, 2012), this study hoped to discover how the principal's use of knowledge, dispositions, and actions in elementary schools influenced the integration of new literacies.

The three research questions that guided this multiple-case study were:

1. How do the knowledge, dispositions, and actions of elementary principals in high-poverty schools influence the integration of new literacies by classroom teachers?
2. How are the dimensions of instructional leadership evident in the leadership of elementary principals in high-poverty schools with classroom teachers integrating new literacies?
3. How do the knowledge, dispositions, and actions of elementary principals intersect with the dimensions of instructional leadership?

Design of the Study

This multiple-case study (Yin, 2009) examined the principal's role in the integration of new literacies in high-poverty elementary schools. Yin (2009) explained that multiple-case studies work well when the researcher is looking at schools adopting something innovative. Each school was the subject of an individual case study; however, the study covered several schools. The study occurred in high-poverty schools. The rationale behind this choice was the fact that schools with higher poverty levels have been documented as having less integration of literacy and technology (Coiro, 2008; Leu et al., 2008; Mouza, 2008; Reich et al., 2012; Reinhart et al., 2011). The schools that participated in this multiple-case study had teachers that created lessons which included students participating in online reading and research activities. These activities include developing important questions, locating information, critically analyzing

information, synthesizing information, and communicating information (Leu and Zawilinski, 2007; Leu et al., 2013).

Specifically, this study sought to understand the knowledge, dispositions, and actions of principals perceived to be most meaningful by both the principals themselves and the teachers under their supervision. This study also examined the dimensions of instructional leadership (Hallinger & Murphy, 1985) and how these dimensions intersected with the knowledge, dispositions, and actions of principals in high-poverty schools with classroom teachers integrating new literacies. Interviews were the primary source of data collection. Related documents and field notes were utilized in the interpretation of the data. The data collection and analysis are described in greater detail in Chapter Three.

Limitations of the Study

The boundaries for this multiple-case study were limited to four high-poverty public elementary schools in different districts in Northeast Kansas. The school district's Director of Curriculum and Instruction identified these schools as having classroom teachers that were integrating literacy and technology based on the following criteria: students were working on projects that integrate technology to identify important questions, locate information, critically evaluate the information, synthesize information, and then communicate their findings to others.

The findings from this multiple-case study may not be generalizable to other geographic areas or other grade levels, such as middle school or high school. The transferability of the findings may not occur in other schools due to organizational and school climate aspects. However, the data will be able to provide a description of leadership qualities that were evident in these schools integrating new literacies. In addition, validation strategies were used to enhance the applicability of findings to other settings.

Since this study did not include all teachers in the elementary school, the perceptions of those in the study cannot be assumed to be the same perceptions of all teachers. The fact that not all the teachers in the school participated is an additional limitation. This study was limited to perceptions and did not include observations. Therefore, the results reflect what was believed to be true by the participants and not what was documented through observations. This study was also limited in the fact that it defined leadership in a way that focused on the actions of the principal. Instructional leadership was selected to help examine and explore the principals' leadership, however if another leadership model had been chosen, it might have revealed other information.

Summary

Knowing that the principal is a key factor in the successful integration of technology (Bauer & Kenton, 2005; Dawson & Rakes; 2003) and is the literacy leader of the elementary school (Bean, 2012), this study sought to understand the knowledge, dispositions, and actions of elementary principals in high-poverty schools with classroom teachers integrating new literacies. This study will also examine the dimensions of instructional leadership and how these dimensions intersect with knowledge, dispositions, and actions of principals in high-poverty schools with classroom teachers integrating new literacies.

Chapter Two will provide a review of the literature related to the focus of the investigation including the frameworks that guide this study. Chapter Three explains the research design, setting, participants, and data analysis procedures. Chapter Four describes each of the cases. Chapter Five explains the findings, while Chapter Six discusses the findings, provides implications for professional practice, and recommendations for future studies.

Chapter 2 - Review of the Literature

Introduction

This study was designed to explore and identify the knowledge, dispositions, and actions of principals that were present in schools with classroom teachers integrating new literacies. The purpose of this chapter is to provide a thorough review of the literature as it relates to leadership and the integration of new literacies in elementary schools. This chapter is divided into five major sections: Background Information, Theoretical Framework of Instructional Leadership, Dual-Level Theory of New Literacies, Obstacles and Barriers to New Literacies Integration, and Leadership Considerations in the Integration of New Literacies.

The background section covers multiple topics in order to provide information about the importance of new literacies, how the CCSS impact new literacies, and the expectations of principals in terms of literacy leadership and technology leadership. Next, the theoretical frameworks that guide this study are discussed, including instructional leadership and the dual-level theory of New Literacies. Then the obstacles and barriers impacting the integration of new literacies in the elementary classrooms are explained. Finally, the last section will synthesize the related research on literacy, technology integration, and new literacies to provide a detailed description of leadership considerations when integrating new literacies in elementary schools. This chapter concludes with the gaps in the research.

Background

Even though the purpose of this study was to learn about the knowledge, dispositions, and actions of principals in schools with classroom teachers integrating new literacies, background information is necessary to provide a comprehensive picture of the expectations and

significance of the principal's role in integrating new literacies in elementary classrooms. In order for elementary principals to successfully integrate new literacies, they need a strong literacy background, they must be a technology leader, and understand the significance and importance of new literacies. This section provides a context for the study by explaining the importance of new literacies, the role of the CCSS in terms of new literacies integration, the professional standards for principals in regards to new literacies, and the technology professional standards for principals.

Importance of New Literacies

In 2008, nearly all public schools in the United States had Internet access with a ratio of 3:1 students to every computer (National Center for Educational Statistics, 2011). The Internet has been adopted by so many people all over the world in a short time which allows for immediate dissemination of literacy and immediate access to a vast array of information (Coiro et al., 2008). Even though students may come to school with a variety of knowledge about ITCs, the Internet, cell phones, instant messaging, social networking, and multitasking, it does not guarantee that students have a deep understanding of the reading skills necessary to be successful at online reading (Karchmer-Klein & Shinas, 2012). Prensky (2001) used the term 'digital natives' to describe technology savvy students that are native speakers of technology, which includes fluency in the "digital language of computers, video games, and the Internet" (p. 1). However, reading on the Internet requires critical literacy skills and requires a different set of reading comprehension skills when compared to traditional print (Coiro & Dobler, 2007; Eaglerton & Dobler, 2007; Henry, 2006; Karchmer-Klein & Shinas, 2012; Leu et al., 2008; Leu et al., 2013). These specific skills will be addressed in detail when the theoretical frameworks are discussed.

To be prepared to be global learners in a 21st century community, students need more sophisticated literacy skills. According to the National Council of Teachers of English (NCTE) (2013) 21st century readers and writers need to:

- Develop proficiency with the tools of technology.
- Build relationships with others to pose and solve problems collaboratively and cross-culturally.
- Design and share information for global communities to meet a variety of purposes.
- Manage, analyze and synthesize multiple streams of simultaneous information.
- Create, critique, analyze, and evaluate multi-media texts.
- Attend to the ethical responsibilities required by these complex environments. (p. 1)

Additionally, changes in the workplace have implications for literacy instruction (Leu et al., 2004; Leu et al., 2013). Postindustrial workplaces require employees to have strong problem solving capabilities, be able to quickly locate information, critically evaluate and synthesize information, and then communicate solutions to others (Leu et al., 2013). Successful employees at high-performing workplaces are able to solve problems, are strong communicators, and can critically evaluate information. "We must prepare our students for the effective use of new information technologies that will become increasingly available as we continue to change from an industrial to an information society" (Leu & Kinzer, 2000, p. 113).

Common Core State Standards

According to the National Governors Association for the Best Practices and Council of Chief State Officers (2010), students that are prepared for college and careers have a strong content knowledge background, comprehend and critique literature, are able to adapt their communication depending on audiences, and utilize technology to enhance their reading, writing,

speaking, listening, and language use. The CCSS, aligned with college and career standards, not only require a progressive development of reading comprehension if students are to be ready for the demands of college or a career, they also include the integration of new literacies in schools (Drew, 2012).

The CCSS include students being able to read more difficult texts, critically analyze, and synthesize information from multiple texts (Drew, 2012; Shanahan, 2012). As schools begin to implement the CCSS for English Language Arts, which have standards that include digital technology and the integration of new literacies, teachers must be supported (Cosmah & Saine, 2013). Since many schools must be fully implemented with the CCSS by the 2013-2014 school year, principals feel a sense of urgency. Principals also have the responsibility of determining how standards are met and provide guidance in the process of implementing the new CCSS (Eilers & D'Amico, 2012).

Researchers are already pointing out the links between the CCSS and new literacies. Castek and Gwinn (2012) explained that the CCSS provide an overview of the potential that 21st century literacy offers students. They used the example of students expected to conduct online searches to demonstrate the skills required by online reading and research. Students gather relevant information from multiple sources, assess the credibility of the information, use technology to interact with others, publish findings, and use digital tools to meet specific communication goals. Table 2.1 shows CCSS that are specifically linked to new literacies (Drew, 2012). Kist (2013) described multiple CCSS lessons that included digital writing, collaborative writing, using screen-based texts to read texts closely, and collaborative informational reading assignments. Leu et al. (2013) discussed how the CCSS incorporate 21st century learning skills when they stated the following:

> To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas, to conduct original research to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and non-print texts in media forms old and new. The need to conduct research and to produce and consume media is embedded into every aspect of today's curriculum. (p. 4)

Table 2.1 CCSS Related to New Literacies Integration

Content	Standard
Reading	CCRA.R.7 Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
Writing	CCRA.R.8 Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
Writing	CCRA.W.7 Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
Writing	CCRA.W.8 Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
Speaking and Listening	CCRA.SL.2 Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
Speaking and Listening	CCRA.SL.5 Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

Standards for Reading Professionals

Integrating new literacies in schools requires principals to have knowledge about literacy instruction. Principals that are literacy leaders are able to effectively plan and support teachers in literacy initiatives (Beers et al., 2010; Dowell, Bickmore, & Hoewing, 2012; Overholt & Szabocsik, 2013; Reeves, 2008). The International Reading Association (IRA) (2010) created the *Standards for Reading Professionals*, which consists of six standards: *Foundation Knowledge, Curriculum and Instruction, Assessment and Evaluation, Diversity, Literate*

Environment, and *Professional Learning and Leadership*. These standards include descriptions, elements, and evidence that demonstrate competencies for support personnel, classroom teachers, literacy coach/reading specialists, teacher educators, and administrators. The administrator section was specifically written for principals, directors of curriculum and instruction, and superintendents. These professionals have a number of responsibilities in terms of literacy leadership including supporting reading professionals and providing resources for reading instruction.

These standards directly and indirectly impact the integration of new literacies. For example, under the standard for *Literate Environment*, students are to have opportunities with print, digital and online resources in reading and writing instruction. Under the standard of *Foundational Knowledge*, administrators should understand major theories and research that describe the foundations of reading and writing development. *Foundational Knowledge* also includes the understanding of historically shared knowledge of how reading perceptions have changed over time. This standard applies to new literacies in the fact that new theories are emerging (Leu et al., 2004; Leu et al., 2013) which impact principals and school leaders.

Included in the *Standards for Reading Professionals* (IRA, 2010) is the importance of providing ongoing professional development, providing opportunities to interact with peers, and encouraging collaboration. These actions have been documented by numerous new literacies researchers as effective in the integration of new literacies (Coiro, 2012; Hutchison & Reinking, 2012; Leu et al., 2013).

Beyond simply stating the *Standards for Reading Professionals*, the IRA (2010) listed assumptions that were made for each standard. These assumptions acknowledge the importance of new literacies. One assumption under *Foundational Knowledge* includes the idea that

knowledge represents the currently shared definitions of reading, which are subject to change as new knowledge is acquired. This is consistent the dual-level theory of New Literacies (Leu et al., 2013), which will be discussed more in-depth in Chapter Two. Under *Curriculum and Instruction*, an assumption is that reading programs will provide a variety of resources, including traditional print, digital, and online resources. These resources include media and communication technologies that are necessary to prepare learners for the 21st century.

National Educational Technology Standards for Administrators

The role of the school principal in the successful integration of technology in schools is critical (Anderson & Dexter, 2005; Levin & Shrum, 2013; Stegall, 1998). Principals have control over scheduling, finances, and curriculum expectations which impact how technologies and new literacies are integrated in classrooms (Anderson & Dexter, 2005; Dawson & Rakes, 2003; Hutchison & Reinking, 2011). In order for administrators to provide technology leadership, the National Educational Technology Standards for Administrators (NETS-A) (International Society for Technology in Education (ISTE), 2009) were created. These standards include the knowledge and skills administrators need to support teachers and students in comprehensive technology integration. Leaders must have a shared vision of the integration of technology to create, promote, and maintain a digital-age learning culture. School leaders can promote an environment of professional learning that enhances student learning, while at the same time empowering educators. Principals promote and facilitate ongoing professional development by allocating time, resources, and access to technology (ITSE, 2009).

The NETS-A discussed the importance of administrators staying current on research and emerging trends regarding the effective use of technology. In addition, administrators need to evaluate new technologies for the potential of improving student achievement. Administrators

should provide digital age leadership and management as well as modeling and facilitating the understanding of social, ethical and legal issues, and responsibilities (ISTE, 2009).

The ISTE (2009) also described the essential conditions to effectively leverage technology learning in schools. These conditions include having and implementing a shared vision among stakeholders; empowering leaders that impact change; providing equitable access to current and emerging technologies for all students, teachers, staff and school leaders; offering technology professional development; and having a technology professional development plan.

Theoretical Framework of Instructional Leadership

Evolution of Instructional Leadership

Instructional leadership theory has its empirical origins during the late 1970's and early 1980's. Studies occurred in poor urban communities where students were successful (Robinson, et al., 2008). These successful schools had the following characteristic in common: strong instructional leadership, a learning climate free of disruption, a system of clear teaching objectives, and high teacher expectations for students (Bossert, Dwyer, Rowan, & Lee, 1982).

There are different models of instructional leadership that vary slightly, but have fundamental elements in common (Hoy & Miskel, 2005). Hallinger and Murphy (1985) developed the Principals' Instructional Management Rating Scale (PIMRS), which was based on empirical and theoretical analysis and included three dimensions: defining mission, managing the instructional program, and promoting a positive climate. Murphy (1990) refined the Hallinger and Murphy (1985) model by adding a fourth dimension: developing a supportive work environment. This model also expanded managing the instructional program to include promoting quality instruction and monitoring student progress. The research on instructional leadership by Weber (1996) incorporated five domains based on his review of the literature:

defining the school's mission, managing curriculum and instruction, promoting a positive learning climate, observing and improving instruction, and assessing the instructional program. Leithwood et al. (2004) explained that the categories of practice in the different definitions of instructional leadership are similar, and many of the specific practices are linked to student learning based on the research of Waters et al. (2003) synthesis over more than 70 research studies.

Early studies on instructional leadership (Murphy, Hallinger, Weil, & Mitman, 1983) focused on instructional leadership as the responsibility of the principal (Robinson et al., 2008). Robinson et al. (2008) pointed out that the PIMRS model developed by Hallinger and Murphy (1985) ignored the contributions of teachers and other staff to instructional goal setting and the development of a positive academic learning culture. Other researchers have agreed that this narrow definition of instructional leadership focuses only on the definition of instructional leadership where the principal is the hero (Printy, Marks, & Bowers, 2009). In fact, current research on leadership has warned against taking a narrow focus on the definition of instructional leadership (Horng & Loeb, 2010; Louis et al., 2010).

Recent large scale research studies of effective school research from Louis et al. (2010) listed the following as effective practices for instructional leadership: *Setting Directions*, *Developing People, Redesigning the Organization,* and *Managing the Instructional Program***.** Robinson et al. (2010) found five dimensions of instructional leadership that were effective in their meta-analysis of 27 published studies about the relationship between leadership and student outcomes: *Establishing Goals and Expectations, Resourcing Strategically, Planning, Coordinating, and Evaluating Teaching and the Curriculum, Promoting and Participating in Teacher Learning and Development,* and *Ensuring an Orderly and Supportive Environment.*

Leadership Debate

Many different models of leadership besides instructional leadership have been examined by researchers in this field. For example, transformational leadership (Burns, 1978; Leithwood & Jantzi, 2005) is a form of leadership that looks at leadership that inspires staff to be committed and feel a moral purpose towards the school organization. Distributed leadership or shared leadership (Gronn, 2002; Spillane, 2006) is a model that includes multiple sources of leadership and a division of labor across the organization. The distributed leadership model believes that principals cannot succeed alone (Hoy & Miskel, 2008). Recently, Hallinger (2011) argued in favor of the term "leadership for learning" which is a broader conceptualization of instructional leadership, and includes a wider range of leadership sources and also includes foci for action. Recent researchers that study technology and literacy discuss distributed leadership as a leadership model because it promotes collaboration and teachers take ownership of implementing changes (Bean, 2012; Levin & Schrum, 2013),

Instructional leadership focuses on the improvement of teaching and learning with the goal of increasing student achievement (Hallinger & Murphy, 1985; Murphy et al., 1983). May and Supovitz (2011) explained the influence of instructional leadership on teachers' instruction depends on the actions of principals working with teachers. The focus of this study was to research the knowledge, dispositions, and actions of the principal in schools with classroom teachers integrating new literacies, and the model of instructional leadership (Hallinger & Murphy, 1985) provides a broad lens to examine principal leadership. Instructional leadership also has qualities that overlap with other leadership models. For example, both transformational leadership and instructional leadership look at goal setting and creating high expectations (Leithwood & Jantzi, 2005; Murphy et al., 1983). Both distributed leadership and instructional leadership focus on building capacity through professional learning and development (Robinson

et al., 2008; Spillane, 2006).

Instructional Leadership Model

This study will use the Hallinger and Murphy (1985) model of instructional leadership as a framework to guide the research questions with current research embedded in the descriptions of the model. Table 2.2 describes the three dimensions of instructional leadership (Hallinger & Murphy, 1985), and the components under each dimension. According to Leithwood et al. (2004), this model of instructional leadership has been the most researched model.

Table 2.2 Dimensions of Instructional Leadership Components

Defines the Mission	Manages Instructional Program	Promotes School Climate
• Framing school goals • Communicating school goals	• Supervising and evaluating instruction • Coordinating curriculum • Monitoring student Progress	• Protecting instructional time • Promoting professional development • Maintaining high visibility • Providing incentives for teachers • Enforcing academic standards • Providing incentives for students

Defining the mission. Framing school goals is the first component in terms of defining the mission. Values are defined by the desirable means that leaders work to achieve (Hallinger & Murphy, 1985). However, Hallinger (2011) cautions that setting goals and values does not suggest that the principal dictates the values that guided the school. Other leadership researchers have referred to this as goal setting or establishing goals and expectations (Leithwood et al., 2004; Louis et al., 2010; Murphy et al., 1983). Leithwood et al. (2004) explained that when school leaders set direction they are establishing high expectations and creating goals. School leaders must also establish a method of tracking these goals (Leithwood et al., 2004). Murphy et

al. (1983) discussed the importance of clear goals and objectives, because without them it becomes difficult to measure the effectiveness of school operations. They also discussed having staff input when setting goals, translating them into activities, and determining areas of responsibility.

A principal that sets directions must provide teachers with the support and professional development they need to meet these goals (Leithwood et al., 2004). In the research, setting direction has been a significant part of improving student learning (Hallinger, 2011; Robinson et al., 2008; Wallace Foundation, 2013). Robinson et al. (2008) found that goal setting was a significant way of influencing student learning and pointed out the importance of the alignment between goal setting, the educational content based on the goals, and the relationship of the goals to student outcomes. "Without clear goals, staff effort and initiatives can be dissipated in multiple agendas and conflicting priorities, which, over time, can produce burnout, cynicism, and disengagement" (p. 666). Hallinger (2011) explained that the vision and goals of the organization must be learning focused and the principal must sustain that goal to keep the focus of the school learning centered.

Communicating school goals is the second component of this dimension. Hallinger and Murphy (1985) explained that this component involves the ways in which the principal communicates the school's important goals to the stakeholders. Multiple researchers have documented the importance of communicating the school goals. This includes reviewing goals with stakeholders periodically (Hallinger, 2011; Hallinger & Murphy, 1985; Leithwood et al., 2004; Louis et al., 2010; Robinson et al., 2008). Hallinger and Murphy (1985) also discussed the importance of reviewing goals in the context of instructional, curricular, and budgetary decisions.

Manages instructional program. Hallinger and Murphy (1985) included three components under this dimension: supervising and evaluating instruction, coordinating the curriculum, and monitoring student progress. Louis et al. (2010) described this category as practices that emphasize teaching and learning. In their research, they included the following components as supporting teaching and learning: staffing the program, providing instructional support, monitoring school activity, buffering staff from distractions to their work, and aligning resources (Louis et al., 2010). Leaders in higher performing schools are distinguished by their involvement in planning, coordinating, and evaluating teaching and teachers (Robinson et al., 2008). Robinson et al. (2008) described principals in successful schools that were working directly with teachers to plan, coordinate, and evaluate teachers and teaching. These principals provided evaluations and feedback that were meaningful to teachers, ensured that student progress was monitored, and data results were used to improve teaching programs.

Supervising and evaluating instruction included ensuring that school goals are translated into classroom practice (Hallinger & Murphy, 1985). A component of supervising and evaluating instruction is feedback, and it has been shown to be effective in the change of instructional practices (Leithwood et al., 2004; Louis et al. 2010; Marzano et al., 2005; Robinson et al., 2008). Louis et al. (2010) explained the importance of principals making classroom visits combined with direct and immediate feedback as an influential component in student learning.

Coordinating the curriculum means that objectives are aligned with both the content taught in classes and with assessments. In schools where there appears to be a coordination of the curriculum, there is a fairly high degree of continuity in the curriculum across grade levels (Hallinger & Murphy, 1985). Additionally, teachers must have the necessary resources aligned with the instructional goals of the school (Leithwood et al., 2004; Robinson et al., 2008).

Monitoring student progress uses assessments to diagnose student achievement and to evaluate the school's instructional program (Hallinger & Murphy, 1985), and is an important part of monitoring student progress (Leithwood et al., 2004; Louis et al., 2010; Robinson et al., 2008). DuFour, DuFour, Eaker, and Many (2006) explained that assessments must be tied to the curriculum, given on a regular basis to all students, identify weaknesses in student learning to provide students with additional opportunities to learn, and allow students to see their progress towards the standards being tested.

Promotes school climate. This dimension has the most components: protecting instructional time, promoting professional development, maintaining high visibility, providing incentives for teachers, enforcing academic standards, and providing incentives for students.

Louis et al. (2010) described many of the features in promoting the school climate as redesigning the organization. Some specific ideas that will do this include: building collaborative cultures, modifying organizational structures to nurture collaboration, building productive relations with families and communities, and connecting the school to the wider community (Louis et al., 2010). According to Louis et al. (2010), when an organization is redesigned, the goal should be to have staff members work in an environment where they can make the most of their motivations and capacities. Leithwood et al. (2004) explained that principals successful at redesigning the organization were able to strengthen their school culture, modify organizational structures, and build collaborative processes in the school.

Protecting instructional time according to Hallinger and Murphy (1985) occurs when the principal sets school wide policies that limit disruptions during the school day to maximize instructional time. Louis et al. (2010) referred to activities that minimized disruptions of instructional time as a component of focused instruction. In addition, DuFour and Marzano

(2009) discussed the importance of protecting collaboration time for teachers and creating structures that facilitate teacher collaboration for student learning.

Promoting professional development occurs when principals support teachers' efforts to improve instruction (Hallinger & Murphy, 1985). Leithwood et al. (2004) described positive influences on the development of teachers as: offering intellectual stimulation, providing individualized support, and providing appropriate models of best practice and beliefs considered fundamental to the organization. Other researchers have focused on the importance of instructional leaders promoting teacher learning and development. Promoting teacher learning and development has been found to be the most influential factors when looking at student learning (Robinson et al., 2008). Interestingly, Robinson et al. (2008) found that not only did principals encourage teachers become learners; the principal was also a participant in learning. DuFour (2002) also discussed the importance of the principal taking on the role of lead learner in the school. In high-performing schools, where teacher learning was a priority, the principal was also seen as a source of instructional advice by the staff (Robinson et al., 2008). Promoting professional development is also known as capacity building (Fullan, 2007; Louis et al., 2010).

One way that schools developed capacity is through professional development that focused on instruction and student learning outcomes, promoting collaboration among teachers, and is sustained through ongoing support (DuFour & Marzano, 2009; Fullan, 2007; Newmann, King, & Youngs, 2000; Smylie, Allensworth, Greenberg, Rodney, & Luppescu, 2001). When principals focused on developing their staff, the primary aim of these practices was having teachers learn new strategies, gain new knowledge, and learn how to apply these in the classroom setting (Louis et al., 2010). Louis et al. (2010) also pointed out that another critical

component of capacity building is teacher efficacy (Bandura, 1997). By building capacity, teachers experience a sense of mastery which is also highly motivational.

Maintaining high visibility increased interactions between the principal, students, and teachers (Hallinger & Murphy, 1985). Visibility allowed principals to communicate the goals of the school, and allowed for observations that can guide the principal on the needs of students and teachers (Hallinger & Murphy, 1985). Current research on principal walkthroughs supports this component (Cervone & Martinez-Miller, 2007; Louis, 2010). Principal walkthroughs are one way to maintain high visibility by making observations regarding teachers' instructional practices and student responses (Louis et al. 2010). However, DuFour and Marzano (2009) argued that a principal's time is better spent promoting a focus on student learning by having teachers create common assessments based on what is taught, creating an environment of collaboration about student learning, and building teacher capacity.

Providing incentives for teachers is described by Hallinger and Murphy (1985) as rewarding and recognizing teachers for their efforts. Leithwood et al. (2004) cautioned using extrinsic financial incentives for achieving school performance targets, because under some conditions, they can erode intrinsic commitments.

Enforcing academic standards reinforces the high expectations necessary for improving student learning (Hallinger & Murphy, 1985). Many researchers discussed the importance of expectations and tie them back to goal setting, and ensure that these expectations are translated into school policies (Hallinger, 2011; Murphy, Elliot, Goldring & Porter, 2006; Robinson et al., 2008). Robinson et al. (2008) also looked at aligning resources to meet these expectations and goals.

Providing incentives for students included creating a learning climate in which students' value academic achievement through rewards and recognizing academic achievement and improvement (Hallinger & Murphy, 1985). Dean, Hubbell, Pilter, and Stone (2012) explained that reinforcing effort shows students a connection between their effort and their achievement. When students' effort is reinforced, it translates into the belief that all students can learn. By creating a learning environment where students are trying to meet goals, and have their effort recognized, can help increase motivation, self-efficacy, and increased achievement (Dean et al., 2012).

Dual-Level Theory of New Literacies

Leu et al. (2004) argued that the definition of literacy has always changed over historical periods, but today it is changing at a pace never before experienced as new technologies for ICTs appear rapidly. It is the social context of the present that has produced new ICTs and that defines the changing nature of literacy. According to Leu et al. (2004), literacy can be thought of as a moving target because it continues to evolve, depending on the society's expectations on literate individuals. As societal expectations for literacy are modified, and as literate functions in society change, the definitions of literacy must also change to reflect this moving target (Leu et al., 2004). Leu et al. (2004) defined new literacies as the following:

> The new literacies of the Internet and other ICTs include the skills, strategies, and dispositions necessary to successfully use and adapt to the rapidly changing information and communication technologies and contexts that continuously emerge in our world and influence all areas of our personal and professional lives. These new literacies allow us to use the Internet and other ICTs to identify important questions, locate information,

> critically evaluate the usefulness of that information, synthesize information to answer those questions, and then communicate the answers to others. (p. 1572)

However, after approximately ten years of research by Leu et al. (2004) on the theory development and nature of new literacies, Leu et al. (2013) published an updated theory of new literacies. These updates reflect that new literacies are deictic and the nature of literacy changes rapidly as new technologies are created. As a result, an evolving theory is necessary to reflect the changing nature of literacy (Leu et al., 2013). According to Leu et al. (2013) the dual-level theory of New Literacies distinguishes New Literacies (uppercase) and new literacies (lowercase). This study will focus on the new literacies (lowercase) for online reading and research; however, the New Literacies (uppercase) theory must first be explained to provide a comprehensive description of new literacies for online reading and research.

The term new literacies is defined differently by different researchers. Many scholars have studied new literacies (Gee, 2007; Lankshear & Knobel, 2006; Lemke, 2002; New London Group, 1996; Street, 1995, 2003), and varying perspectives have emerged. The different perspectives of new literacies, which focus on specific areas, are able to capture the full range of complexity and have helped guide the theory of New Literacies (uppercase) (Leu et al., 2013). Leu et al. (2013) described this as an advantage because it allows the theory of New Literacies (uppercase) to adapt to the continuous changes that define technology and the Internet.

New literacies (lowercase) explore specific areas of technology which are constantly changing, such as social networking, blogging, online reading comprehension, and many other areas (Leu et al., 2013). Each body of work in new literacies (for example, the social and communicative transactions occurring within text message) contributes to the larger continually changing theory of New Literacies.

New Literacies theories are continually benefiting from specific research into new literacies (lowercase) and are constantly evolving in order to keep up with the richness and continuous change that will always define the Internet (Leu et al., 2013). Leu et al. (2013) explained that multidisciplinary perspectives from various researchers allow the broader theory of New Literacies (uppercase) to "keep up with the consistent elements that will always define literacy on the Internet while it informs each of the lowercase theories of new literacies with patterns that are being regularly found by others" (p. 1158). Leu et al. (2013) discussed eight key principals that were common across the research and theoretical work currently taking place in the theory of New Literacies (uppercase):

1. The Internet is the defining technology for literacy and learning for this generation. Leu et.al (2013) explained that the number of households and schools using the Internet has increased. In the world, over 2.4 billion individuals use the Internet (Internet World Stats, 2012). The Internet and related ICTs are defining the new literacies that are a part of literacy. Students are using technology for reading, school work, emailing, text messaging, and social networking (Kaiser Family Foundation, 2009).

2. The Internet and related technologies require additional new literacies to fully access their potential. Leu et al. (2013) explained that new literacies build on foundational literacies, but require additional social practices, skills, and strategies to utilize the potential the Internet and other ICTs offer. Foundational literacy is defined as the traditional elements of literacy which include skill sets such as phonemic awareness, word recognition, decoding knowledge, vocabulary knowledge, comprehension, inferential reasoning, the writing process, spelling, response to literature, and others required for the literacies of printed materials (Leu et al., 2013).

New literacies do not replace foundational literacies, but rather build upon them.

Hutchison and Reinking (2011) discussed how literacy teachers are expected to provide foundational skills for reading and they must also develop literacy skills for technology. Leu et al. (2004) argued that foundational literacies will continue to be important. "In fact, it could be argued that they will become even more essential because reading and writing become more important in an information age" (p. 1591).

However, reading, writing, and communication will take new forms as new media resources are linked together. Leu et al. (2013) explained that during this process, online and foundational literacies will be layered in rich complex ways. The IRA (2009) argued that the traditional definitions of reading, writing, and communication, as well as traditional definitions of best practice instruction, are going to be insufficient in the 21st century, if the Internet and other ICTs are utilized to their maximum potential.

3. New literacies are deictic. Deixis is a term used to define words whose meaning changes rapidly based on their context changing (Leu et al., 2013). Leu et al. (2013) gave the example of the word "tomorrow" being deictic because "tomorrow" becomes "today" every 24 hours. In terms of new literacies, Leu et al. (2004) discussed how in the past the functions of literacy changed slowly over time, but today technological changes happens so quickly. The changes to literacy are limited not by technology, but in how quickly people adapt to the new literacies that emerge. The technological changes happening today are happening so quickly and new technologies regularly transform previous literacies, which refines what it means to be literate (Leu et al., 2013). Another way that literacy is deictic is through the environments constructed as we create new social practices (Lankshear & Knobel, 2006). In addition, the changing nature of literacy occurs because the Internet allows for immediate exchange of technologies and social practices.

4. New literacies are multiple, multimodal and multifaceted. The New London Group (2000) defined multiliteracies as a set of open-ended and flexible multiple literacies that are necessary to function in varied social settings and communities. The Internet differs from traditional text because it includes multiple-media formats, which causes people to confront new forms and combinations of text and images. The Internet also offers multiple tools for meaning construction. Leu et al. (2013) described how proficient users of the Internet must understand how to construct meaning in new ways as well as construct and upload their own information. Multiplicity consists of the new social practices that are required when people are constructing meaning from individuals that have a much wider range of social contexts (Hull, Zacher, & Hibbert, 2009).

5. Critical literacies are central to new literacies. Since anyone can publish on the Internet, it is important to have the critical literacy skills necessary to evaluate information validity (Flanagin & Metzger, 2010; Henry, 2006; Leu & Zawilinski, 2007). Critical literacy involves students questioning, the relationship between authors and readers, including the historical, social and political contexts of the text (Norris, Lucas, & Prudhoe, 2012). Leu et al. (2013) focuses on the importance of instructional time being devoted so students can develop more complex analytic skills to help them when reading on the Internet (Coiro & Dobler, 2007; Leu & Zawilinski, 2007). Additional reading comprehension skills are required to critically evaluate the information as well as locating the specific information on the Internet (Karchmer-Klein & Shinas 2012; Leu & Zawilinski, 2007).

6. New forms of strategic knowledge are required with new literacies. New technologies are complex and require many new strategies in order for them to be effective and to utilize their potential (Leu et al., 2013). Some examples of current online communication include hypertext

technologies, embedded with multiple forms of media and multiple navigational pathways. New literacies will be defined around the strategic knowledge required for their effective use, especially in today's complex online environments.

7. New social practices are central elements of New Literacies. Lankshear and Knobel (2006) described two ways online technologies are changing the social nature of literacy. First, online technologies create new ways of constructing and sharing meaningful content between people. Second, online technologies provide opportunities for collaborative, distributed, and participatory activities that create new social practices of literacy. In classrooms, learning experiences become dependent on social experience (Erstad, 2002).

8. Teachers become more important, though their role changes. The role of the teacher will include being facilitators of learning in social contexts rather than "dispensers of literacy skills" (Leu et al., 2013, p. 1163). Teachers will be need to thoughtfully guide students' learning within multiple forms of media that are more complex than traditional print media (Leu et al, 2004). This will present more complex learning experiences for both teachers and students (Coiro, 2009).

New Literacies of Online Reading and Research

Using new literacies of online reading and research in classrooms is one example of the lowercase theory of new literacies. It is the new literacies of online reading and research that will guide this study; specifically the new literacies of online reading and research that students encounter in classrooms and focus on instruction and learning. Leu et al. (2013) explained that currently there are six elements that researchers have discovered in terms of online reading and research. Each of these elements will be described in detail to provide a context of the

importance of teaching students the strategies and skills they need to be successful online readers and researchers.

1. Online reading comprehension involves a self-directed process of text construction.
2. There are specific practices associated with online research and reading comprehension.
3. Additional skills are needed with online reading.
4. Online contexts may be supportive for struggling readers.
5. Adolescents are not always skilled with online research.
6. Collaborative online reading and writing increases reading comprehension.

Online Reading Comprehension Requires Text Construction

Unlike traditional text reading comprehension, which involves purpose, task and context, Internet reading comprehension involves a process of self-directed text construction (Coiro, 2003; Coiro & Dobler, 2007; Leu & Zawilinski, 2007). This self-directed construction of meaning occurs when readers create their own paths based on information available on the Internet, and then creates their own version of the online texts they will read on the Internet (Coiro & Dobler, 2007; Leu, 2002; Leu & Zawilinski, 2007). According to Leu et al. (2008), multimedia sources on the Internet provide support in terms of reading comprehension that is not always possible with traditional texts. However, these multimedia sources require new reading skills to effectively exploit their potential (Leu et al., 2004; Leu et al., 2008).

Traditional text gives readers little choice but to follow the author's intended plot or expository structure while reading on the Internet is interactive (Coiro, 2003). There is also the possibility of students finding unfamiliar text structures when they use Internet links (Henry, 2006). Additionally, traditional textbooks consist primarily of words and pictures, but websites include different representations of text, moving images, videos, and speech (Karchmer-Klein &

Shinas, 2012). Writing and communicating for the Internet creates additional challenges, because writing on the Internet goes beyond simply writing words. Students can insert graphics, use different fonts to show expression and emotion, and they can even use colors to impact their message (Karchmer-Klein & Shinas, 2012).

Specific Practices of Online Reading

The new literacies perspective of online reading comprehension specifically focuses on reading comprehension as a problem-based inquiry process (Leu et al, 2004; Leu et al., 2013). The five major functions of online reading are: developing important questions, locating information, critically analyzing information, synthesizing information, and communicating information (Leu & Zawilinski, 2007; Leu et al., 2013). Leu et al. (2013) explained that "digital natives" may be skilled at texting and social networking, but are not always as skilled with online reading and research (p. 1168).

Online reading usually begins with a question or a problem to solve (Leu et al., 2013; Leu & Zawilinski, 2007). As readers begin to process information presented on the Internet, they must critically evaluate sources, making important decisions about quality and reliability (Karchmer-Klein & Shinas, 2012).

The importance of locating information by using Internet searches in an effective and strategic manner is critical for students reading online (Kingsley & Tancock, 2014). If this does not occur, then all other reading activities online are impacted (Henry, 2006). Additionally, students also need to have flexible strategies when finding information online (Eagleton & Dobler, 2007). If students cannot access information, then they are not able to apply that information and move on to other elements of reading (Henry, 2006). Since the Internet is

constantly changing, web browsing, database look-ups, and search engine technologies will require greater strategic knowledge than is required with traditional texts (Leu & Kinzer, 2000).

Because the information on the Internet is so broad, and because anyone can publish online, it is imperative that students have the reading comprehension skills to critically evaluate information (Henry, 2006; Leu & Zawilinski, 2007; Karchmer-Klein & Shinas 2012; Kingsley & Tancock, 2014). Critically evaluating online information includes the ability to read and discern the level of accuracy, reliability, and if there is any bias (Center for Media Literacy, 2005). Leu and Zawilinski (2007) discovered that very few students checked to make sure they were using reliable websites when searching for information. They used the term "healthy skeptics" because students should always check first to find out who authored the web site, to know about potential biases and the credibility of the website when reading online (p. 2).

Eagleton and Dobler (2007) explained that the processing of synthesizing information is not an easy process to teach and learn. However, according to Eagleton and Dobler (2007), when students synthetize what they have read they are using multiple reading strategies and are able to interpret and integrate words and ideas with their own thoughts. Many times when students synthesize information they have found on the Internet, they then use technology to communicate their ideas with others (Eagleton & Dobler, 2007). Skilled readers "demonstrate a complex weaving of navigation and reading strategies as they make decisions about where to read, what to read, and how to carefully read" (p. 203).

The Internet can provide powerful capabilities for both information and communication (IRA, 2009). People can communicate with others using discussion boards and online chats or discussion boards that provide multiple and diverse perspectives (Coiro, 2003). Students can communicate through blogs, wikis, social networking sites, instant messenger, multiplayer online

games and numerous other online activities (Karchmer-Klein & Shinas, 2012). Leu and Kinzer (2000) discussed the importance of developing effective communication and collaboration skills when looking towards the future, while Eagleton and Dobler (2007) discussed how the Internet not only allows students to communicate with one another in the classroom, but students throughout the world when they use online collaborative projects. The benefits include having an immediate exchange with wider range of audiences, purposes for reading, writing and researching (Coiro & Dobler, 2007). Communicating through writing and technology is more complex than simply putting ideas on paper (Jolls, 2008). Ideas can be communicated through web pages, PowerPoint presentations, or even multimedia video clips (Eagleton & Dobler, 2007). Larson (2009) explained how online literature circles allow students to communicate through message boards which allow for in-depth conversations and students are able to socially construct their learning.

Additional Skills Necessary for Online Reading

Despite the fact that online reading shares many of the same features as traditional texts, additional skills are needed (Leu et al., 2013). Leu et al. (2013) attributed some of the differences due to the fact that there are greater levels of critical evaluation required with online reading and the fact that online reading is problem-based. When students are using the Internet for research, it is critical that they are taught the characteristics and structure of information on the Internet if they are to be successful at locating information (Eagleton & Guinee, 2002; Karchmer-Klein & Shinas, 2012). Instead of simply having students bookmark websites for research, students must be taught the process of online inquiry, which includes learning how to search on the Internet by using keywords as well as learning the strengths of different search engines (Eagleton & Guinee, 2002).

The Internet also allows for multimedia resources, which require additional skills than reading traditional text. According to Leu et al. (2008), multimedia sources on the Internet provide support in terms of reading comprehension that is not always possible with traditional texts. These multimedia sources require new reading skills to effectively exploit their potential, specifically in terms of locating and evaluating information (Eagleton & Guinee, 2002; Karchmer-Klein & Shinas, 2012; Leu et al., 2013). For example, Coiro and Dobler (2007) described a student that skipped a video clip when he was researching Thomas Edison because the student thought the video clip was about a different Thomas Edison; not the one he was researching. They also described students that clicked on every link, hoping to find something that met their needs, because they did not know how to effectively locate information on the Internet.

Online Contexts are Supportive for Struggling Readers

Case studies have shown that students that struggle with state assessments can sometimes perform at high-levels on tasks that involve online reading (Castek, Zawilinkisk, McVerry, O'Byrne & Leu, 2011). Leu et al. (2013) explained that online reading involves units of text that are shorter than traditional texts, and students are able to follow informational links from one location to another. This can help them solve their informational problem. These shorter texts are easier to process, and since online readers are able to construct their own texts to read, engagement increases. It is also more likely that students find online text that meets their needs in terms of readability.

Castek et al. (2011) described how students were supported by the graphics and other multimedia, and many of these skills were actually developed in online reading experiences outside of school. Even though they were able to observe struggling readers having online

success, they were unable to pinpoint why this occurred. One idea was that online reading involved continuous feedback which could prompt comprehension monitoring. Another possible explanation was that the supportive context of online reading allowed students to focus on comprehension monitoring.

Adolescents May Not be Skilled with Online Reading

Multiple researchers have discussed the issues with students being overwhelmed with online reading or overgeneralizing their online reading abilities (Castek, Coiro, Guzniczak, & Bradshaw, 2012; Coiro & Dobler, 2007; Eagleton & Guinee, 2002; Guinee et al., 2003; Henry, 2006; Leu et al., 2013; Leu & Zawilinkisk, 2007). Guinee et al. (2003) described how many times students approach online research the same way they would ask questions to a teacher or a librarian. When searching for information, they repeat what they want to know, instead of using a "computer world schema" (Guinee et al., 2003, p. 373).

When reading online, searching for information is a cause of frustration for students (Castek et al., 2012; Coiro & Dobler, 2007; Eagleton & Guinee, 2002; Henry, 2006). Additionally, Castek et al. (2012) cautioned that sometimes students use prior knowledge and Internet research to confirm previous thinking, instead of researching information to learn something new, and to change their thinking. Castek et al. (2012) suggested that teachers "work with student to compare, contrast, and integrate reliable information they find online with their prior knowledge" (p. 491).

Collaboration and New Literacies

When students work together with peers, they are able to co-construct meaning when using the Internet and other ICTs (Leu et al., 2004). Knobel and Wilber (2009) discussed how "literacy 2.0" required the collaboration and participation from students (p. 21). According to

Knobel and Wilber (2009), the social aspect of literacy includes activities that are more socially oriented than traditional literacy. Numerous researchers have documented the benefits of students collaborating while using new literacies (Coiro, Castek, & Guzniczak, 2011; Kist, 2013; Knobel & Wilber, 2009; Larson, 2009). Kist (2013) explained that the Internet has allowed for communication with people around the world, and the expectation that students work collaboratively is no longer limited to only collaborating with classmates. Coiro et al. (2011) discovered that when students collaborate when responding to online reading prompts it elicited more efficient and productive reading comprehension.

Obstacles and Barriers to the Integration of New Literacies

Principals face many challenges in terms of integrating new literacies. Some of the complexity stems from the fact that new literacies utilize technology, and therefore some of the technology issues impede the integration of new literacies. Beyond technology issues, principals face a lack of integration of new literacies, digital divides, and accountability pressures. In order to successfully integrate new literacies, principals cannot ignore these challenges. This section will first discuss issues that strictly focus on technology and then move to issues that incorporate technology and literacy.

Technology Integration Issues

Ertmer (1999) described challenges to the integration of technology in terms of extrinsic barriers and intrinsic barriers. Extrinsic barriers to technology integration include factors that are external to teachers and are beyond their control. Examples of extrinsic barriers include lack of access to computers and software, lack of administrator support, and insufficient time to plan instruction. Intrinsic barriers included teachers' beliefs about teaching, beliefs about computers and an unwillingness to change.

There are numerous reasons documented in the research that impede technology integration in classrooms. Some examples include: students not having enough time at computers, extra time involved in planning time for technology lessons, outdated technology, too much curriculum to cover, not enough time, high-stake testing, lack of support from administrators, lack of technology skills from students, and lack of professional development (Bauer & Kenton, 2005; Cuban et al., 2001; Kara-Soteriou, 2009). Principals also noted the challenge of being able to provide adequate funding of technology and the potential digital inequity in their schools (Schrum et al., 2011). Staples, Pugach, and Himes (2005) discussed how a dichotomy is often invoked when leaders have to make technology decisions. Purchases of software and hardware are pitted against the investment of professional development for teachers. "The conventional wisdom is that the investment in professional development is almost always slighted in favor of the acquisition of equipment and software which is then used inappropriately or inadequately" (Staples et al., 2005, p. 305).

Lack of Integration of New Literacies

The integration of new literacies has been impacted by multiple factors. Despite the fact that Internet access in classrooms is so high, it does not necessarily mean students are engaged in effective practices (Coiro et al., 2008). Many times classrooms that are integrating literacy and technology are not providing with students with the opportunities and potential that new literacies can provide to literacy instruction (Coiro et al., 2008). Hutchison and Reinking (2011) pointed out that despite the fact that teachers perceive literacy and technology integration to be important, it is not occurring on a large scale. Only 30% of teachers, in their study of over 1,400 language arts teachers, believed that the integration of literacy and technology were a central component to literacy instruction. Many teachers consider new literacies to mean anything that

involves reading, writing and computers. This results in students completing drill and practice literacy activities or students using word processing features on the computer, which are not actually new literacies (Franklin, 2007; Hutchison & Reinking, 2011; Lankshear & Knobel, 2011; Mouza, 2008).

Karchmer-Klein and Shinas (2012) argued that new literacy skills must be taught, if students are to use digital technologies effectively and to develop the critical literacy skills necessary to help them communicate effectively when using the Internet. If teachers are to provide students with an adequate education, it is necessary to teach students the skills and the strategies required by new technologies (Henry, 2006).

Hutchison and Reinking (2011) found that a lack of integration of new literacies was due to external barriers, such as lack of time (due to planning, high-stakes testing, short class periods), lack of access to technology, lack of technical support, and lack of incentives. Stolle (2008) discussed how some teachers may have students use ICTs to complete tasks they previously did without ICTs, but are not necessarily utilizing the potential that technology offers. Hutchison and Reinking (2011) described the gap in perceptions and actual implementations of new literacies for teachers. Teachers perceived the integration of digital forms of reading and writing into their classrooms as important, but the actual implementation rates were much lower. Hutchinson and Reinking (2011) explained that this indirectly suggested the fact that teachers saw the integration of literacy and technology as supplemental to the curriculum.

Other researchers have pointed to teachers' perceptions as an influence on the levels of integration. If teachers did not perceive that technology would enhance students' literacy experiences, then technology often was not integrated (Anthony, 2012; Ertmer & Ottenbreit-Leftwich, 2010). Franklin (2007) argued that teacher efficacy is essential when integrating

technology, and this is linked to pedagogical content knowledge and skill, because knowing how to use technology is not the same as knowing how to integrate technology into the curriculum (Franklin, 2007).

Digital Divide

The digital divide is an unequal access to technology. Research has shown there is a strong correlation between broadband Internet usage and socio-economic factors, such as income and education in terms of the digital divide (Attewell, 2001). Digital divides in school occur when the levels of technology integration vary tremendously between classrooms. This is referred to as second-level digital divides (Cuban, 2001; Reich et al., 2012; Reinhart, 2011). Reinhart et al. (2011) discovered that technology that promotes higher-order thinking is significantly different based on school poverty levels. Reinhart et al. (2011) also discovered additional confirmation that the secondary digital divide is present in schools when they looked at schools that had technology coordinators. Schools with higher percentages of free and reduced lunch are less likely to have technology facilitators, which provide numerous technology related services. Technology facilitators have instructional technology knowledge and provide support that benefits teachers and students.

Reich et al. (2012) and Coiro et al. (2008) discussed the fact that there were more opportunities for 21st century learning in affluent schools than schools serving less affluent students. Additionally, they discovered inequities were evident not only between schools, but also within schools. In both studies, teachers integrated technology more with their higher tracked students. Corio et al. (2008) focused on the digital divide in terms of affluent schools that are under less pressure to raise achievement scores. These schools are able to integrate new literacies into classrooms, while economically challenged school districts have little incentive to

include new literacies in their instructional programs. According to Coiro et al. (2008), the pressure to raise test scores on assessments that have nothing to do with online reading comprehension negatively impact the integration of new literacies in classrooms. As a result, many students do not receive the support to develop the literacies of online reading comprehension in school. Leu (2007) stated, "this is especially true for those students who require our support the most, because they have access to the Internet at home the least" (p.1).

Lawless and Pelligrino (2007) discussed the impact of the digital divide increasing, based on teachers' knowledge. They discuss an increase in the digital divide for urban and rural students when compared to more affluent schools, due to the fact that students may not have teachers that know how to support 21st century learning. Attewell, Suazo-Garcia, and Battle (2003) stated the following which sums up the issues involving digital divide:

> If computers are powerful tools for learning, then children who lack access to computers in their homes or in their school are likely to suffer serious disadvantages that may accumulate throughout their childhood years. The digital divide metaphor can stretch beyond matters of unequal access from home and include children's access form school and adults' access from work. Furthermore, the metaphor can highlight inequalities in the quality of involvement with computing. (p. 278)

Accountability Assessments

High stakes testing based on *No Child Left Behind Act* (United States Department of Education, 2001), which was enacted as an accountability policy to increase student achievement and proficiency in reading, math, and science, has negatively impacted the integration of new literacies into classrooms (Leu, 2007). New literacies are not tested on state assessments and do not factor into annual yearly progress (AYP) calculations (Leu, McVerry, O'Byrne, Zawilinski,

Castek, & Hartman, 2009a). Cervatti et al. (2008) explained how narrow the view of literacy and learning becomes when the focus is only on specific standards and assessment based on policies. Due to high-stakes testing, many schools have responded by devoting attention to traditional texted based reading instruction, instead of incorporating new literacies into the curriculum (Coiro et al., 2008; Leu et al., 2008). Many studies have documented that high-stakes testing is an obstacle to technology integration or the integration of new literacies (Franklin, 2007; Hutchison & Reinking, 2011; Mouza, 2008).

However, more affluent schools that were under less pressure to raise achievement scores had been able to integrate the Internet and new literacies into classrooms (Coiro et al., 2008). Leu et al. (2008) argued that policies like No Child Left Behind actually increased the achievement gap between students in poor urban and rural school districts and students in more affluent school districts because they fail to include online reading comprehension skills in state standards, and the students that need to be prepared for online reading comprehension are being prepared the least.

Unfortunately, technology can be misused due to pressure from high stakes testing. McLester (2006) described a classroom where students used technology during language arts as a way to practice for high stakes tests. Another school reserved the use of technology to motivate students. Once students raised their test scores, they could enroll in web design and other technology classes (McLester, 2006). Mouza (2008) discussed how fourth grade students in an urban, underprivileged school missed out on technology opportunities that other students in their school experienced due to extensive test preparation sessions.

Cervetti, Damico, and Pearson (2008) stressed the necessity of teachers being able to see classrooms in which new literacies and multiple literacies are integrated on a daily basis, so that

educators can see that these classrooms are still doing well based on current accountability assessments. Leu and Zawilinski (2007) argued that until the current assessment practices change, it is difficult to understand the challenges faced in online reading.

With the shift to CCSS, the new assessments do not take into account the multimodal, nonlinear elements of online reading (Drew, 2012). The goals and expectations that the current assessments measure does not take into account the additional demands that online reading requires. Excluding the Internet as a type of text in assessments potentially underprepares students for the 21st century literacy (Drew, 2012). Leu et al. (2013) discussed the need for authentic assessments of information and communication tools that incorporated students asking and answering questions, included online comprehension, and allowing for an assessment of collaborative practices.

Leadership Considerations in the Integration of New Literacies

The ultimate goal of this study is to determine the knowledge, dispositions, and actions of elementary principals integrating new literacies. Since the research is very limited on leadership and new literacies, this section synthesizes the related research on leadership, literacy, new literacies, and technology to describe the effective components principals need to consider in the integration of new literacies. The new literacies theory of online reading and research (Leu et al., 2013) as well as the importance of school-wide integration of literacy and technology in meaningful ways were considered when developing this section.

Aligning New Literacies with the Curriculum

When integrating new literacies and technology, the curriculum must be the basis for integration (Creighton, 2003; Schrum et al., 2011; Staples et al., 2005). Leu et al. (2009b) pointed out how framing the Internet as technology led to a less productive set of policies and

technology standards became isolated instead of integrated. However, framing the Internet as a context to reading, writing, and communicating leads to policies that integrate literacy and technology into classrooms in the following ways:

- Technology standards become integrated into the curriculum.
- Instruction in Internet use is integrated into subject areas.
- Classroom teachers are responsible for teaching online reading, research, and communication use.
- Online reading, research, and communication skills are included in subject area assessments.

In addition to understanding how to use technology, Schrum et al. (2011) noted that importance of school leaders looking at technology integration from a curriculum standpoint was essential. This includes principals having an understanding of instructional applications and integration of technology. Integrating technology should not be the ultimate goal, but instead, focusing on curriculum and academics (Creighton, 2003; Levin & Schrum, 2013). Staples et al. (2005) cautioned that if technology is not aligned to the curriculum then it will not improve student learning. Staples et al. (2005) argued that the focus of technology must be directly related to the curriculum, because it is easy to get distracted by generalized uses of technology.

Staples et al. (2005) explained that the curriculum must take precedence when planning how to integrate technology in schools. "It goes without saying that teachers must be deeply informed about content and pedagogy in a particular content area to use technology to enhance learning effectively. Neither can be shortchanged" (p. 306).

Vision and Goals

Setting visions and goals is critical in literacy leadership (Beers et al., 2010; Reeves,

2008), instructional leadership (Leithewood et al., 2004; Louis et al., 2010; Murphy et al., 1983), and technology leadership (Dexter, 2008; ISTE, 2009; Levin & Schrum, 2013). In schools where technology integration was widespread, the principals had a vision and set goals (Anderson & Dexter, 2005; Dooley, 2008; Schrum et al, 2011; Staples et al., 2005).

Beyond simply having a vision statement, principals need to set high-expectations and communicate these expectations to stakeholders (Dooley, 1998; ISTE, 2009). Schrum et al. (2011) discussed the importance of principals identifying and articulating specific educational goals that teachers and the school were required to meet, suggesting ways that technology integration could support the goals, and supporting teachers in achieving these goals. Technology goals must have a measurable outcome in terms of the degree of technology integration (Anderson & Dexter, 2005). Having a vision and specific goals helps principals to stay focused despite challenges in the integration process (Levin & Schrum, 2013; Staples et al., 2005).

Professional Development for Principals

"The leadership in a school largely determines the outcome of technology integration; however, administrators cannot fully or effectively support technology if they do not understand it" (Dawson & Rakes, 2003, p. 33). This was also true in terms of literacy leadership (Beers et al., 2010). In order for principals to provide a strong academic environment, they must "walk the talk" (Beers et al., 2010, p. 43).

If principals are to successfully implement new literacies, they must have professional development opportunities (Dawson & Rakes, 2003). Stuart, Mills, and Remus (2009) found in their study of principals in New Zealand that ICT usage was linked to ICT knowledge and experience. Additionally, research pointed out the difficulty in setting technology goals and expectations, creating outcomes, and supporting staff if the principal does not understand it

(Dawson & Rakes, 2003). "It is difficult to support an innovation about which one has little knowledge" (Dawson & Rakes, 2003, p. 30).

Brockmeier, Sermon, and Hope (2005) discussed the importance of school districts providing professional development for principals to increase the knowledge and skills in terms of effectively facilitating technology integration into the curriculum. Promoting teachers use of technology has been linked to principal leadership, even more than technology infrastructure and expenditures (Anderson & Dexter, 2005). Dawson and Rakes (2003) looked at technology integration in schools based on the amount and type of professional development received for principals. There was statistical significance found when looking at both the amount of technology training and type of technology training received, when compared to the levels of technology integration, which also confirmed the importance of principals receiving professional development. Schrum et al. (2011) also discussed the importance of principals understanding how they can promote learning, support the curriculum, and support whole-school improvement through the use of technology.

The literature has discussed the importance of principals modeling the use of technology (Brockmeier et al., 2005; Dawson & Rakes, 2003; Shrum & Levin, 2009; Schrum et al., 2011). Dawson and Rakes (2003) discovered that many principals were uninformed and uninvolved in the technology role of their schools. Based on their research of 400 principals, Dawson and Rakes (2003) concluded that there is a relationship between the technology professional development that principals receive and the level of technology integration in their schools. Schrum and Levin (2009) and Schrum et al. (2011) argued that principals must be prepared to model and discuss with staff and students how to collaborate and communicate using 21st century skills. Principals must be aware not only of tools for technology, but how to engage

students in their learning (Schrum & Levin, 2009).

Understanding Teachers' Perceptions

Understanding teachers' perceptions influences successful professional development and technology integration (Anthony, 2012; Ertmer et al., 2012; Hutchison & Reinking, 2011). The beliefs and attitudes by teachers that technology integration was relevant and meaningful to their classrooms were perceived as having the greatest impact on the successful integration of technology in classrooms (Ertmer et al., 2012).

Anthony (2012) also discussed the negative impact of professional development if teachers' perceptions are ignored. For example, if teachers perceive that their current instruction without technology is effective, a professional development on the benefits of technology integration may not have any impact, because the teachers may not see the need for technology integration. Hutchison and Reinking (2011) discussed how their study provided data regarding teachers' perceptions, which could help frame professional development. For example, if teachers' definitions and perceptions of ICTs are seen as separate from the curriculum, then this might be an appropriate starting point for professional development. However, if teachers already believe they that ICTs are a part of the curriculum, then the professional development could focus on practical applications and issues to overcome implementation problems (Hutchison & Reinking, 2011). They also discussed how teachers in their study perceived the integration of new literacies as more technical rather than curricular. Hutchison and Reinking (2011) also found that teachers do not believe that newer genres of reading and writing, such as publishing information on a blog, are important aspects of integrating literacy and technology. According to Hutchison and Reinking (2011), professional development for teachers may need to address these perceptions if teachers are to integrate new literacies.

Ertme and Ottenbreit-Leftwich (2010) explained the importance of teachers believing in their own abilities to implement technology changes. Teachers need to have opportunities to experiment with technology and to feel successful with technology integration (Ertmer & Ottenbreit-Leftwich, 2010). Another way teachers feel more confident is when they see the evidence that technology integration will result in positive student outcomes and seeing students' success through the use of technology integration (Ertmer & Ottenbreit-Leftwich, 2010).

Providing Professional Development for Staff

Leadership and support for professional development had a high predictive influence on teacher integration of technology in the classroom (Creighton, 2003). This section will provide numerous opinions by different researchers on effective professional development. Despite the varying opinions on what constitutes effective professional development in terms of integrating technology and new literacies, isolated, short trainings are considered ineffective (Coiro, 2012; Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; IRA, 2009; Sprankle, 2012).

Hutchison & Reinking (2011) stressed the importance of leadership to support teachers in deepening their understanding of ICT integration. The IRA's *New Literacies and 21st Century Position Statement* (2009) discussed how new models of professional development need to incorporate the new online tools and resources teachers are expected to use in their classrooms. It is insufficient to simply allow teachers to access new technologies available in classrooms without professional development. Professional development should be long-term, job-embedded, and personally relevant.

> Professional development is a gatekeeper to meaningful educational implementations designed to impact student learning; this aspect becomes increasingly complex with the infusion of technology into learning opportunities. Thus, what characterized more

traditional professional development must now be reexamined in light of the changing landscape of learning (Castek & Gwinn, 2012, p. 305).

Hutchison and Reinking (2011) pointed out that there are no empirical studies to show what approach or model of professional development will work the best when integrating new literacies. They also found that professional development was not a factor in predicting ICT integration, which led them to believe that the professional development teachers were receiving was not sufficient or meeting teachers' needs. Schrum and Levin (2009) stated that focusing on individual needs and the activities that are essential for the entire staff are critical when planning professional developments. Ertmer and Ottenbreit-Leftwich (2010) suggested that the following considerations should be incorporated into teacher professional development:

- Align experiences with existing pedagogical beliefs and knowledge.
- Provide examples of other teachers' successes emphasizing student outcomes.
- Provide support for risk-taking and experimentation.
- Expand the definition of "good teaching" to include technology integration. (p. 276)

Additionally, planning for individual differences has been shown to be effective when planning professional developments for groups of teachers (Beers et al., 2010; Levin & Schrum, 2013). Some groups of teachers will require very specific support while others need less support. The key is to have a program that offers meaningful professional development for the beginning teacher as well as teachers that are already integrating literacy and technology (Beers et al., 2010; Schrum & Levin, 2009).

In a report on teacher professional development in the United States, the National Staff Development Council (Darling-Hammond et al., 2009) focused on the need for educators to provide professional development connected to practice. Professional development needs to be

tied to goals rather than simply focusing on isolated activities. Darling-Hammond et al. (2009) argued that professional development must include application of knowledge to teachers' planning and instruction if it is going to influence teacher practices. In addition, Davies (2011) discussed the importance of technology professional development for teachers to integrate technology in their classroom, but pointed out that in learning sessions sometimes authentic problem-based learning is not always possible. This explains the importance of continuing, on-site support, and ongoing professional development (Darling-Hammond et al., 2009).

Since new literacies involve online reading, in order to share effective reading strategies with students, teachers need to be more aware of their own use of strategies. In order for teachers to become aware of their own use of strategies, they need to have opportunities to explore the Internet, experience online discussions, and utilize the computer as a tool for learning (Coiro, 2003). In addition, teachers must be involved in planning technology that promotes reading comprehension if they are to realize the full potentials of integrating computers as a tool for literacy learning in the classroom (Coiro, 2003). Labbo, Leu, and Kinzer (2003) discussed the importance of using technology as a way for teachers to have personal professional development. Personal professional development includes collaborating with other teachers, sharing information, and updating their own pedagogical or content knowledge. Through the use of the Internet, technology can provide a customized professional development that is teacher directed (McKenna & Proctor, 2006).

Provide Ongoing Support for Teachers

The teachers need to know they are going to be supported after the initial professional development (Sprankle, 2012). Principals need to make sure there is someone in the school that will support teachers when there are technology issues (Staples et al., 2005). Levin and Schrum

(2013) discussed how every school in their study had administrators that were the driving force in technology integration, and they provided teachers with ongoing support to be successful. Providing professional support enhances teachers' knowledge, skills, and attitudes with the goal of improving student achievement (McKenna & Wolpole, 2008).

Larson, Kuhn, Collins, Balthazar, Ribble, and Miller (2009) discussed the importance of providing teachers with support when integrating new literacies. This support not only needs to include hardware and software support, but also support on how to integrate technology along with the curriculum. The NETS for Administrators (ITSE, 2009) specifically focused on providing support in terms of facilitating learning communities where teachers can support one another.

Online learning communities are one way that teachers can receive customized support (McKenna & Proctor, 2006; Perkins, 2010). McKenna and Proctor (2006) discussed the potential that online professional development offers teachers. Two examples of online professional development teachers were utilizing included online resources and discussion groups. They explained that a benefit to online learning communities is that teachers can customize the support and learning they need. Perkins (2010) discussed how professional learning networks allow teachers to use Web 2.0 technologies such as Twitter or blogs to track their interests and facilitate learning. Teachers can post and read ideas on the topics relevant to them. This allows for an individual way to receive professional development (Perkins, 2010).

Schrum and Levin (2009) described how professional learning communities provide support after professional development. The goal of a professional learning community is to create collaborative teams focused on improving the knowledge and skills of staff members with a common goal of improving student learning. This helps ensure that all students have access to

high-quality instruction (DuFour et al., 2006; DuFour & Eaker, 1998). By creating a community where teachers can interact and discuss problems and concerns, teachers are able to seek solutions for improving instruction and learning (Bean, 2012). Principals are building professional capacity when they allow teachers to collaborate (Bean, 2012; Fullan, 2007). Bean and Dagen (2012) stressed how important it is for the principal to be a member of the professional learning community because they must understand and support the initiatives being implemented. By working alongside teachers, principals are able to see the resources the teachers need in terms of materials, data, scheduling, and time. This form of support allows for collaboration among teachers as well as providing teacher engagement (McKenna & Proctor, 2006).

Feedback and coaching are two additional types of support that have been documented to be forms of ongoing professional support. Feedback or suggestions from principals has been shown to impact achievement and improve teaching (Leithwood et al., 2004; Louis et al., 2010; McKenna & Walpole, 2008; Robinson et al., 2008; Walpole & McKenna, 2012). If instruction is to be improved and teachers are to be supported, feedback needs to be detailed and provide suggestions (Louis et al., 2010). Coaching is another way to provide job-embedded professional development to improve instructional practices (Bean, 2012; Beers et al., 2010; Joyce & Showers, 2002). Bean (2012) described the role of a coach as a way to help teachers enhance their instruction to support students. McKenna and Walpole (2008) explained the importance of coaches working with teachers to set instructional goals focused on student learning.

Gaps in Research

Despite the knowledge base of research in Chapter Two, there is little research on the principal's role in integrating new literacies. Research clearly shows the importance of new

literacies and the skills students need to be successful online readers (Coiro & Dobler, 2007; Henry, 2006; Leu et al., 2013; Leu & Zawilinksi, 2007). There are also numerous studies involving the integration of new literacies into classrooms (Coiro & Dobler, 2007; Eagleton & Dobler, 2007; Guinee, Eagleton, & Hall, 2003; Larson, 2009; Leu & Zawilinski, 2007).

In terms of leadership studies, the leadership skills involved in integrating technology in elementary school have been documented (Anderson & Dexter, 2005; Levin & Schrum; 2013; Schrum & Levin, 2009; Schrum et al., 2011; Staples et al., 2005). Additionally, the importance of creating a digital equity in classrooms and schools has been researched (Franklin, 2007; Reich et al.; 2012; Reinhart et al., 2011). Research has also documented the fact that professional development, teachers' perceptions, and providing ongoing support are a critical factor in the integration of technology in classrooms (Anthony, 2012; Bean, 2012; Ertmer & Ottenbreit-Leftwich, 2010; Hutchison & Reinking, 2011; ISTE, 2009; McKenna & Proctor, 2006).

Despite this knowledge base of research on technology integration and new literacies, there is limited research in the area specifically focusing on principal leadership and the integration of new literacies. The research on leadership and technology is focused on technology integration, not the integration of new literacies (Anderson & Dexter, 2005; Bauer & Kenton, 2005; Dexter, 2008; Levin & Schrum; 2013; Schrum & Levin, 2009; Schrum et al., 2011; Staples et al., 2005). The new literacies research is focused on classroom integration and does not look at the role of the leader in schools integrating new literacies. More research is needed to learn about the roles of principals in schools integrating new literacies. Specifically, learning about the knowledge, dispositions, and actions of elementary principals in buildings integrating new literacies will help principals and school districts in their endeavors to integrate new literacies.

Based on their research findings, Hutchins and Reinking (2011) discussed the importance of administrative support and the role of administrators in the integration of ICTs and new literacies. Leu et al. (2008) explained that one of the needs for research on new literacies involves leadership and how they provide the vision and leadership to direct the changing nature of reading comprehension instruction in their schools and districts. This study hopes to close these gaps by discovering the leadership traits of principals in high-poverty schools where teachers are integrating new literacies.

Summary

This chapter provides a foundation of research that guided this study. Specifically, this chapter discussed the literature that is relevant to the instructional leadership needed to facilitate the integration of new literacies in the elementary school. Background information on the expectations of principals in terms of literacy and technology was described. The dimensions of instructional leadership, the dual-level theory of New Literacies, and the new literacies of online reading and research were presented. Additionally, descriptions of the leadership characteristics present in schools integrating technology and new literacies were provided. The following chapter will describe the research methods, the setting, participants in the study, the data collection process, and the data analysis procedures.

Chapter 3 - Methods

This multiple-case study examined the principal's role in schools where classroom teachers integrated new literacies. It sought to understand the knowledge, dispositions, and actions of principals in elementary schools integrating new literacies.

The three research questions that guided this multiple-case study were:

1. How do the knowledge, dispositions, and actions of elementary principals in high-poverty schools influence the integration of new literacies by classroom teachers?

2. How are the dimensions of instructional leadership evident in the leadership of elementary principals in high-poverty schools with classroom teachers integrating new literacies?

3. How do the knowledge, dispositions, and actions of elementary principals intersect with the dimensions of instructional leadership?

This chapter describes the research methods, the setting of the study, the selection of participants, and the data collection process. Then a detailed description of the data analysis procedures, including the coding process and how patterns and themes were determined. This chapter concludes with the quality and rigor of the study and the role of the researcher.

Methods

This study used a qualitative research design, a case study, which lead to a better understanding of the beliefs, knowledge, and actions, as well as the instructional leadership characteristics of principals in high-poverty elementary schools with classroom teachers that were integrating new literacies. Creswell (2012) described how qualitative researchers strive to develop a complex picture of the research question being studied by reporting multiple perspectives, identifying the various factors involved in a situation, and sketching a larger

portrait of what emerges. Hatch (2002) explained that researchers must identify the boundaries and unit of analysis in a case study. Given that this study will focus on a range of perceived beliefs, knowledge, and actions of principals integrating new literacies at the elementary level, as well as having specific boundaries defined (high-poverty, elementary schools with classroom teachers integrating new literacies), the case study design was chosen.

Case studies are the preferred method in examining contemporary events, when the behaviors are not manipulated, and when the goal of research is to contribute to the knowledge of an individual, group, or organization (Yin, 2009). Typically, case studies begin with a research question that is focused on "how" or "why" questions (Yin, 2009). The questions guiding this study are "how" questions, and the goal was to develop propositions that would lead to further inquiry (Yin, 2009). Additionally, in case studies, the researcher has little or no control over the events in the study (Yin, 2009). In this multiple-case study, the researcher did not have control over the events in this study. The study took place at the schools of the participants and the interviews include open-ended questions.

Setting

Since multiple sites were investigated, a multiple-case study design was used (Yin, 2009). Multiple sites allow for additional analytic opportunities and data review (Yin, 2009). Yin (2009) discussed the importance of carefully choosing the sites so they either predict similar results or predict contrasting results but for anticipatable reasons. In this study, the goal was to select schools with similar characteristics, so there would be sufficient data to yield rich descriptions in the leadership characteristics at these buildings. Creswell (2012) recommended no more than 4 or 5 case studies in a single study.

A criterion-based sampling method was used to determine the school sites for this study (Creswell, 2012). This type of sample can inform an understanding of the research problem and in the study. In this case there were four sites selected. The following criteria were used to determine the selection of participating schools:

- *At least 40% of students were receiving free or reduced lunch.*

  Title I schools have at least 40% of students receiving free and reduced lunch to help ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education (United States Department of Education, 2001). Title I schools receive federal funding to help students in poverty, and these can be used for instructional activities, resources, counseling, parental involvement, and instructional program improvement. In return, school districts and states must meet accountability requirements for raising student performance.

  In this study, schools met the criteria for having at least 40% of students receiving free or reduced lunch based on the federal guidelines. However, not all schools were receiving Title I funds due to the way school districts choose to distribute Title I monies. Higher poverty schools were chosen because researchers have documented that schools with higher poverty were less likely to integrate technology and/or new literacies due to demands from high stakes testing (Coiro et al., 2008; Franklin, 2007; Hutchison & Reinking, 2011; Leu et al., 2008; Mouza, 2008). Additionally, principals in higher-poverty schools face challenges in terms of working with families struggling with emotional and social challenges, as well as health and safety issues (Jensen, 2009; Lineburg & Gearheart, 2013).

- *The principal had been in the building for at least two years.*

The researcher wanted to focus on schools where the principal has been in the building for at least two years. Although there was not specific research to support this, it was important for the principal to have had a chance to influence the integration of new literacies by classroom teachers.

- *Students engaged in new literacies.*

  At these elementary schools, students were engaged in reading research and online reading comprehension activities. These activities include using technology to identify important questions, locate information, critically evaluate the information, synthesize information, and then communicate the answers to others (Leu et al., 2013). When students were engaged in new literacies, they were predicting, determining important ideas, and monitoring their comprehension while navigating multiple layers and links on websites (Eagleton & Dobler, 2007).

- *Geographic proximity to the researcher.*

  Due to the fact that the researcher had a part-time teaching job, it was important to be able to visit schools that were within a 100 mile radius of the researcher's home. This allowed the researcher to travel to and from the schools on the same day.

The directors of curriculum and instruction at 17 school districts with high-poverty elementary schools within a 100 mile radius of the researcher were contacted to see if any elementary schools met the criteria. Eight school districts had at least one school that met the criteria. However two school districts were unwilling to participate and two had lengthy application processes that deterred the researcher due to time constraints. The remaining four districts all had one school principal with multiple teachers that were willing to participate in this study. Table 3.1 lists demographic information of the four schools.

Table 3.1 School Settings

School	Total Students	Percent of Free and Reduced Lunch Students
School A	214	78%
School B	587	78%
School C	296	43%
School D	171	50%

Participants

Principals

Principals in this study had at least two years of experience at the participating site. They were willing to be interviewed and allowed teachers in their building time to be interviewed. They provided the researcher with artifacts and documents that supported the integration of new literacies in their buildings. Some examples of artifacts and documents included school website information, teacher evaluation rubrics, scope and sequence documents for English Language Arts and/or Technology, and lists of software/apps students were using to integrate literacy and technology.

Table 3.2 Principal Information

Principal	School	Years at Current School	Years as a School Principals	Total Years in Education
P1	School A	3	6	14
P2	School B	5	5	26
P3	School C	20	20	25
P4	School D	6	6	12

Teachers

All teachers in grades three through five at the selected schools were invited to participate in this multiple-case study. This included beginning teachers, veteran teachers and teachers with varying levels of new literacies integration. This was done to allow for a variety of perspectives in terms of studying the leadership of the principal. These grades (three through five) were chosen because the researcher wanted to work with teachers of students that were able to interpret the meaning of print (Eagleton & Dobler, 2007). In addition, elementary schools in the researcher's geographic area typically went through the fifth grade.

It is important to note that after the study began, School C's library/media specialist wanted to participate in the study. Since she worked with the principal and classroom teachers, the researcher decided that her perspective could potentially add valuable data to the study since she had direct knowledge of the principals' leadership qualities. The researcher then contacted the computer teacher at School A and the Instructional Coach at School B to see if they wanted to participate. School D did not have any certified support staff in a comparable job to the support staff at the other schools, so the researcher was unable to interview a certified support staff member at School D. Table 3.3 lists the teachers participating in this study.

The researcher did not add additional criteria (age, experience, gender) due to the fact that there were sufficient restrictions already involved in the study. To add more criteria would increase the sample size needed to select representatives of all possible characteristics affecting the perspectives. The likelihood there would be enough volunteers to represent all the possible characteristics listed above is small. This would expand the study to a size that is not recommended for acquiring detailed descriptions that the researcher needs for a thorough understanding of the role of the principal in schools integrating new literacies.

Even though schools had been selected based on the recommendations of the directors of curriculum and instruction at the four school districts due to the fact that teachers were integrating new literacies with students, the researcher was not familiar with the schools and needed a way to identify the levels of integration of classroom teachers if the study was to yield meaningful results about the school principal and their role in the integration of new literacies. The *Teacher Questionnaire* (Appendix A) helped determined a level of integration for teachers in the study.

Table 3.3 Teacher Information

Teacher Code	School	Grade	Level of New Literacies Integration	Number of Students	Number of IEP Students	Number of ELL Students
T1	School A	3	Integrating	18	2	4
T2	School A	3	Emerging	17	0	6
T3	School A	4	Integrating	11	3	6
T4	School A	4	Limited	11	3	8
T5	School A	5	Integrating	19	2	5
T6	School A	5	Integrating	18	4	5
T7	School A	Computer Teacher	NA	NA	NA	NA
T8	School B	5	Emerging	26	4	3
T9	School B	5	Integrating	24	5	6
T10	School B	4	Integrating	22	2	4
T11	School B	Instr. Coach	NA	NA	NA	NA
T12	School C	5	Integrating	27	5	1
T13	School C	4	Integrating	19	6	2
T14	School C	3	Emerging	17	3	2
T15	School C	Media Specialist/ Librarian	NA	NA	NA	NA
T16	School D	4	Integrating	20	3	0
T17	School D	4	Integrating	19	3	0
T18	School D	5	Integrating	22	1	0

To determine the level of new literacies integration, a rubric was created and points were awarded based on how often teachers were integrating different new literacies activities in their classroom. The more often activities were occurring; the more points teachers were able to score. The points ranged from zero (never) to five (daily). Some categories, *Students communicate their online research results using technology*, was not something that would be expected to occur daily since this was usually done after research was completed. This was considered when calculating the scores. The following points determined the teachers' level of integration:

- *Limited: 0-10 points*
- *Emerging: 11-19 points*
- *Integrating: 20-40 points or 4 activities weekly*

Table 3.4 Questionnaire to Calculate Teachers' Level of New Literacies Integration

Activities	**Never (0)**	**Infrequently (1)**	**Once a Month (2)**	**Weekly (4)**	**Daily (5)**
Students use the Internet for research to answer questions.					
Students use the Internet for writing (blogs, message boards, etc.)					
Students are locating information on the Internet (using search engines such as Google).					
Students evaluate the information they find on the Internet to make sure it is reliable and that it is from a credible source.					
Students use multiple sources of information when they are conducting online research.					
Students summarize their online research.					
Students communicate their online research results using technology (for example iMovie, PowerPoint, YouTube, blogs, apps, etc.)					
Students collaborate with peers when working on research projects involving online resources.					

Data Collection

The primary source of data was interviews of the participants. Prior to conducting the interviews, an application for human-subject approval from the IRB of the Office of Research Compliance of Kansas State University was submitted and approved (see Appendix B). The interviews followed a semi-structured format (Creswell, 2012) using the interviewing protocols in Appendix C, Appendix D, and Appendix E. However, the interviewer asked clarifying questions or made requests for elaboration on specific topics as needed.

The intent of the research, the participant's rights of refusal to answer any questions, and the process for protecting the individual's confidentially were discussed prior to interviews. At each site, prior to data collection, the researcher answered questions and went over the interview guide (Appendix C, Appendix D, and Appendix E) and consent form (Appendix F).

Interviews

Interviews were transcribed by the researcher. When transcribing, the researcher documented nonverbal sounds in the transcript, for example, if the participant was laughing, but did not include sounds such as "uh" and "uhm." Participants reviewed their transcripts prior to coding. Only one participant requested changes be made. These minor changes included changing a tense in a verb to present tense and correct the spelling of a name.

The interviews for principals were slightly different than the interviews for classroom teachers and certified support staff. However, the interviews for all participants covered the same topics. The questions for the principals were based on their perceptions of their role as a leader, while the interviews with the teachers were based on their perceptions of the principal's role in the integration of new literacies. The interview questions were based around the research questions, the research on instructional leadership (DuFour & Marzano, 2009; Fullan, 2007; Hallinger & Murphy, 1985; Leithwood et al., 2004; Louis et al., 2010; Robinson et al., 2008),

and technology integration (Dawson & Rakes, 2003; Ertmer & Ottenbreit-Leftwich, 2010; Hutchison & Reinking, 2011; IRA, 2009; Schrum & Levin, 2009). In addition, questions covered all leadership considerations from Chapter Two including: professional development, ongoing support, understanding the teachers' perspective, and professional development for principals.

The majority of interviews were conducted in person at the participants' school after first meeting with the participants and having an informal dialogue with them. Teachers also completed the *Teacher Questionnaire* with the researcher before the interview. Creswell (2012) explained that qualitative research often occurs in the natural setting of the participants and information is collected through either talking to participants directly or observing them. All but three interviews were conducted in person (one principal, two certified support staff). These interviews were conducted by phone. Interviews for principals lasted about forty-five minutes to an hour, while the teacher interviews lasted about twenty minutes.

When the researcher met with the classroom teachers, before they completed the interview guided, they had a conversation about integrating literacy and technology in the classroom. The classroom teachers were asked the questions in Appendix A: *Teacher Questionnaire*. This gave the participants time to share with the researcher what new literacies looked like in their classroom and the types of projects students were researching. This process usually took about twenty minutes and was recorded. This information was used in Chapter Four when describing the cases. After the interviews at each school, the *Teacher Questionnaires* were scored to determine the level of new literacies integration by each teacher. Teachers were either considered 1) integrating new literacies, 2) emerging, or 3) limited.

Field Notes

Field notes were taken at each school. Information about the participants' background, time and date, and location of interview were recording before the interview took place. Minimal notes were taken during interviews, however, before the researcher left the schools, a form was completed with reflective notes, main ideas, and key topics that were discussed in each interview (Creswell, 2012). The researcher also included notes about documents and artifacts collected during the interview process at each school.

Field notes were utilized during the data analysis process to verify and provide clarification about patterns and themes that emerged (Appendix G). The field notes collected were also used to construct the cases in Chapter Four when describing the sites and participants in the study.

Documents and Artifacts

Yin (2009) explained that documents play an explicit role in the case study data collection process. Documents and artifacts were collected from each school (Appendix H). They were cataloged and organized into a spreadsheet that was referenced during the data analysis process to clarify patterns and themes, and confirm statements made in transcript. They were also frequently referenced when the researcher was writing Chapter Four. Although the documents and artifacts were not part of the data analysis process, they were referenced to confirm and support what participants discussed in their interviews.

The following documents and artifacts were collected from all schools: school and classroom websites, evaluation rubrics, and, websites and apps that were used in the classroom. Two of the schools (School A and School D) also provided the researcher with standards that guided instruction for the classroom teachers in terms of integrating new literacies. School B also provided a copy of the district's technology initiative.

Data Analysis Procedures

Data analysis for this study included transcribing, organizing, and analyzing data from the interviews. This section documents the process of the researcher to code the data, look for patterns, and finally determine themes. Creswell (2012) discussed that qualitative research consists of preparing and organizing the data for analysis, reducing the data into themes through a process of coding, and finally presenting the data in either figures, tables or a discussion. The following sections and tables explain the steps taken to organize and code the data into meaningful categories that would be utilized during the data analysis process.

- Coder consensus.
- Coding knowledge, dispositions, and actions.
- Coding dimensions of instructional leadership.
- Emergent codes and uncoded data.
- Analyzing data for patterns.
- Disaggregating the patterns.
- Analyzing data for themes.

Coder Consensus

Yin (2009) explained that using the theoretical propositions that guide the study were a preferred strategy when analyzing data. Interviews were first coded based on the knowledge, dispositions, and actions of the principals and second by the dimensions of instructional leadership.

In order to develop coding consensus with the peer reviewers, the researcher created a coding table for the peer reviewers. This coding table was revised numerous times during the coder consensus process. Two peer reviewers received a copy of the coding table and a

transcript with approximately 750 words, as to not overburden the peer reviewers. After the first round of coding consensus, there were discrepancies between the coders, because the definitions for knowledge and beliefs needing clarification. The peer reviewers provided the researcher with feedback and a new coding table was created. The peer reviewers were given a new transcript and the updated coding table.

The researcher calculated the percentage of agreement by counting the number of codes in agreement versus codes that differed. At this point coding consensus was 94% with Coder 1 and 91% with Coder 2. The discrepancies included statements that principals and teachers made that were dual coded by the peer reviewers. However, after a discussion about the discrepancies, 100% consensus was reached between the researcher and both peer reviewers. Table 3.5 is the final, evolved coding table that was used to code data, after coding consensus was reached for knowledge, dispositions, and actions of the principals.

Table 3.5 Main Codes for Knowledge, Dispositions, and Actions

Main Code	Definition	Examples from Transcript
Knowledge (K)	Knowledge will be defined as the empirical research, disciplined inquiry, informed theory, and the wisdom of practice. *What do the principals know about integrating new literacies at their school?* **Professional Developments* **Trainings* **Classes* **Online Research*	The focus was really on the close reading, the Common Core, and text complexity, and relevancy, and since this was really important, we want to bring this back to them as well. (P1). So I've done, like there for a while, for a couple of years, I religiously would listen to classroom 2.0 webinars on Saturday morning and discover new ideas. (P3) I go to YouTube, and I typed, "how do you"…I might not have the same Microsoft year program that have, but it is enough that I can do it. (P4)
Dispositions (D)	Professional attitudes, values, and beliefs. *What do the principals believe is important when integrating new literacies at their school?* **Think* **Feel* **Believe*	I think she thinks it is really important because our kids are 21st century learners she does want those kids and is really wanting to get technology in everyone hands. (T2) If you as a teacher don't know the role and way in which to use it…to engage your students and to use it for a product for students…it means nothing. (P4)
Actions(A)	The process of acting or doing to accomplish something. A verb. *What actions have the principals taken to support the integration of new literacies?* **Modeling* **Professional Development Opportunities* **Allocating Resources* *Allocating Time *Observations *Conferencing with Teachers *Modeling	So she sent me to trainings to learn how to do that, and I wouldn't be able to do it without her sending me to those trainings. (T4) As a new first year teacher, we have conferences with J quite frequently. Anytime we meet, that is communicated during those conferences or during our PLC meetings. (T6) The other is, I go in and demonstrate.(P4)

To prepare to code the transcripts based on the dimensions of instructional leadership, the same coding consensus process was repeated. Once there was an agreement of over 90% between the researcher and both peer reviewers, Table 3.6 was finalized, and the researcher began the data analysis process.

Table 3.6 Main Codes and Subcodes for Dimensions of Instructional Leadership

Code	Definition	Example from Transcript
Mission (M)		
Framing School Goals (M1)	Establishing expectations and direction and monitoring (Leithwood et al., 2004). Includes setting school-wide goals.	Kids are ready for the 21st century world. (T10)
Communicating Goals (M2)	Sharing goals to teachers and other stakeholders (Hallinger & Murphy, 1985)	I catch a hold of something; I send it out to everyone. (P4)
Managing Instruction (MI)		
Supervising and Evaluating Instruction (MI1)	Ensuring goals are translated into practice. Observations and then providing feedback (Leithwood et al., 2004; Louis et al. 2010; Marzano et al., 2005; Robinson et al., 2008). *Focused on instruction.	For me the biggest piece is the walkthrough piece and the observation piece. That is the most important part of my job with teachers anyway. (P1)
Coordinating Curriculum (MI2)	Aligning objectives with content taught and providing teachers the resources to meet these objectives (Hallinger & Murphy, 1985; Leithwood et al., 2004; Robinson et al., 2008).	So I used one of the positions that would have been a strategist position to create the computer position. (P1) You'll see in our rooms we have Smart Boards (Interactive Boards). Projectors and Elmos and all that are in every single classroom. (P4)
Monitoring Student Progress (MI3)	Using assessments that are tied to the curriculum to evaluate student progress and the instructional program (DuFour et al., 2006; Hallinger & Murphy, 1985; Leithwood et al., 2004; Louis et al., 2010; Robinson et al., 2008)	We also have Common Core Assessment. They are a common assessment. If you are here or at another school, they have the same assessment. (P2) We have certain benchmarks. (P4)
Promotes School Climate (SC)		
Protects Instructional Time (SC1)	School wide policies that limit disruptions during the school day to maximize instructional time (Hallinger & Murphy, 1985).	We are a Literacy First school. (P1) On Fridays, I teach this class. I primarily work on Digital Citizenship and introduce new things to the kids. (P4)
Promote PD (SC2)	Teacher learning, focused on instruction and student learning outcomes, promoting collaboration among teachers, and is sustained through ongoing support (DuFour & Marzano, 2009; Fullan, 2007; Newmann et al., 2000; Smylie et. al., 2001).	I send at least two to MACE each year and I'm sending 4 people to iCamp. (P4) We've made time in our building, so teachers can observe each other. So for example, A in third grade that has had several years of technology. She is above and beyond where other teachers are. Providing release time during the day to have M go down and watch A in her classroom, is another way I can help support them. (P1)

Maintain High Visibility (SC3)	Includes interactions between the principal and teachers. Also includes walkthroughs (Cervone & Martinez-Miller, 2007; Hallinger & Murphy, 1985; Louis, 2010). Beyond evaluating. The actions the principals are taking promote a positive school climate.	I can go in and set Apple TV up in a classroom. (P4) Anytime we have questions or concerns or…she's always coming in. She'll watch if you need to. (T16)
Provide Incentives for Teachers (SC4)	Rewarding and recognizing teachers for their efforts (Hallinger & Murphy, 1985).	It's kind of a pat on the back. This is how they are helping each other out…"I would like to thank so and so for helping me in a crunch" or "this is what I saw blank do." (T11)
Enforce Academic Standards (SC5)	Reinforce the high beliefs necessary for improving student learning (Hallinger & Murphy, 1985)	I'm modeling the Literacy first process, and then doing the professional development for teacher, and create a lesson plan and I'm teaching through it just the way I would expect them to. (P1)
Provide Incentives for Students (SC6)	Creating a learning climate in which students' value academic achievement through rewards and recognizing academic achievement and improvement (Hallinger & Murphy, 1985).	A teacher who has been with us…I think this is our third year. She said, "one of the things we did in my old school was…every Friday we would have a celebration and it would be about recognizing kids for things they are doing. (P3)

Coding Knowledge, Dispositions, and Actions

Using Table 3.5, the researcher created a color coding system to identify the following three codes: knowledge, dispositions, and beliefs. This round of coding focused on organizing ideas (Creswell, 2012). Once this round of coding was completed, the researcher reviewed all of the data, highlighted key terms, and made comments in the margins to summarize what was discussed to help develop subcodes based on the knowledge, dispositions, and actions of the principals. Table 3.7 shows the subcodes and examples of knowledge and dispositions, and actions.

Table 3.7 Subcodes of Knowledge (K), Dispositions (D), and Actions (A)

Knowledge (K)	**Example from Transcript**
-Self-Taught	I am a self-learner, and I just go out and learn. (P4)
-Common Core and New Literacies	There is more demand for research, there is more demand for being analytical, and in what you are reading and verifying that it is a viable source. You know…the opportunity to write through blogs, the Common Core has elevated the need for writing and writing across all curriculum areas. (P1)
- Principal Collaboration	I also got pretty close with CDK at K-state. She's a professor. (P4)
-Understands Purpose of Technology Integration	You know the opportunity to participate in learning experiences that are more real world and real life and real connections is how I think it aligns. Doing things before a bigger audience than your classroom and teacher is part of what the new curriculum is asking us to consider. (P3)
-PD	I too attend professional development during the instructional fairs in regards to technology. (P2)
-Literacy Leadership	T1- She has that knowledge because she does the research. (T1)
Dispositions (D)	**Example from Transcript**
-Goals /Expectation	We just want all the kids to be able to use the iPads because, especially fifth grade, because at the Sixth Grade Academy, everyone has an iPad. (T8)
-Common Core	I know that she is excited about where we are going with technology and literacy. I just think that…honestly I think it has been a rough road this year...and last year, with the adoption of the common core state standards because the teachers have had to adapt their lessons and their way of approaching ideas in the classroom. Not only with the new standards, but we are also tackling technology. The last two years have definitely been learning years. (T11)
-All Students (could be tied to goals)	I think she thinks it is really important because our kids are 21st century learners she does want those kids and is really wanting to get technology in everyone hands. (T2)
-Understands Purpose of Integrating Technology	You know the opportunity to participate in learning experiences that are more real world and real life and real connections is how I think it aligns. (P3)
-Understanding Teachers' Needs	I've had to be accepting of where everyone is at. (P4)
-Risk Taking	I'd rather it flop with me, and not my teachers. (P4)
-Principals' Needs	I guess the next dream that would be nice to achieve would be to continue to grow that student to computer ratio. (P3)
-Literacy Leadership	I think he realizes we are moving towards 21st century skills, and it is going to be important that these kids have those technology skills when they get out of school. He has said several times that we are preparing them for jobs that don't necessarily exist right now. (T12)
Actions (A)	**Example from Transcript**
Providing Support*	I try to have quarterly conferences about what's going on in your classroom. Often times there will be… "tell me how you have used technology this quarter, and how has it worked for you?" (P3)
Differentiating Support*	We have to write a SMART goal, and a lot of folks have started to write SMART goals about their own pursuit of integrating technology in their instruction. (P3)
Taking Risks	Permission to explore, permission to use, permission to struggle…You know all of those things.. I try and allow them that. (P3)
Influence on District	I think some of the work we have done at MH, has gone on and had a broader influence on the district. We put together a technology task force. (P3)
Actions Demonstrate an Understanding of the Purpose of Technology Integration	Is the SMART Board is just being used like a document camera and you could have an overhead projector instead, or are students actually going up and using it? (P2)

Principal Collaborating	That is a time that my instructional coach and I plan together and we set out kind of a plan for the course of the year, related to the different initiatives and components. (P1)
Common Core	And for example, with research, we've really pushed to have research stations in the classroom. (P1)
Unpaid Work	I can't pay you to come for that evening or I can't pay you to come during summer on that day, but I will give you an iTunes gift card that you can do with what you want. (P4)
Making a Choice – Time Related	I have chosen to try and learn to get better. (P2)
Literacy Leadership	We spend a good deal of time observing each other in classrooms where the teachers are being successful with implementation, we also use video taping of self and others as another support tool, co-planning with the instructional coach during plan time, release time to attend additional training with someone outside of the building if necessary as well. (P1)

In establishing subcodes of Actions (A), two codes, *Providing Support* and *Differentiating Support*, were very broad and needed further analysis if patterns were to be established. Table 3.8 shows how *Providing Support* and *Differentiating Support* were further analyzed.

Table 3.8 Further Analysis of Providing Support and Differentiating Support

Action (A): Providing Support	Example from Transcript
Conferences with Teachers	…That is the big thing too with me is that I've got those 21st Century skills, and that is part of using the technology. She asks me, 'how do you use it?' 'how are you using it effectively and what can you do to improve?' (T2)
Resources (Tech/PD)	I save back as much as I can each year to purchase additional tech or resources for teachers. (P1)
Fundraising/Grants	PTA purchased an IPAD cart and 28 iPads with their fundraiser money 2 years ago. (P2)
Teacher Collaborating	We do Tool Time for Technology once a month. Like, I've done Smart Response Clickers before. On Monday it is just an overall showcase…each grade is going to bring a couple technology pieces they are using in their classroom. (T12)
Walkthroughs (Observations/ Evaluation)	The walkthrough form does ask if the teacher was using technology and if so what and if the student was technology it and if so what. That data as district administrators…we go over it, and see if it being used. (P2)
PLC Time	Well, I came back and had to do a PLC covering it to everybody about what I learned. (T16)
Teachers Observe other Teachers	We've made time in our building, so teachers can observe each other. So for example, A in third grade that has had several years of technology. She is above and beyond where other teachers are. Providing release time during the day to have M go down and watch A in her classroom, is another way I can help support them. (P1)
Time to Integrate and Experiment	So we have to take a little bit more time, but he still encourages us to take that time. (T14)

Modeling	She does a lot of modeling or she'll walk us through step-by-step, kind of like you would with your own kids. (T5)
Teaching Teachers/ Students	Well, we just got new Apple TVs. She came in and actually showed us how to use it. (T17)
Facilitating Professional Development	We started having what we called Tool Time for Technology. Those were basically monthly activities to promote the concept of using technology in the classroom. (P3)
Questions Answered	If I can't take care of it, she finds out who can. (T9)
Examples of Encouragement	She is really good about asking us what we are needing and how and when we need it and using like our instructional coach encourages us if it is a need that we can't get from our mentor and really working one on one with us. She does a really good job of just coming out and showing up and asking, 'hey what do you need from me?' (T2)
Action (A): Differentiating Support	**Example from Transcript**
Surveys	We'd survey, we'd look for things that folks wanted to learn about. (P3)
Teachers Set Goals	We have to write a SMART goal, and a lot of folks have started to write SMART goals about their own pursuit of integrating technology in their instruction. (P3)
Choice (different options related to differentiating support)	Or we have a variety of choices and let them pick based on their interest level. (P4)
Examples of Differentiation	She'll contact the coaches, and she knows if someone needs help with something. (T11)

Coding Dimensions of Instructional Leadership

Using Table 3.6, the researcher coded the transcripts based on the dimensions of instructional leadership. Once this round of coding was completed, the researcher reviewed all of the coded data, highlighted key terms, and made comments in the margins to summarize what was discussed to help develop subcodes based on the Mission (M), Managing Instruction (MI), and Promotes School Climate (SC). Three tables with the subcodes for the dimensions of instructional leadership were then created (See table 3.9; Table 3.10; and Table 3.11).

Table 3.9 Codes and Subcodes Dimensions of Instructional Leadership: Mission (M)

Mission (M)	Definition	Example
Framing School Goals (M1)	Establishing expectations and direction and monitoring (Leithwood et al., 2004). Includes setting school-wide goals.	
-Goals	*These are broad, long-term goals for students and teachers.*	*Kids are ready for the 21st century world. (T10)*
-Teacher Goals	*Individualized goals/benchmarks for teachers that are usually attained within a school year.*	*I try to, depending on the teacher, each have their own goal. (P4)*
-Expectations	*Specific outcomes based on goals. These are not broad like goals, and are more specific.*	*I think no matter what the content area is, it really has to be making sure that you are using technology as a tool. (P1)*
Communicating Goals (M2)	Sharing goals to teachers and other stakeholders (Hallinger & Murphy, 1985)	I catch a hold of something; I send it out to everyone. (P4)

Table 3.10 Codes and Subcodes Dimensions of Instructional Leadership: Managing Instruction (MI)

Managing Instruction (MI)	Definition	Example
Supervising and Evaluating Instruction (MI1)	Ensuring goals are translated into practice. Observations and then providing feedback (Leithwood et al., 2004; Louis et al. 2010; Marzano et al., 2005; Robinson et al., 2008). *Focused on instruction.	When I go in, for example, during observations we'll talk about different ways technology could have been used if it was during a literacy station, if it was during literacy station time. How was technology being utilized for the same kind of task they were doing. I kind of look at myself, I don't want to say as a coach, but also as a support, maybe, for teachers to think about what are some other ways we can pull in technology. (P1)
Coordinating Curriculum (MI2)	Aligning objectives with content taught and providing teachers the resources to meet these objectives (Hallinger & Murphy, 1985; Leithwood et al., 2004; Robinson et al., 2008).	So I used one of the positions that would have been a strategist position to create the computer position. (P1) You'll see in our rooms we have Smart Boards (Interactive Boards). Projects and Elmos and all that are in every single classroom. (P4)
-Standards	*Includes Common Core and District Standards.*	*We are obviously completely Common Core, so it works really well. There is a huge part of the writing is the research and being able to put that information together and using credible sources. It is a huge part of reading is the investigation and looking for information and really diving deeply into the text. Those two pieces fit well with technology because you have the ability to do that. (T1)*

-Support Staff	*Additional staff that supports classroom teachers integrating literacy and technology. Includes computer teachers, instructional coaches, library media specialist.*	*Usually, if I have a question or a need, and it can't be answered from K or T or someone else, she will get on the hunt and figure out how to solve it. (T5)*
-Classroom Activities	*Examples were provided how literacy and technology were being integrated.*	*We are going to get pictures. We are going to create some kind of PowerPoint or Prezi or something that we can share and present. Each teacher, I kind of work with them a little differently on what their goals are. (P4)*
-Resources	*Includes the resources teachers and students use to integrate literacy and technology.*	*Then also the use the laptop cart I use a lot as well as the iPads. Having that available and signing up. (T10)*
-Principal	*Discussion about the principals' role in coordinating the curriculum and specific examples about the principal.*	*She jumps right there with us to figure out how to use the technology with literacy and all the new technology. (T5)*
Monitoring Student Progress (MI3)	Using assessments that are tied to the curriculum to evaluate student progress and the instructional program (DuFour et al., 2006; Hallinger & Murphy, 1985; Leithwood et al., 2004; Louis et al., 2010; Robinson et al., 2008)	We have certain benchmarks. (P4)

Table 3.11 Codes and Subcodes Dimensions of Instructional Leadership: Promotes School Climate (SC)

Promotes School Climate (SC)	Definition	Example
Protects Instructional Time (SC1)	School wide policies that limit disruptions during the school day to maximize instructional time (Hallinger & Murphy, 1985).	We are a Literacy First school. (P1)
Promote PD (SC2)	Teacher learning, focused on instruction and student learning outcomes, promoting collaboration among teachers, and is sustained through ongoing support (DuFour & Marzano, 2009; Fullan, 2007; Newmann et al., 2000; Smylie et. al., 2001).	I send at least two to MACE each year and I'm sending 4 people to iCamp. (P4) We've made time in our building, so teachers can observe each other. So for example, A in third grade that has had several years of technology. She is above and beyond where other teachers are. Providing release time during the day to have M go down and watch A in her classroom, is another way I can help support them. (P1)
-Collaboration	*-Time that teachers share ideas. This is in addition to PLC time.*	*She encourages us to share lessons if we do something with technology to show each other. (T10)*
-Common Plan	*-Time built into the daily schedule where grade-level teams have the same planning time.*	*Common plan time is 80 minutes of common plan every single day. We don't necessarily meet every day, but we have the same time we can*

		meet every day. We try and meet at least two or three times throughout the week. (T1)
-District Level Professional Development	*-Professional development sponsored by the school district.*	*We have instructional fairs where we got, you know a lot of teachers who have volunteered to….to lead some kind of a class. (T8)*
- Building Level Professional Development	*-Professional development at the building level to meet specific teacher needs.*	*She does a lot of modeling or she'll walk us through step-by-step, kind of like you would with your own kids. (T5)*
-Building Support	*-Support at the building level where teachers can have questions answered and can receive help if needed.*	*You don't have to wait until once a month. If they have questions right now. They can fire them off to that instructional coach T, and say, 'hey I'm having a problem with this' or they can work with our computer teacher in-house. (P1)*
-PLC	*-Professional Learning Community time where teams collaborate and focus on instruction and student achievement.*	*At our PLC meeting, every Wed. night, she demonstrates her knowledge by going over all the strategies and techniques that we can use technology in our literacy. (T6)*
-Multiple	*-Examples covered multiple categories under Promoting PD (SC2)*	*I attended the MACE conference. I've done different PLCs. I kind of collaborate last year and the year before with J. She's a…she's a guru. She's a good resource that I've gone to a lot. (T16)*
-Time to Integrate	*-Teachers were given time to try new ideas learned in professional development.*	*She gives me time to work and figure out things, and makes me feel like it is okay to try it, even if it doesn't work the first time. A safe environment to try things, explore and learn. (T18)*
-Conferences	*-Professional development conferences that are outside the school district.*	*But I'm very excited because I get to go to MACE for the first time this year. (T18)*
-Permission to Take Risks	*-Principals gave teachers permission to try new ideas (either from professional development or through their own personal learning).*	*Get with S, attend these in-services. Just try it. He always says, "try it and see…if it doesn't work out, that's fine." (T13)*
Maintain High Visibility (SC3)	Includes interactions between the principal and teachers. Also includes walkthroughs (Cervone & Martinez-Miller, 2007; Hallinger & Murphy, 1985; Louis, 2010). *Beyond evaluating. The actions the principals are taking promote a positive school climate.	I can go in and set Apple TV up in a classroom. I feel at an advantage because when I go into different classrooms, I get to see different teachers doing things with technology and I can share with other teachers.
Provide Incentives for Teachers (SC4)	Rewarding and recognizing teachers for their efforts (Hallinger & Murphy, 1985).	I also buy iTunes cards for them. (P4)
Enforce Academic Standards (SC5)	Reinforces the high beliefs necessary for improving student learning.	I'm modeling the literacy first process, and then doing the professional development for teacher, and create a lesson plan and I'm teaching through it just the way I would expect them to. (T1)
Provide Incentives for Students (SC6)	Creating a learning climate in which students' value academic achievement through rewards and recognizing academic achievement and improvement (Hallinger & Murphy, 1985).	A teacher who has been with us…I think this is our third year. She said, "one of the things we did in my old school was…every Friday we would have a celebration and it would be about recognizing kids for things they are doing. (P3)

Emergent Codes and Uncoded Data

At this point, any data that were uncoded were reviewed and the researcher looked for emerging codes. The areas that emerged were: district initiatives, district support, roles of principals, and teacher needs. However, there still was a sufficient amount of data that remained uncoded. The researcher reviewed the data one more time, and then identified the following categories: Student Support Not Related to New Literacies; Teacher Usage; Teacher Beliefs; Teacher Knowledge. Since the interview questions were open-ended, sometimes participants discussed their beliefs, their knowledge, or how they were using technology in the classroom. Since the study was based on the role of the principal, these discussions did not fit the criteria to be coded as the principal's knowledge, beliefs, or actions or as part of the dimensions of instructional leadership. Using the word count feature in Microsoft Word, the researcher divided the number of words that were uncoded by the total words. By the end of the coding process, all transcripts had less than 4% uncoded data.

Analyzing Data for Patterns

After coding was completed, the researcher reviewed the transcripts and used tallies to determine how many times the specific subcodes were discussed (Huberman & Miles, 1994). Creswell (2012) described the data analysis process as a spiral process, as opposed to a linear process. As part of this spiral process, data were organized into smaller units, but to interpret the data for patterns, those smaller units had to be classified and interpreted. Patterns for the main codes (knowledge, dispositions, actions, mission, managing instruction, and promotes school climate) emerged from subcodes. However, not every subcode yielded a singular pattern. For example, under the actions of principals, there was a code for collaboration and a code for

professional learning communities. After rereading transcripts, and using the database of examples, the researcher concluded that both of these codes were focused on teachers' sharing information with each other. This helped establish the pattern that principals established a way for teachers to collaborate with one another.

Tallies did not fully constitute establishing credible patterns, but helped organize the data (Creswell, 2012). The tallies should not be regarded as having any statistical significance because the focus of the data analysis process was finding patterns that had meaning as opposed to quantifying the tallies. If the tallies did reveal a possible pattern, it was then reviewed for credibility and meaning using the transcripts and artifacts. As part of the process of using tallies, three tables were built (Appendix I, Appendix J, and Appendix K). One table was based on the coding from research question one and the knowledge, dispositions, and actions of the principals (Appendix I), another table included the coding from the dimensions of instructional leadership (Appendix J), and the final table included the emergent codes (Appendix K). As these tables were being built, the researcher also created three databases based on the knowledge, dispositions, and actions of principals, the dimensions of instructional leadership, and the emergent codes. These databases included examples from the transcripts and were used as a way to reference examples when analyzing the data.

Disaggregating Data

After the patterns were developed, they were disaggregated by school site and by the levels of new literacies integration by the classroom teachers. The disaggregated patterns were organized by the first two research questions and the emergent patterns. It was important to look at the different sites to see if their patterns varied. Since this study interviewed teachers with different levels of new literacies integration it was also important to examine if teachers with

limited and emerging new literacies integration had different perspectives than teachers that were considered fully integrating new literacies.

Analyzing Data for Themes

Finding themes addressed the third research question: *How do the knowledge, dispositions, and actions of elementary principals intersect with the dimensions of instructional leadership?*

After all patterns were developed and disaggregated, the researcher noticed that themes were developing, and would keep track of repeating patterns in a separate *Microsoft Word* document. After reviewing the transcripts, Appendix I, Appendix J, and Appendix K multiple times, the researcher continually would ask herself the following questions:

- *How critical was the developing pattern to help teachers integrate new literacies?*
- *What does this mean in the larger scope of instructional leadership?*

Looking at the repeated patterns, the researcher classified and interpreted the patterns to find themes (Creswell, 2012). Creswell (2012) explained that themes consist of "several codes aggregated to form a common idea" (p. 186). As the researcher began to find themes, the transcripts were recoded to identify and verify the new themes that emerged.

Quality of the Study and Rigor

According to Creswell (2012), qualitative researcher should use at least two validation methods in a study. This study used the following validation strategies: peer reviewing and debriefing, member checking, and rich thick descriptions (Creswell, 2012).

Peer debriefing sessions occurred with two peer reviewers; one peer reviewer was a doctoral student in Educational Leadership from Kansas State, and the other peer reviewer was

PhD graduate from Kansas State in literacy. Creswell (2012) discussed how peer debriefing sessions are a way to discuss and ask questions about the methods and interpretations of the study. In terms of data analysis, the researcher worked with the peer reviewers to verify and reach a consensus in the coding of the data.

Another external check of the research process that was utilized was member checking (Creswell, 2012). The participants in this study will be asked to review the accuracy of the transcripts, prior to data coding. Participants will be allowed to add or remove any statements as desired. At the end of the interviews, the researcher will ask the participant if they will read their transcript for accuracy. Only one participant requested that changes be made to their transcript. The changes involved changing a verb from past tense to present tense and there was a misspelling of a name. They will also be sent a copy of the findings after data analysis is completed and will be invited to respond/react to the findings. The researcher recognizes that few will likely respond.

The researcher will also provide detailed descriptions of the sites (Creswell, 2012) to provide a comprehensive picture of the different sites and to allow readers to determine if the results of this study are transferable to their specific school. These detailed descriptions are included in Chapter Four.

Role of the Researcher

According to Yin (2009), case study researchers should ask good questions, listen objectively, be adaptable, have a firm grasp of the issues being studied, and have unbiased preconceived notions about the results of the case study. The researcher has established the questions that drive this study based on the literature review of instructional leadership (DuFour & Marzano, 2009; Fullan, 2007; Hallinger & Murphy, 1985; Leithwood et al., 2004; Louis et al.,

2010; Robinson et al., 2008) and the literature on technology integration (Dawson & Rakes, 2003; Ertmer & Ottenbreit-Leftwich, 2010; Hutchison & Reinking, 2011; IRA, 2009; Schrum & Levin, 2009).

The researcher in this study was a doctorate student in educational leadership and was employed as an elementary literacy coach. For the past five years, the researcher has worked in a high-poverty elementary school that has an emerging new literacies program of online reading and research tied to the language arts curriculum. The researcher was not employed by any of the school districts involved in the study. Even though the researcher brings her educational experiences and perspectives on new literacies and leadership to the study, the researcher did not have any preconceived ideas of potential results of this study. Additionally, the researcher was open to various leadership characteristics that may develop through data analysis. The instructional leadership model (Hallinger & Murphy, 1985) was utilized by this study simply to help organize the research questions and data analysis, but the researcher was open-minded and aware that other potential leadership characteristics might emerge.

The researcher specifically sought out school districts other than the one she worked in to provide a learning experience about leadership qualities in schools integrating new literacies. Since the researcher was not employed in the same position as any of the participants in the study, this helped maintain objectiveness and limited bias.

Summary

Chapter Three describes the methodology that will be used in this multiple-case study and includes the methods, settings, participants, data collection, data analysis procedures, quality and rigor of the study, and the role of the researcher. This methodology provided the foundation

in which the principal's role in schools with strong integration of new literacies was examined. Chapter Four will describe the cases in the study.

Chapter 4 - Description of Cases

This chapter explains the schools in the study in more detail. Even though the schools were chosen because teachers were integrating new literacies with students and they met the criteria established for poverty levels based on Title I funding, the schools in this multiple-case study differed in terms of size, demographics, support staff for technology, and district initiatives. Each school's demographics and community are described in this chapter. Demographic information about the principals and teachers that participated in this study are explained. Then specific characteristics that are important to note for each site are described. These characteristics include programs or initiatives that are only found in that school, when compared to the other schools in the study. Available technology in the building is listed. Finally, examples of how teachers in the building were integrating new literacies are included.

The table below provides an overview of the student demographics at each school. School D was the smallest school, and had the lowest percentage of minority students, while school B was the largest and had the highest percent of minority students. School A and School B both had 78% of their students eligible for free and reduced lunch, and they also had the most ELL students in the study.

Through visits to each of the schools, interviews with the teachers and principals, and looking at documents and artifacts, the researcher was able to learn about how the principals influenced the integration of new literacies and how teachers were integrating new literacies. This chapter provides descriptions of each school and provides a picture of the researcher's experience at each building.

Table 4.1 Demographics of Participating Schools

School	Total Students	Percent of Free and Reduced Lunch Students	Percent of ELL Students	Percent of Minority Students	Percent of Students with a Disability
School A	214	78%	36%	52%	12%
School B	587	78%	26.3%	60%	13%
School C	296	43%	11%	43%	16%
School D	171	50%	0%	6%	17%

School A

Nestled in a community with approximately 25,000 people, School A was a neighborhood school. Students must live in the boundaries to attend and transfers were not accepted due to limited space. School A was a K-5 school with 214 students. It served several low income housing developments and trailer parks in addition to the homes around the building. Seventy-eight percent of students were from a low SES family. A large poultry processing plant employed a large number of parents at School A, however, when the plant downsized in 2008 enrollment was impacted.

Principal

The principal at School A spent one hour a day doing walkthroughs throughout her building. Technology integration was one of the areas that she documents. One teacher explained that every walkthrough included a follow-up conversation which helped teachers think about how they were using technology, what data they used to make instructional decisions, and how lessons were tied to reading.

Prior to being at School A, the principal was at a school with a Technology Rich Classroom Grant. That experienced provided her with a strong background in the integration of literacy and technology. Although this grant is no longer funded, the goals of the grant were the following:

- Empowering teachers to use technology to enhance learning opportunities for students and encourage higher order thinking.
- Engaging students in learning opportunities supported by 21st century tools and advancing their development of 21st century skills.
- Fostering a collaborative culture.

The professional development provided through this grant provided the principal at School A with a strong foundation of technology integration and helped shape her beliefs on the importance of students being technically literate. She believed the professional developments she attended as a principal helped her learn about the needs of teachers and how to meet their needs if they were to successfully integrate technology in their classrooms.

The principal at School A was proud of the fact that she is considered an innovator of technology in her district. Her school receives 18 Ed Units to staff her building. Each Ed Unit represents a certified staff member. Using the experience from her prior job, she believed that having a computer teacher was essential, and chose to spend one of her Ed Units on a computer teacher. Working closely with the computer teacher, the principal was able to establish a program where students learned 21st century skills in the computer lab and then applied the skills they were learning into classroom research projects. After seeing how beneficial a computer teacher was, the following year all the principals decided to use one of their Ed Units for a computer teacher.

The principal at School A was very conservative with her building budget. Teachers mentioned how any money left over at the end of the year would be used to purchase additional technology. Both the teachers and principals mentioned how important it was to conserve resources, so they could acquire additional technology. The principal at School A stated:

> For me, as the financial manager of the building, every year I have saved back part of my building budget and have been pretty frugal, so that every year I've been able to add additional technology. Whether that is two more SMART Boards in classrooms that didn't have them before, or going 2:1 iPads in classrooms or back in the day, it was digital cameras at every grade level, so every teacher had access to those things. I feel like that is has been an important piece for me.

The principal at School A used surveys and observations to help teachers grow and to plan professional development. Having all teachers receive the same professional development without regards to teachers needs is not an effective use of professional development time according to the principal at School A.

Staff

The majority of the staff in grades three through five at School A was first year teachers (four out of six). School A was the only school participating in this study that included all classroom teachers in grades three through five. Four of the teachers were 'Integrating New Literacies' based on the *Teacher Questionnaire*. One teacher was 'Emerging' and one teacher was 'Limited.' In addition to all the classroom teachers in third grade through fifth grade, the computer lab teacher agreed to participate in this study. Table 4.2 describes the teachers that participated in this study and their technology background.

Table 4.2 School A Participants

Code	Grade	NL Rubric	Years at this Grade	Years Exp.	Highest Degree	Years with Principal	How Teachers Acquired their Technology Knowledge and Skills
T1	3	Integrating	2	9	Masters	6	- Technology Rich Grant - Collaborating with Colleagues - Professional Development - Self-taught
T2	3	Emerging	0	0	Bachelor	0	- College Classes - Collaborating with Colleagues
T3	4	Integrating	0	0	Bachelor	0	- Using Technology
T4	4	Limited	0	0	Bachelor	0	- College Classes
T5	5	Integrating	4	5	Bachelor	3	- Self-taught - Using Technology
T6	5	Integrating	0	0	Bachelor	0	- Self-taught - Using Technology
T7	Comp. Lab	NA	3	14	Masters	3	- Professional Development - Collaborating with Colleagues - Self-taught

Characteristics of School A

Literacy First was a district initiative, and the only school in this study that used this model. It is a comprehensive reform process that accelerates reading achievement (see http://www.literacyfirst.com). It included structured reading plans that include students receiving two hours of systematic and explicit reading instruction daily, plus up to 20 minutes of monitored independent reading practice. Lesson plans were structured using the gradual release model, so teachers provide instruction, teachers and students practice together, and then students practice independently. In addition, the principal was required to do one-hour of walkthroughs every day.

School A had a large turnover in staff at the end of the 2012-2013 school year. Starting the 2013-2014 school year, seven brand new teachers were hired. The principal explained the

turnover in 2012-2013 as the following: three staff members left due to their spouses taking jobs in other states; two staff members became first time moms and decided to stay home with their babies, one staff member moved closer to family, and one staff member retired. Many teachers at the school have spouses that work about fifty miles away, and the principal expressed concern about the lack of economic opportunities and a fear of losing more staff members.

Support staff available to teachers to help them integrate new literacies includes the computer teacher, an instructional coach, and a building support technician that helped with technical issues. In addition, all three support staff helped teachers integrate new technology into their classrooms. All three were certified teachers and were full-time at the building.

Available Technology

Since the principal at School A previously worked as principal at a school with a Technology Rich Classroom (TRC) grant, her background and experience allowed her to become a pioneer in the district, accessing technology before the district purchases it. It was common at School A to use their own funds to purchase equipment instead of waiting for the district to purchase items.

In addition to having two computer labs, iPads were available in third grade at a ratio of 2:1 (two students for every one iPad), tablets were available in fourth grade at a 1:1 ratio, and laptops were in fifth grade at a ratio of 2:1. The principal also explained that by saving building funds and working with PTO, they would be able to acquire additional technology and get close to the goal of a 1:1 device ratio. Other technology in every classroom included SMART Boards, projectors, and Elmos. The principal explained that it was important for her to provide teachers with the tools they needed if they were going to integrate technology without it feeling like a burden.

New Literacies Integration

Research projects were common in classrooms in the intermediate grades. In addition, teachers were encouraged to have a literacy workstation devoted to research. In the fall students had researched ecosystems, and were integrating research into science and social studies. Students used *KidRecs* to find and locate information. Students used *Google Docs* and *KidBlogs* to collaborate and share information with their peers. They also used *Google Docs, Prezi, Edmoto, Educreation,* and *Touch Cast App* to make presentations.

At the computer lab, which occurred two to three times per week, students learned about digital citizenship and new literacies were integrated into the lessons. These lessons included finding and locating information from reliable and credible sources, and how to cite sources. Students were also taught how to take notes in order to help them organize their research.

School B

School B was located in an urban area, surrounded by homes with middle class families. Three years ago, the boundaries changed for School B and approximately 100 students were bussed from over ten miles away to attend. This changed the demographics of School B significantly. The students bussed to School B lived in a low-income apartment complex in a high-crime neighborhood. Currently, 78% of students at School B received free and reduced lunch. School B was the largest school in this study, with almost 600 students.

Principal

The principal at School B had 26 years of educational experience. In addition to being a classroom teacher, her experience ranged from being a speech paraprofessional to an online elementary teacher. However, the principal described that the majority of her technology

integration professional development occurred as a teacher and principal in the district where the school is located.

The district controlled all funding of technology and staff, which left the principal responsible for a budget that included items to support instructional such as copy paper, laminating film, and school supplies. The only Title I money the principal had discretion over was the after school tutoring program. However, to help increase access to technology, the principal at School B has supported fundraisers and two years ago the PTO purchased 28 iPads and an iPad cart. Additionally, the principal was also very visible in all classrooms because she was required to do walkthroughs for the school district.

Staff

At School B, there were nine classroom teachers in grades three through five. The teachers participating in the study included fourth and fifth grade teachers, as well as the district technology coach assigned to fourth and fifth grade. Based on the *Teacher Questionnaire*, two of the classroom teachers were considered "Integrating New Literacies" and one teacher was considered "Emerging." The school district employed a technology coaches that worked with teachers in specific grade levels. The fourth and fifth grade coach spent about 6 hours a week at School B. She agreed to participate in this study, and the teachers frequently referred to collaborating with her to integrate research projects and iPad apps into their lessons.

Table 4.3 School B Participants

Code	Grade	NL Rubric	Years at this Grade	Years Exp.	Highest Degree	Years with Principal	How Teachers Acquired their Technology Knowledge and Skills
T8	5	Emerging	12	13	Bachelor	5	- Professional Development - College Classes - Collaborating with Colleagues
T9	5	Integrating	13	43	Master	5	- Professional Development - College Classes - Self-taught
T10	4	Integrating	4	4	Bachelor	4	- Professional Development - Collaborating with Colleagues
T11	NA	NA	3	11	Masters	4	NA

Characteristics of School B

Project Based Learning (PBL) was a district initiative which included students researching and solving problems. The school district's goal of PBL was to help teachers improve lessons and activities to be project-based, student centered, ingrate technology, and engage students in higher order thinking. Teachers and principals referred to PBL when discussing students' online research projects. They explained the relevance of PBL in conjunction with the CCSS, as well as the role of technology. The principal at School B explained, "It just kind of is a natural progression for them to research, and for them to be able to come up with a project or a writing assignment."

Each day, for forty-five minutes, students use the computer lab for *SuccessMaker* by Pearson (see http://www.pearsonschool.com/index.cfm?locator=PSZk99). This was a way for students to practice specific skills at their level in reading and math. The reading program of *SuccessMaker* integrates science, social studies and interdisciplinary themes to provide differentiated instruction based on individual student needs. Data was collected through the program and reviewed by the principal weekly.

Another district initiative was promoting teacher observations of one another. The principal coordinated and facilitated protocol lessons where teachers gave feedback to one another in a non-evaluate session.

Available Technology

At School B, there was one iPad cart for each grade level in third grade through fifth grade. In addition, there was a laptop cart that could be checked out. The computer lab, with 65 computers, was reserved for Success Maker. Teachers had access to a SMART Board and a document camera in the classroom. Technology at school B was funded through the district, except for one iPad cart which was purchased through a PTO fundraiser.

Since the majority of technology at School B was provided by the district, it was usually purchased in phases. In the first two years of new technology initiatives, teachers had to apply. The principal explained that that the first group of teachers that received technology had to demonstrate initiative and explain how they would integrate technology in their classroom. Once they received the technology and were using it to integrate literacy and technology, it got other staff members excited, and then more teachers applied in the next round. When teachers received new technology, they had to attend a week-long technology boot camp in the summer.

New Literacies Integration

Teachers frequently referred to the role PBL tied into how they were integrating new literacies in their classroom. T10 explained, "They (the students) make a lot of projects that go along with the Common Core Standards, and a lot of them will have to do with presenting or using research that with technology."

At the time of this research study, students at School B were researching creepy critters, immigration, and careers. They were working with the librarian and they were learning how to

use *Destiny Quest*, an online resource, to help them find and locate resources for their projects. Teachers worked with students in the classroom to organize and summarize information through the use of graphic organizers. *Pic Collage* and *iMovie* were two popular ways for students to present their findings to others. While students were researching, students used *Kid Blogs* to share information and collaborate with peers.

School C

Located on a military base, with approximately 35% student turnover each year, School C was a prekindergarten through fifth grade elementary school with a focus on building student leaders. School C was also located about 15 minutes from a large university, and it had the lowest populations of students that qualified for free and reduced lunch in this study. Due to high student turnovers, in order to help promote parent involvement, every Friday, students, teachers, and parents have a Friday Celebration that focused on building student leaders and recognizing student effort.

Principal

School C was led by a principal who spent his entire career at School C. He taught for five years as a teacher, and had been the principal for the past 20 years. Over the years, the principal worked with the PTO to have fundraisers to purchase technology. Many times after the technology was purchased and integrated into School C, the district saw the benefit and then purchased the same technology for other schools. The principal at School C had a budget of approximately $12,000 that was used in the following ways: supplies for teachers, office supplies, repairs, and furniture and equipment.

Teachers at School C discussed how their principal has an encouraging attitude and helped them feel safe to take risks in terms of trying new technology in their classrooms. The

principal at school C said, “I think I’ve tried to be a catalyst,” when talking about helping teachers integrate technology. He also discussed how he gives teachers and staff, “permission to explore, permission to use, permission to struggle.”

The principal is head of the *Technology Task Force* at School C. The *Technology Task Force* met and discussed any issues the school was having with technology. They brainstormed ways they could help teachers, plan the *Tool Time for Technology* meetings, and make sure all technology is in good working condition, so teachers were not frustrated by technology that does not work. The *Technology Task Force* is both at the building level and at the district level. The *Technology Task Force* created *Tool Time for Technology* which occurred monthly, and teachers showcased technology. T12 explained how each grade brought a couple technology pieces they were using in their classroom to help provide ideas to other teachers and to get them thinking.

The principal was very proud of his work at the district level to help schools integrate technology into schools. He worked with members of the school district’s central office to help form a district level technology task force that had a goal of helping teachers understand how technology must provide an added value.

Staff

There were five classroom teachers in grades three through five at School C. Three of the teachers agreed to participate in this study. According to the principal, the staff at School C has been transition over the past five years with teachers retiring, and new teachers out of college being hired. The classroom teachers interviewed were either considered “Integrating New Literacies” or “Emerging” based on the *Teacher Questionnaire*. The schools in this district utilize their library/media specialist as a way to support teachers as they integrate technology with their students.

Table 4.4 Participants School C

Code	Grade	NL Rubric	Years at this Grade	Years Exp.	Highest Degree	Years with Principal	How Teachers Acquired their Technology Knowledge and Skills
T12	5	Integrating	3	3	Bachelor	3	- College Classes - Conferences - Professional Development - Self-Taught
T13	4	Integrating	11	33	Bachelor	20	- Conferences - Collaborating with Colleagues - Professional Development
T14	3	Emerging	5	5	Bachelor	5	- Professional Development - Self-taught - Collaborating with Colleagues
T15	NA	NA	1	8	Masters	8	- College Classes - Conferences - Self-Taught - Collaborating with Colleagues

Characteristics of School C

School C was in their second year of using *Success For All* (see www. http://www.successforall.org/) as their reading program. It was built around a cooperative learning framework that engaged students. In the intermediate grades, the focus was on vocabulary development, reading comprehension, fluency, oral language development, and writing. All schools in the district were using this program. Since it is what the teacher consider a "scripted program" technology integration that incorporates new literacies occured during writing, science and social studies.

At School C, student run news programs were televised weekly. The library/media specialist spent thirty minutes per day working with students on the news program. Her role

included brainstorming, and setting up the schedule. However, students did all the script writing, camera work, video recording, and editing.

The library/media specialist played a large role into the integration of new literacies at School C. Teachers were given release time once a quarter to collaborate with the library/media specialist. This time included sharing upcoming units of study, setting goals on ways they will integrate technology, and how she could support them. In addition, every other day for 25 minutes, students worked with the library/media specialist to research topics and learn computer skills and learn about new technologies. Lessons included digital citizenship, how to use digital cameras, video cameras, and Nooks.

Available Technology

Teachers have SMART Boards, Elmos, and computers in their classrooms. The school has three laptop carts as well as computers in the library. Teachers sign up for times to use laptop carts. School C also has a green screen and a variety of video recording equipment and video editing software.

New Literacies Integration

Teachers were researching animals, presidents, and the Revolutionary War. Students used *Symballoo* to organize websites for research projects. Video recording was very popular at all grade levels at School C. Students had access to video editing software and a green screen, and many students used Flip Cameras to create movies for their final presentations. Students also used iMovie and PowerPoint for their presentations.

Current events were an integral part of the social studies lessons taught by the fourth and fifth grade teachers. Students and teachers watched CNN Student News during social studies and students researched more about current events after the news stories. Teachers used

Kidblog.org to have students report about current event issues and comment on each other's posts.

Another way students were integrating new literacies was during Genius Hour. Students spend one hour per week researching an item of their choice. All of the research was done on computers and students shared the result of the research with their peers. In addition, fifth grade students participate in Tech Time, where the library/media specialists works with the fifth graders exposing them to various types of technology, such as computers, digital cameras, video cameras, and Nooks.

School D

Located in a small town surrounded by farms, School D was the only school that was not a PK-5 building, and was also located in the smallest school district in this study. School D housed the 4th and 5th graders in the school district. It was the only school in the study that was not a traditional K-5 elementary school. It also was the only school in the study that was a recipient of a 21st Century Learning Grant. This grant was used to provide afterschool and summer programs to meet the academic needs of students. Through the 21st Century Learning Grant, iPads were purchased. Students used the iPads for tutoring activities, club projects, and connecting their classrooms to initiatives developed in the afterschool program.

Principal

Since this was a small school district, the principal's job included some district level responsibilities. She was the district webmaster, as well as being in charge of the multi-leveled tiered support for the district.

The principal at School D did not have support staff to help with technology integration, and was very much active in the implementation of technology integration at the school. The

principal would go into classrooms and set-up new technology as well as model and demonstrate how to use technology. She discussed videotaping herself and how she created a video bank of certain apps and programs in order to help teachers. She discussed that this way the teachers could access the videos anytime they needed them. In addition, the principal sometimes taught a few students a new app, and then those students would teach the other students.

To help teachers implement the CCSS, the principal create a webpage for English Language Arts resources and websites. Parents had access to this website, so they could use these same resources at home.

The principal at School D frequently sent teachers to technology integration conferences. As part of attending a conference, teachers were expected to provide professional developments for their colleagues during PLC time. Teachers were also expected to share with colleagues how they were integrating technology.

Staff

There were eight classroom teachers at School D in grades four and five. Three agreed to participate in this study. Staff at School D were all considered "Integrating New Literacies" based on the *Teacher Questionnaire*. One of the teachers interviewed served on the Technology Committee. T18 had previously been at a school with a Technology Rich Classroom Grant.

Table 4.5 Participants School D

Code	Grade	NL Rubric	Years at this Grade	Years Exp.	Highest Degree	Years with Principal	How Teachers Acquired their Technology Knowledge and Skills
T16	4	Integrating	8	7	Bachelor	5	- Collaboration with Colleagues
T17	4	Integrating	0	0	Bachelors	0	- College Classes - Collaboration with Colleagues
T18	5	Integrating	11	9	Masters	4	- Self-Taught - Technology Rich Grant

Characteristics of School D

Unlike the other schools in this study, School D was the only school that did not have any district initiatives that mandated specific literacy programs to be utilized during language arts time. The principals explained that teachers had freedom to choose resources that met the CCSS when teaching.

Every Friday, the principal taught a *POWER* class. During this class, the principal teaches lessons focused around Digital Citizenship and the ISTE standards. Students were taught to check their emails, their grades, and also to use and find apps that fit different criteria. She also allowed them to have some down time on the technology, "using my grandma's rule---as long as it's decent and legal."

During *POWER* class time, the principal opens the library up to the public. She reported that the students were excited when people from the community attended iPad classes with them. She typically paired up members of the community with the students. The students did most of the showing, teaching, and answering of questions. "It is great when they come. The kids love it and so do they!"

To help facilitate technology integration, the principal selected two teachers that served with her on a school technology committee, and also served on the districts' technology committee. The technology committee for the district consisted of teachers from every building, a library media specialist, three principals that were heavily involved in tech integration, two local business members, two parents, two high school students, our technology director and technology assistant, and any technology teachers in the district. They met four times a year, to discuss and plan technology policy, technology integration, and future goals.

Available Technology

The principal at School D was very proud of the 1 to 1 ratio at her building. Many devices were purchased through fundraisers and not spent using the districts technology budget. Although students were not assigned a device for personal use, every student has access to technology the entire school day. Teachers also had SMART Boards, Elmos, and document cameras in their classrooms.

New Literacies Integration

Students were researching owls and regions of the United States. At School D, students scanned QR codes to take them to research sites that teachers had approved. In addition, teachers' websites have the links for students for approved research search engines.

Teachers use Kidblogs.org for students to answer comprehension questions, journal prompts, and to collaborate with peers. In addition, students read and comment on their peers' posts. When making presentations, students use Doodle Buddy, Prezi, and Glogster.

Chapter 5 - Results

Introduction

This chapter reports the results of the analysis (as discussed in detail in Chapter Three) based on the three research questions:

1. How do the knowledge, dispositions, and actions of elementary principals in high-poverty schools influence the integration of new literacies by classroom teachers?
2. How are the dimensions of instructional leadership evident in the leadership of elementary principals in high-poverty schools with classroom teachers integrating new literacies?
3. How do the knowledge, dispositions, and actions of elementary principals intersect with the dimensions of instructional leadership?

This chapter is organized in the following way to show the patterns based on the research questions, the patterns that emerged, and the themes that resulted from data analysis across patterns:

Patterns across all participants.

- Patterns related to research question one (NCATE framework terms of knowledge, dispositions, and actions) are discussed.
- Patterns related to research question two (dimensions of instructional leadership) are discussed.
- Emergent patterns from questions one and two are discussed.

Patterns from disaggregation by participant characteristics (school site, teacher level of integration)

- Patterns for research question one are disaggregated.

- Patterns for research question two are disaggregated.
- Patterns from emergent codes are disaggregated.

Themes across patterns.

- Theme one is discussed.
- Theme two is discussed.
- Theme three is discussed.

As described in Chapter Three, patterns for the main codes (knowledge, dispositions, actions, mission, managing instruction, and promotes school climate) emerged from subcodes and further analysis of the subcodes. However, not every subcode yielded a singular pattern. Even though tallies were utilized to help keep track of how many times codes were discussed, tallies did not constitute establishing credible patterns, but helped organize the data (Creswell, 2012).

Patterns for Research Question One

Patterns for Knowledge of Principals

Data coded under the main code of knowledge revealed three patterns (see Table 5.1). The principals were knowledgeable about the connection between the CCSS and new literacies. They were also motivated, self-taught learners, and they gained knowledge about new literacies from collaborating with other principals, district personnel, instructional coaches, and college professors.

Table 5.1 Patterns for Knowledge (K)

Definition: Knowledge of Principals	Pattern
Knowledge is the empirical research, disciplined inquiry, informed theory, and the wisdom of practice. *What do the principals know about integrating new literacies at their school?* **Professional Developments* **Trainings *Classes *Online Research*	Principals were knowledgeable about the role of new literacies in the CCSS. Principals from three of the four schools discussed the principals' knowledge about CCSS and new literacies.
	Principals acquired knowledge by being motivated, self-taught learners. This was discussed by all four principals.
	Principals collaborated with colleagues to acquire knowledge. This was discussed by all four principals.

Principals were knowledgeable about the role of new literacies in the CCSS. The CCSS includes the integration of new literacies. Three principals and one teacher discussed the principals' knowledge and how it related to integrating new literacies in the classroom. P1 explained the how in a previous principal job, the teachers in fifth grade spent quite a bit of time having students research and find information from reliable online sources. She also discussed the writing component of the CCSS in terms of students reporting their research findings. One of her teachers discussed how knowledgeable her principal was about the CCSS due to the principal's research about the CCSS. The principal at School C discussed the demand for research and analyzing reading as a part of the CCSS. "There is more demand for research, there is more demand for being analytical, and in what you are reading and verifying that it is a viable source."

The principal at School C also explained that the opportunity to write through blogs, the Common Core has elevated the need for writing and writing across all curriculum areas, while the principal at School D stated, "I think the main thing is that we know what the standards are, and that we follow them so we are preparing them for 21st century."

Principals were self-motivated learners. The principals in this study discussed how they were motivated, self-taught learners. The principal at School A discussed how she researched the CCSS in order to provide new teachers with professional development during the summer. In terms of professional learning, the principal at School B commented how she made an effort to learn about new trends in technology.

The principals at School C and School D discussed how their learning was self-directed. They listened to webinars, follow blogs and Twitter accounts of influential technology educators, and signed-up for emails to receive updates new ways to integrate technology in classrooms.

Saturday mornings were devoted to webinars for the principal at School C. "I religiously would listen to classroom 2.0 webinars on Saturday morning and discover new ideas." The principal at School D explained how she frequently turned to YouTube anytime she wanted to figure out how something worked, "I go to YouTube, and I typed 'how do you' I might not have the same Microsoft year program they have, but it is enough that I can do it."

Principals were collaborating with colleagues to gain knowledge. The principals in this study discussed how they acquired knowledge about new literacies through collaboration with colleagues. At School A, the principal collaborated with other principals. The principal at School B collaborated with the instructional coaches assigned to each grade level by the district, and she also collaborated with other principals in the district. At School C and School D, the principals collaborated with district office personnel. At School D, the principal also collaborated with a university professor. The principals perceived collaborating with other principals not only as a form of support, but also as a learning experience. The topics of collaboration included planning, setting goals, reviewing data, and sharing ideas on how to help teachers integrating technology.

Patterns for Dispositions of Principals

Data coded under the main code of dispositions revealed four patterns (see Table 5.2). The dispositions of the principals were discussed in terms of goal setting and expectations, the purpose of integrating technology and literacy, the importance of teachers needs when providing professional development and support, and their opinion of the CCSS and how research and CCSS are related.

Table 5.2 Patterns for Dispositions (D)

Definition: Dispositions of Principals	**Pattern**
Professional attitudes, values, and beliefs. *What do the principals believe is important when integrating new literacies at their school?* **Think* **Feel* **Believe*	Principals' beliefs included goals and expectations for the integration of literacy and technology. This was discussed by all principals and a majority of teachers (15/18).
	Principals' beliefs included the purpose of integrating technology and literacy. This was discussed by all principals and teachers from each school (9/22).
	Principals' beliefs reflected an understanding and consideration of teachers' needs when planning support and professional development. This was discussed by all four principals and teachers at three of the four schools (7/22).
	The principals' beliefs reflected their opinion of the CCSS and how research and CCSS are related. This was discussed by principals at three of the four schools.

Principals' beliefs included goals and expectations for the integration of literacy and technology. The principals in this study believed that technology integration must be aligned with the curriculum. The principal at School A discussed the following long-term goal, "In the long haul, our long-term goal is to have kids that are technology, media literate, be able to be good digital citizens."

At School B, the principals and teachers discussed how the expectation that technology integration was aligned with the curriculum. The principal at School D set specific expectations

depending on teachers' comfort level and experience with integrating technology and literacy. T17 commented, "She doesn't expect the same thing from all of us. She has expectations for all of us individually."

Other principals, like the principal at School C, had long-term goals for students and teachers, and commented:

> I think that to a large degree, we're still kind of teaching an old model in a world that you know…towards a world that no longer exists. So I think we need to give our kids lots of exposure to seeing the viability of technology for learning and really even for their own learning.

Teachers from all four schools discussed having all students engaged in technology integration as a school-wide goal. T2 discussed the goals of her principal when she stated, "She thinks it is really important because our kids are 21st century learners she does want those kids and is really wanting to get technology in everyone hands." T13 expressed the same sentiments when she said, "our goals are to have all students using technology…kinder through fifth."

Principals had a purpose for integrating literacy and technology. The purpose of integrating technology and literacy was evident in the principals' beliefs. This included the integration of online reading and research and teaching students 21st century skills. Principals discussed how technology should not be used for test-taking purposes. They also discussed the role technology played in learning. The principal at School A said, "We really want them to leave us being responsible with the technology, but also how to use the technology as a tool to help them learn or share what they learn." While the principal at School B commented, "Any way the technology plays a part, it just kind of is a natural progression for them to research, and for them to be able to come up with a project or a writing assignment."

The principal at School C reflected, “You know the opportunity to participate in learning experiences that are more real world and real life and real connections is how I think it aligns.” While the principal at School D discussed how computers shouldn’t just be for testing purposes, “Just so you weren’t getting on there to take a test. That shouldn’t be the only time they have the technology in their hands.”

Principals considered the needs of teachers. The needs of teachers were considered by principals when planning professional developments and providing support for teachers. Both principals and teachers discussed this. Teachers described how they believed principals looked at the needs of teachers and they varied expectations depending on the teachers’ comfort level with integrating technology.

The principals at School A and School B discussed how ineffective professional developments could be for teachers when they are not timely. They both discussed how many times professional developments occur before school starts for the year, when teachers want to be in their classrooms working. The principal at School A also offered her opinion on sustaining and building capacity of teachers through professional development with ongoing support for teachers. “Anytime you can do things in house, I think it is more sustainable. And results in more systemic change, because I see the support being there when teachers need it.”

At School C, teachers were allowed release time to plan with the library/media specialist, and students attended classes with the media specialist to learn initial technology skills that they could apply in the classroom with their teacher. The principal at School C’s explanation was as follows:

> A lot of the technology exposure that our kids get are through the library/media specialist with the hope of doing a gradual release model to where the teacher has a greater level of comfort for the same activities and exercises.

The principal at School D discussed how she had to be understanding of where teachers were at in terms of their levels of technology integration. "I've had to be accepting of where everyone is at."

Common Core State Standards and new literacies. The principals' beliefs reflected their opinion of the CCSS and how they connected with new literacies. These opinions were discussed because when students were engaged in online reading and research projects, which included presentations, the principals believed that students were meeting the expectations for the CCSS. The principal at School A said, "So when you think about Common Core and the speaking and listening skills and the presentations and the technology focus that is there."

At School B, the principal set specific expectations for teachers in terms of integrating technology when students were researching. "You have to document which common core standard it is going to hit and how you are going to use it and what you hope to get out of it."

The principal at School D summarized what other principals discussed when she said, "It is all aligned and falls right into the research and the presentation of the common core. It is all in there. It is just one more way to do. It does engage. It is a 21st century learning skill."

Patterns for Actions of Principals

Data coded under the main code of actions revealed seven patterns (see Table 5.3). All participants' discussed supportive actions that principals were taking to ensure that the integration of new literacies was occurring in classrooms. Some support was direct support, such as providing professional development for teachers, while other support was through the

facilitation of the principals coordinating the support. The patterns below include examples of both types of support.

Table 5.3 Patterns of Actions (A)

Definition: Actions of Principals	**Pattern**
The process of acting or doing to accomplish something. A verb. *What actions have the principals taken to support the integration of new literacies?*	Support through collaboration included formal and informal ways of sharing information. This was discussed by all participants (22/22).
**Modeling* **Professional Development Opportunities*	Providing resources to teachers was considered a form of support by all participants in this study (22/22).
**Allocating Resources* **Allocating Time* **Observations* **Conferencing with Teachers*	The principals in this case study took an active role in modeling, facilitating, or leading professional development. This was discussed by three of the four principals and teachers at each school (15/22).
	The observed in classrooms and conferenced with teachers about integrating new literacies. This was discussed by all principals and a majority of the teachers (20/22).
	Differentiated support for teachers helped teachers integrate new literacies and helped principals in planning. This was discussed by all four principals and a teacher at each school (8/22).
	The principals in this study were influential in their school district. This was discussed by three of the four principals in this study.
	The principals emphasized the role of research in the CCSS. This was discussed by all four principals.

Collaboration. Formal collaboration occurred during Professional Learning Community (PLC) times, faculty meetings, and during common plan times on specific days of the week at the different schools. These collaborations included entire grade-level teams, and occasionally the entire staff. At School A, the computer teacher met with teachers either during their PLC time or during common plan time to plan lessons with the teacher that supported students' online

reading and research skills. T1 discussed how teachers planned together to integrate technology in lessons. “We meet, we have common plan time with, so 3rd, 4th and 5th have common plan and 3rd and 2nd have common plan times, and we meet with our colleagues and we have mentor teachers who would work with you on that.”

At School B both teachers and instructional coaches shared new apps and worked with teachers on different ways they could incorporate them in the classrooms to enhance instruction. These meetings occurred during faculty meetings, PLC time, and at weekly meetings with the instructional coaches.

Tool Time for Technology was a special monthly meeting at School C. Teachers shared how they were integrating technology in their classrooms and they could have questions answered by their peers. Additionally, the principal at School C provided teachers with release time one day a quarter to meet with the library/media specialist to plan research projects and for classroom teachers to learn more about the resources they could use to integrate technology in their classrooms.

The principal at School D discussed how she learned that having teachers complete checklists as a way to keep track of what teachers were integrating technology was not increasing the integration in classrooms. Instead, as a way to improve accountability, she began having teachers present what they were using in their classrooms during PLC times. “To have to share with your peers, says a lot.”

In terms of informal collaboration, the teachers at School A also discussed how their principal had partnered teachers up to work together based on their strengths. According to T3, this helps make sure everyone was on the same page in terms of teaching expectations. T2 said:

> She's really good about asking us what we are needing and how and when we need it and using like our instructional coach encourages us if it is a need that we can't get from our mentor and really working one on one with us. She does a really good job of just coming out and showing up and asking, 'hey what do you need from me?

T3 expressed similar sentiments when she said:

> She got us together and made sure B. really knew what she was doing. Not that I had tons of knowledge, but I have a little bit more than B., and so I think she just makes sure that everyone is on the same pages on what we are supposed to teach the kids.

Informal collaboration at School B occurred between teachers and also between teachers and instructional coaches. Teachers described it as a mutual collaboration between teachers and coaches where each were sharing ideas with one another. The instructional coach at School B explained how she collaborated with teachers depending on their comfort levels with integrating technology in the classroom:

> Especially for those teachers that it may be outside their comfort zone, I have more of a direct approach with them, where I might be leading the lesson in how to use the technology and how we are using it in our lesson. With other teachers, I might bring them the idea, and we plan together, and then take more of the lead teacher position, and I'm more of the support teacher.

The principal at School C explained about his strength as a facilitator in terms of encouraging teachers to collaborate. "My support is basically, I think linking people up together. You know, 'so and so is really good at this, you ought to tap their brain and see if you could get some more ideas to move forward in this area.'"

Resources. All participants discussed how the principals provided resources for teachers to integrate literacy and technology. Each site used different technology, and had different student to device ratios. Principals also discussed how they funded the resources.

School A had different devices at each grade level. Due to lower enrollment at certain grades, some grades were able to have a 1:1 ratio of students to devices, while other grades had a 2:1 ratio. School B and C had the highest student to device ratios in the study with approximately one device per every three students. At School B, teachers could also sign up for laptop carts in addition to the iPad cart. School D had a 1:1 ratio when combining computers and iPads, but students did not have an individual device checked out to them.

When discussing resources, the funding of resources came up. School A, School B, and School D all discussed the support they received from their Parent Teacher Organization in funding additional resources beyond what the district had purchased. The principal at School D said, "All the iPads we have in this building, not one penny was spent through the technology fund through the district. We've raised the money ourselves, we've done donations." The principal at School A commented:

> I've also worked with PTO to providing additional devices. For example, in first grade, the district is only funding them at a 3:1. Having taught first grade, first graders don't share all that well, and I would love to do 2:1 instead of 3:1. So I went to PTO and made a proposal and asked if you would be willing to offset the cost of x number of devises, so we can have the kids at a 2:1 ratio instead of 3:1.

Careful budgeting was discussed among teachers and principal at School A to describe their technology acquisitions. Multiple teachers commented about how any extra money was spent on technology, and how any additional building money leftover at the end of the year

would be to purchase additional technology. The goal of the principal at School A was to have as close to a 1:1 ratio of students to devices as quickly as possible.

Grants were another ways schools received technology. The teachers at School C discussed the support they received from their principal in terms of writing grants. They commented about the assistance they received from the principal to fill out grants for additional technology beyond what the district provided, and T13 said:

> He is the one, and I've been here 33 years, so when he first started, he was very big on technology, and so at first we would have to write grants to get computers for our students to use. We started out that way.

Modeling, facilitating, and leading professional developments. The principals in this study took an active role in modeling, facilitating, and leading professional developments. At School A, the principal modeled at staff meetings and at PLC meetings. At School D, these demonstrations actually extended to students. P4 discussed how she was the only technology support staff for teachers. She went into classrooms and modeled or demonstrated for teachers and students.

At School A, teachers talked about how the principal modeled and provided professional development for teachers. At the beginning of the year, the principal held a week-long training for the new teachers to introduce them to *Literacy First*, CCSS, and technology integration. In addition, the principal modeled using a lesson plan format. Six out of seven teachers at School A discussed the principals' modeling to staff. T1 said, "Our principal does a good job of modeling what that would be and using that technology when she does presentations or talks about things or gives you ideas on what you can do."

At School D, the teachers and principal discussed the hands-on approach the principal provided. She conducted professional development class for staff members and technology classes for students. It was common for the principal at School D to go into classrooms to help teachers set up technology. T17 explained, "Well, we just got new Apple TVs. She came in and actually showed us how to use it."

The principal also talked about how she would write out steps for teachers, and make video recordings of herself with step-by-step instructions, so teachers were able to have access to directions anytime they needed them. "I'll write out steps for them. I'll make screen casts, where I tape myself on my iPad doing things, and I'll email it to them and they can see the video, and it is a live shot of my screen."

The principals and teachers at School B and School C described their role as facilitators. T9 discussed how the principal facilitated professional developments, while the principal at School B explained his role as a facilitator during staff meetings and professional developments and how the library/media specialist or the teachers were the ones that modeled new ideas. However, the teachers at School C described instances where the principal was modeling technology usage by attending meetings through Skype and utilizing video chat technology during staff meetings.

Observing and conferencing with teachers. The principals in this study were present in classrooms, observing and evaluating teachers. After these observations occurred, they were followed-up by a post conference to discuss technology integration.

The principals at all four schools were conducting walkthroughs. School A had daily walkthroughs, while teachers at the other three schools usually expected to receive at least one walkthrough a week. More than half the participants discussed principal walkthroughs as a form

of support in integrating new literacies. The principal at School B discussed how walkthroughs were non-evaluative, but helped teachers shape classroom instruction through conversations with teachers. At School D, T18 said, "She'll come in and see what the kids are struggling with and give input."

The teachers explained that the walkthroughs helped them understand the principals' expectations of what technology integration looked like in classrooms and how principals were expecting to see students engaged in 21st century skills. T16 commented, "She comes in and watches. She might ask what have you done lately with technology. Could you show me?" While T2 said, "When she comes in, on my evaluation, because I'm a first year teacher, making sure I'm focusing on those 21st century skills, making sure I'm using the technology."

Principals looked at these conferences as opportunities to learn more about teachers' needs, while teachers looked at these conferences as ways to learn more. The principal at School D discussed how conversations were able to help her understand the comfort level of her teachers. The principal at School A said, "Having the conversation with them, so they can process through and think, 'I could have done x, y, or z with the technology I had."

Teachers discussed how conversations helped give them ideas and direction, asked reflective questions, discussed setting goals to make sure they were integrating 21st century skills in their classrooms, and to find out what type of support they could provide. T15 explained that the principal would discuss goals that teachers had set, find out the status of goals, and what support he could provide to help reach the goals, "So he really, you know checks to see …this quarter, these are things that you said you would be doing for K-5. Where are we at? What goals did you reach? What can we do next quarter to make it better?"

T1 said:

Then when you have your feedback or your conference with her and then she would talk about how you are using technology and different ideas that you could use or point you in the direction of someone in the building that could help you do that.

Related to conferencing with teachers, were principal walkthroughs and evaluations.

Differentiated support. Teachers received differentiated support to integrate new literacies. Surveys, setting goals, and working with teachers that needed additional support were three ways principals in this study differentiated support.

School A, School C, and School D used surveys to help plan professional developments and learn more about teachers' needs. The principal at School A discussed how the results of the surveys helped her plan the professional development they needed. "So when we look at those technology survey results, we can see where our teachers are….that helps us provide the professional development they need."

Teachers at School A, School C, and School D discussed individualized goals. At School A, teachers met during a monthly PLC time and one item that was discussed was people's progress on their goals, and teachers could share with their peers what they were doing and receive feedback. The principal at School C discussed how teachers wrote SMART goals about their own pursuit of integrating technology into their instruction. The teachers at School C and School D discussed how they set goals. T17 said, "She kind of has goals individually for all of us."

Principals worked with specific teachers to help them receive the support they needed so they could be successful integrating technology and new literacies into their classroom. The principals at School B and School D explained how they worked with teachers individually to help them meet their needs. They might suggest a professional development for them to attend

or make sure they were working with another teacher or instructional coach to help them successfully integrate new literacies. P7 commented, "I think she talks on an individual basis with everyone and then they are given the help that they are needed."

Influence at the district level. Three of the principals discussed how their actions influenced the school district. At School A, the principal was the first to hire a full-time computer teacher to support school-wide technology integration goals. Once other principals saw the potential that this position provided, they hired a computer teacher.

The principal at School C was a founding member of the districts Technology Committee. This committee planned the Instructional Fair for the district, and helped create standards for teachers when integrating technology. The principal at School C commented, "I think some of the work we have done at MH, has gone on and had a broader influence on the district."

At School D, the principal was on the district technology committee. She also explained that she was in charge of the district's multi-leveled tiered support system and was the district's webmaster.

Principals emphasized the role of research in the Common Core State Standards. The principals in this study discussed how they encouraged research in the classrooms and how research was included in the CCSS. The principal at School A remarked, "We've really pushed to have research stations in the classroom." T3 at School discussed A discussed how the teachers received professional development to help them integrate research into their language arts lessons and make sure the lessons were tied to the CCSS. At School B, project-based learning involved a research component that was linked to the CCSS. The principal at School B, said, "That is how we have been integrating the technology and research piece. We've also been teaching them tools they will need later."

School C created their own scope and sequence for technology integration that was tied to the Common Core. At School D, the teachers and principals discussed how they wanted parents to have access to some of the same research sites students were using at school, and the principal built a web page for the English Language Arts CCSS that included multiple website that were ideal for researching at home.

Summary of Patterns for Knowledge, Dispositions and Actions

Principals in this study demonstrated knowledge about the integration of new literacies, and they had dispositions that included setting goals, understanding the purpose of technology integration, being considerate of teachers needs when planning support and professional development, and believed that new literacies and the CCSS were closely connected (see Table 5.4). The principals' actions included creating collaboration opportunities for teachers and support staff, purchasing resources for the school and classrooms, actively modeling, facilitating or leading professional developments, conferencing with teachers, differentiating support, and influencing the district in which they worked.

Table 5.4 Summary of Patterns Knowledge, Dispositions, and Actions

Knowledge
a) Principals were knowledgeable about the role of new literacies in the CCSS.
b) Principals acquired knowledge by being motivated, self-taught learners.
c) Principals collaborated with colleagues to acquire knowledge.
Dispositions
a) Principals' beliefs included goals and expectations for the integration of literacy and technology.
b) Principals' beliefs included the purpose of integrating technology and literacy.
c) Principals' beliefs reflected an understanding and consideration of teachers' needs when planning support and professional development.
d) The principals' beliefs reflected their opinion of the CCSS and how online reading and research and the CCSS are related.
Actions
a) Support through collaboration included formal and informal ways of sharing information between teachers.
b) Providing resources to teachers was considered a form of support by all participants in this study.
c) Principals took an active role in modeling, facilitating, or leading professional developments for staff and/or students.
d) Principals observed in classrooms and conferenced with teachers.
e) Principals differentiated support for teachers.
f) Principals influenced their districts in terms of technology integration.
g) Principals emphasized the role of research in the CCSS.

Patterns for Research Question Two

Patterns for Instructional Leadership: Mission (M)

Data coded under the main code of mission (M) revealed two patterns (see Table 5.5). The principals in this study set long-term goals and set specific expectations for teachers.

Table 5.5 Patterns for Mission

Definition: Instructional Leadership- Mission	Pattern
Definition: Setting goals and a vision and communicating these to stakeholders (Hallinger & Murphy, 1985).	Principals set long term broad goals. This was discussed by all three principals and teachers at three schools (10/22).
	Principals set expectations that were specific and they also included daily expectations of technology integration. Two principals discussed this. This was discussed by teachers at all four schools (16/22).

Long-term goals. The long-term goals discussed by the principals included preparing students for the 21st century, preparing students for the future, having students use technology to

enhance learning, and providing multiple learning opportunities for students. T2 said, "I think she thinks it is really important because our kids are 21st century learners she does want those kids and is really wanting to get technology in everyone hands." While the principal at School A commented:

> I wouldn't say to you that I can ensure that at this point, but I think that is where we are going when I spoke to you about the rubric and the artifact pieces and some of the things right now the district is setting up to say, 'this is what we are going to look for that all students' so when you think about Common Core and the speaking and listening skills and the presentations and the technology focus that is there. In the future, I think we will be able to say that all sure all students are able to integrate.

At School B, the principal and teachers discussed the role of 21st century skills and having the teachers' integrate project-based learning as a way to teach students 21st century skills. One of the teachers explained how the goal was that students were ready for the 21st century in terms of technology integration. While the principal focused on how learning must be relevant. The principal at School B stated:

> I think it has to be relevant, and we are really pushing project-based learning. Any way the technology plays a part, it just kind of is a natural progression for them to research, and for them to be able to come up with a project or a writing assignment. That is how we have been integrating the technology and research piece. We've also been teaching them tools they will need later.

At School C, the principal wanted students to make connections between how the technology skills students learn in school can be applied outside of school. He discussed his goal of integrating technology between home and school in order for students to have exposure to

various technologies so they can see the viability of technology for learning. He also discussed how he wanted to introduce students and teachers to multiple ways of letting kids learn through technology. The principal at School C explained:

> Well, I think I've tried to be a catalyst to consider the thoughts. I've always been someone who believed that kids today grow up with those tools, and sometimes schools they put those tools away or don't access them and after school they pull them back out. I just think that we need to recognize this is part of their world and see what ways we can integrate the two. One of my goals has been to get kids to see that learning takes place 24 hours a day, 7 days a week.

Expectations from principals. The expectations from principals included specific direction about usage in the classrooms. The verb "use" was frequently mentioned as an expectation when teachers were discussing the principals' expectations. Principals wanted students engaged in online research and principals wanted resources to be utilized for this purpose. T1 discussed, "I think that the major expectation is that you are really critiquing the materials you are using and it's not just a game or something that you could do teaching, that's it is really enhancing what we are doing and adding on to it." T3 explained, "The expectation is that we use it as much as we possibly can."

T5 concurred when she said, "She likes to see us use it as often we can whether it is in math, science, social studies as often as you can, as long as it is meaningful. She wants us to use technology as much as we can for reading and writing and learning how to research." Other teachers at other schools made similar comments. For example T9 said, "I believe that she believes that she wants us to use all the technology we have as much as we can."

T7 discussed the principals expectations when she said, "She wants us to use technology as much as we can for reading and writing and learning how to research." While T1 stated:

> Our big thing about technology is not just using technology but making sure that we are integrating technology in a way that makes a difference in the students' education and the students learning. So it is either increasing student engagement or it's helping them find out something they couldn't find out or looking at something deeper.

T14 explained the expectations from the principal in terms of technology integration being meaningful:

> He wants the technology to reinforce the learning …not to just be, "oh lets have technology time." It needs to be a natural thing, oh we are getting to use technology, but we are also working on learning more about our reading book.

Patterns for Instructional Leadership: Managing Instruction (MI)

Data coded under the main code of managing instruction (MI) revealed four patterns (see Table 5.6). The principals in this study provided teachers with access to resources that provided Internet access and allowed students to make presentations; principals used the CCSS as a way for teachers to integrate new literacies in their classrooms; principals utilized support staff to help classroom teachers integrate new literacies; and the principals were conducting walkthroughs/evaluations and conferencing with teachers.

Table 5.6 Patterns for Managing Instruction (MI)

Definition: Instructional Leadership- Managing Instruction (MI)	Pattern
Louis et al. (2010) described this category as practices that emphasize teaching and learning.	Principals provided teachers and students with access to resources that provide Internet access and resources that allowed students to make presentations were an important part of integrating new literacies in classrooms. This was discussed by teachers and principals at all four schools (15/22).
	Principals used the CCSS as a way for teachers to incorporate new literacies into classroom instruction. This was discussed by more than half the participants at all four schools (12/22).
	Support staff helped teachers integrate new literacies. This was discussed by participants at three of the four schools (12/22).
	The principals were conducting walkthroughs and evaluations as a way to help teachers integrate new literacies in classrooms. This was discussed by all of the principals and teachers at all four schools (16/22).

Resources. Access to resources, specifically access to the Internet and software and resources for students to conduct presentations was discussed the most in terms of coordinating the curriculum. These discussions included how principals were funding technology and acquiring resources. Teachers at each school discussed different hardware (laptops, desktop computers, tablets, iPads), but all resources were being utilized for the same purpose. This was also true for presentation programs. Some schools were using additional resources and equipment to produce presentations. School C was very involved in video productions as a presentation form, while the other three schools used various software and apps as ways for students to create presentations.

Standards. Participants in this study discussed how they used the CCSS as well as technology standards to help students improve their online reading and research skills, and work with students on written communication and presentation skills. Teacher 17 said, "It specifically states in there that they need to have research skills. They need to be able to use technology."

While the principal at School A discussed how the CCSS were new to the school and teachers were still learning about them:

> The Common Core…they are really trying to learn the curriculum and what we've done with the Common Core Standards and unpacking them…I don't see them, it is so infancy to be able to really have a great, deep understanding or grasp on how to use technology and the curriculum because it feels like they are learning those pieces at the same time…if that makes sense.

Two teachers discussed the alignment between the CCSS and students researching and presenting information to their peers. T18 said, "Well, the new Common Core is super easy to align the curriculum, because they talk about giving presentations and researching and putting together projects and information." While T1 discussed:

> We are obviously completely Common Core, so it works really well. There is a huge part of the writing is the research and being able to put that information together and using credible sources. It is a huge part of reading is the investigation and looking for information and really diving deeply into the text. Those two pieces fit well with technology because you have the ability to do that.

At School C, they developed their own scope and sequence to integrate technology and literacy. They included CCSS and ISTE standards. Teachers at School C referenced this document when talking about how they integrated technology and literacy in their classrooms.

Support staff. Principals in three of the schools utilized support staff to work with teachers and/or students to integrate technology. Support staff included computer teachers, library/media specialists, and instructional coaches. However, the principal at School D did not have a support staff like the other schools. She provided the same support to teachers at her

school that was typically provided by support staff at the other schools in this study. The support offered by coaches, library/media specialists and computer teachers helped teachers streamline their instruction.

Teachers at School A discussed how students attended computer lab two to three times a week and would be taught specific skills, such as how to cite sources and how to find reliable resources, and when they were in the classroom they were able to apply these skills. The computer teacher also made sure teachers knew what students were learning in her classes, so teachers could build on the students' knowledge.

The sentiment was similar at School B and School C when teachers talked about the instructional coach and library/media specialist. Teachers felt like they could have questions answered, and were taught new strategies and ways to help integrate new literacies into their classrooms. T14 said the following about the library/media specialist. "We can go to her with any questions or concerns and she'll know, or she'll know or she'll know who to ask to get you the resources and help that you need." While T10 explained:

> Emails are always flying back and forth and I've had the 4th grade instructional coach in here a couple times…doing the iMovie. I've never done iMovie, and she did it with me, and she taught with me so I would be ready to do it again without support.

At School C, teachers were provided with release time to work with the library/media specialist on lessons that that teachers could use in the classroom to integrate literacy and technology.

> He actually gives us time, like, our librarian has…she is going to have a sub one day, and we have subs and we get to meet with her for projects. We have 30 min subs, so we can plan with her. Then she has a time that we go in on a regular basis and we sign up for

and we do our technology. Or she'll come out here and do technology with us in the classroom. (T13)

Supervising and evaluating instruction. Both principals and teachers discussed evaluations and walkthroughs, and reflective conversations that emerged from these observations. The principals discussed the advantages of observations in terms of a way to get teachers to think about the potential that technology offered. P1 explained, "For me the biggest piece is the walkthrough piece and the observation piece. That is the most important part of my job with teachers anyway." P1 also stated:

> When I go in, for example, during observations we'll talk about different ways technology could have been used if it was during a literacy station, if it was during literacy station time. How was technology being utilized for the same kind of task they were doing. I kind of look at myself, I don't want to say as a coach, but also as a support, maybe, for teachers to think about what are some other ways we can pull in technology.

The principal at School B discussed how walkthroughs helped her closely analyze how technology integration was occurring, and if it was being used to its potential.

> The walkthrough form does ask if the teacher was using technology and if so what and if the student was technology it and if so what. That data as district administrators…we go over it, and see if it is being used. Is the SMART Board is just being used like a document camera and you could have an overhead projector instead, or are students actually going up and using it.

The teachers at School A believed the observations helped them improve instructions. They discussed how the conversations made them think about how they were effectively integrating technology into their classroom. T1 discussed, "Her job would be really to evaluate

that effectiveness of instruction and look at the effectiveness of instruction and technology and how it is being utilized in the classroom." T4 described how the conferences provided her with a way to see how she could improve and what her next steps were to take to improve. T2 commented:

> Through my evaluations, what have you guys been working on is one thing...that is the big thing too with me is that I've got those 21st Century skills, and that is part of using the technology. She asks me, 'How do you use it?' 'How are you using it effectively and what can you do to improve?'

Patterns for Instructional Leadership: Promotes School Climate (SC)

Data coded under the main code of promotes school climate (SC) revealed one pattern (see Table 5.7). Ongoing support to teachers promoted a culture where teachers were supported, were able to take risks, and were given time to integrate new ideas.

Table 5.7 Patterns for Promotes School Climate (SC)

Definition: Instructional Leadership: Promotes School Climate (SC)	Pattern
Promoting school climate includes building collaborative cultures, modifying organizational structures to nurture collaboration, building productive relations with families and communities, and connecting the school to the wider community (Louis et al., 2010).	Principals promoted a culture where teachers received ongoing support. Teachers received support from support staff, were able to take risks, and had time to integrate new ideas. This was discussed by participants at all four schools (18/22).

Promoting a culture of ongoing support for teachers. Providing ongoing support to teachers was a way the principals promoted school culture. This was discussed in terms of job-embedded professional development at the building level, through the use of support staff. Teachers were allowed to take risks and teachers were provided with time to integrate new

literacies. Job-embedded professional development included principals providing or facilitating professional development for teachers. T5 stated, "She does a lot of modeling or she'll walk us through step-by-step, kind of like you would with your own kids."

Another form of job-embedded professional development was teachers observing other teachers. The principal at School A also discussed the benefits of having teachers observe one another as a form of ongoing professional development.

> We've made time in our building, so teachers can observe each other. So for example, A. in third grade that has had several years of technology. She is above and beyond where other teachers are. Providing release time during the day to have M. go down and watch A. in her classroom, is another way I can help support them.

At school B, teachers taught lessons that included technology integration or Bloom's Taxonomy. They also received feedback from their peers. The principal at School B commented:

> I support the teachers in regards to technology and literacy by providing them support with a coach or other teachers who are an "expert" in the area needing assistance. I also support them in observing other teachers both in our own building and in other elementary buildings in the district.

At School C, teachers discussed the upcoming *Tool Time for Technology* as a way to continue learning more about how to effectively integrate technology into their classrooms. Conferences were a way that teachers continued their professional learning at School D. Teachers attended conferences to learn how to effectively integrate technology in their classrooms. When they returned, they would train staff members during PLC time.

Support staff provided support to teachers in multiple ways. They not only helped provide professional development to teachers, they were willing to answer questions. P1 commented about how important it was for teachers to be able to have their questions answered quickly, if they were going to successfully integrate what they were learning in professional developments:

> You don't have to wait until once a month. If they have questions right now. They can fire them off to that instructional coach T, and say, 'hey I'm having a problem with this' or they can work with our computer teacher in-house.

At school D, the principal explained that she also filled the role of technology support staff. T16 explained how the principal answered questions, "Anytime we have questions or concerns or…she's always coming in. She'll watch if you need to."

Teachers in this study discussed feeling like they were encouraged to take risks and try new ideas. T10 described how collaborating with the instructional coach provided him with new ideas that he was willing to try and integrate into his class. The Principal at School C explained how he gave teachers permission to incorporate new ideas. "Permission to explore, permission to use, permission to struggle…You know all of those things…I try and allow them that."

Teachers in this study described how they were given time to integrate new ideas into their class. T18 said, "She gives me time to work and figure out things, and makes me feel like it is okay to try it, even if it doesn't work the first time. A safe environment to try things, explore and learn." While T11 said, "So we have to take a little bit more time, but he still encourages us to take that time."

Summary of Patterns for Instructional Leadership

Principals in this study set goals and expectations for teachers. They provided resources to teachers, used the CCSS as a way for teachers to incorporate new literacies into classroom instruction. Principals utilized support staff to work with teachers as they were integrating literacy and technology in their classrooms. In addition, principals supervised and evaluated instruction by conducting walkthroughs and evaluations. Principals also promoted a culture where teachers received ongoing support.

Table 5.8 Summary Patterns for Dimensions of Instructional Leadership

Mission (M)
a) Principals set long-term, broad goals related to technology integration.
b) Principals set expectations that were specific and included daily expectations of technology integration.
Managing Instruction (MI)
a) Access to resources that provide Internet access and resources that allowed students to make presentations were an important part of integrating new literacies in classrooms.
b) Principals used the CCSS as a way for teachers to incorporate new literacies into classroom instruction.
c) Support staff helped teachers integrate new literacies.
d) The principals' role in supervising and evaluating instruction included walkthroughs and evaluations.
Promotes School Climate (SC)
a) Principals promoted a culture where teachers received ongoing support. Teachers received support from support staff, were able to take risks, and had time to integrate new ideas.

Emergent Patterns

The emergent codes in this study included district support, district initiatives, teacher needs, teacher knowledge, teacher usage, roles of principals, student support not related to new literacies, and teacher beliefs (see Table 5.9). Since the study focused on the principals and the integration of new literacies, not all emergent codes were applicable to this study. Student support not related to new literacies such as online fluency programs or intervention programs were brought up by some participants during the interviews, but did not apply to this study. The emergent codes did not have any subcodes.

Table 5.9 Patterns for Main Emergent Codes

Emergent Pattern
The school districts in this study were supporting new literacies through professional development and resources. This was discussed by principals and teachers at all four schools (21/22).
Due to district initiatives, new literacies integration occurred in multiple content areas. This was discussed by principals and teachers at all four schools (16/22).
Integrating new literacies included principals having a financial role, in addition to their role as instructional leader. The financial role of principals was discussed by all principals and three teachers (7/22).
Family engagement through technology integration was discussed by three principals and five teachers (8/22).

When the emergent codes were analyzed, patterns included district support, district initiatives, financial role of principals, and parent engagement potential. Other emergent codes were not sufficient to indicate patterns. For example, the study was focused on the knowledge, dispositions, and actions of the principals, and when analyzing the transcript, teachers' beliefs were discussed. One teacher discussed how her beliefs were consistent with teaching students 21st century skills, while other teachers discussed how the CCSS included a research component. Teachers also expressed their opinion of state assessments and the technological resources that were utilized during the assessment window. However, there was not enough data to make credible patterns or determine if all of the participants' beliefs were the same as the principals.

Another area that the researcher was unable to determine credible patterns was teacher needs. Many of the teachers participating in this study discussed not needing additional support. A few teachers, wanted additional professional development on specific software at one school, while another teacher wanted additional professional development for ideas. This was not sufficient data to determine a pattern across all schools.

District Support

Participants discussed district support in terms of professional development and additional technology support staff. At School A, teachers and principals discussed how grade level teams for the entire district would meet:

> They are actually given release time and we hire a sub, and they go offsite to our central office to MH. This is where the technology training will happen for them. They bring all first grade teachers together, all fourth grade teachers, all fifth grade teachers- across the district at different times.

School B and School D had annual district technology instructional fairs that had numerous sessions taught by teachers. T8 explained about the numerous choices available to teachers:

> We had, oh I bet we had thirty to choose from. They send it out, with a description of each. You look it over and they tell you to choose three and two alternates and hopefully you get at least some of them. You don't always get what you want, but you are probably going to get one or two of them.

Teachers and principals at School A, School B, and School C discussed additional technology staff that was available at the district level to help classroom teachers and answer specific questions. T10 commented, "There is some of the technology help-desk people that can help me with issues if something gets broken…they can fix it." T13 said:

> We do have ITs that come around, and if we want extra training, they will come and give us training in different areas, and how to create your webpage. The district is very knowledgeable about getting people out to help people learn.

One teacher and the principal at School D, discussed the support they received through the teachers and principals that served on the district's technology committee. The support they received included collaborating and learning new ideas from other committee members.

District Initiatives

Three of the four school districts in this study had large-scale district initiatives. School A was a *Literacy First* school, and they had grade level required projects. Teachers at School A discussed the district writing project. In fifth grade students were required to conduct a research project. This research project spanned content areas.

At School B, two initiatives were PBL and *SuccessMaker*. All three teachers discussed how they were integrating new literacies during science and social studies time. The principal discussed how the district was really, "pushing project-based learning." She and the instructional coach both commented that teachers were integrating science, social studies, and literacy with PBL. The principal at School B stated:

> I think it has to be relevant, and we are really pushing project-based learning. Any way the technology plays a part, it just kind of is a natural progression for them to research, and for them to be able to come up with a project or a writing assignment. That is how we have been integrating the technology and research piece. We've also been teaching them tools they will need later.

At School C, the classroom teachers commented that since they were using *Success For All,* a district mandated reading program, during their language arts time, they were using science and social studies time to integrate new literacies. Students were researching and presenting based on topics the class was studying about in those two subjects. School D was the only

school where the teachers were not required to use a specific curriculum, which meant they were free to integrate new literacies during multiple content areas.

Financial Role of Principals

The principals in this study discussed funding in terms of the acquisition of resources. This was beyond the scope of the principals' role as instructional leader. Three of the four principals in this study had minimal control over their building budget in terms of acquiring technology; however, funding frequently came up in conversations. The principal at School D, was the only principal that had flexibility in spending.

Principals and teachers used terms like, "cash strapped," "limited funding," "not wasting money," "extra money," "leftover money," or "budget" when talking about resources. Principal C said, "We sometimes see things that we would like to have for our students and we'll raise the money and make a purchase."

Despite not having to manage large budgets, the principals in this study were trying to access as much technology for students as possible. This led to all four principals fundraising, working with the Parent Teacher Organizations, or writing grants. P4 commented, "We've raised the money ourselves, we've done donations. The teachers have given up something to get them."

The principal at School A discussed how she saved back as much money as she could each school year to purchase additional resources:

> The money I used to purchase the additional technology for our building came out of my general fund building budget. I save back as much as I can each year to purchase additional tech or resources for teachers.

Parent Engagement Potential

When analyzing the transcripts, many teachers and principals discussed how the integration of technology and literacy could extend learning beyond the classroom walls. The principal at School C said:

> One of my goals has been to get kids to see that learning takes place 24 hours a day, 7 days a week, and if we give them and show them various ways they can make that happen, we've again planted a seed that maybe some amazing things happen outside of the school day. We see some of that I think through the things that we've exposed our kids to.

At School C, one teacher discussed how the principal had created a webpage for parents. The webpage included information about CCSS resources, but also research websites for students to use that coordinated with what they were learning in the classrooms. T16 explained:

> We have a whole page that she put up for the ELA for Common Core and the math for Common Core and what resources the kids can go to and what activities they can do at home with their parents. We sent that out to the parents to let them know things they can do with them. The parents are very strong with integrating technology.

Principals discussed the importance of classroom teachers having websites where parents could learn about resources they could use at home, but also as a way to showcase students' research projects. Classroom teachers at all four schools discussed how they were using their class websites to showcase presentations, research topics, and also included creative ways for students to access homework help after school.

At School D, the public was invited to iPad classes with the students on Fridays. The principal at School D discussed:

This is a time that I open the library up to the public. Following some of the iPad classes I have taught in the evening, I invite the public to come to the iPad class on Fridays. It is actually pretty cool when someone shows up. Typically it is someone older and I pair them up with the kids. The kids do most of the showing, teaching, and answering of questions. It is great when they come. The kids love it and so do I.

Disaggregated Patterns

Using the transcripts, as well as the database created by the researcher, tables in Appendix I, Appendix J, and Appendix K, the data were disaggregated by school and by the classroom teachers' levels of new literacies integration. Patterns were disaggregated based on research question one, research question two, and the emergent patterns.

Each pattern was looked at individually, and a percentage was calculated based on the number of participants that discussed the pattern. When patterns were disaggregated, many times, there was very little difference in the number of participants that discussed the pattern. Only patterns that had discrepancies were included in this section.

Disaggregated by school. When looking at the knowledge, dispositions, and actions of principals disaggregated by school, there were only two patterns that had discrepancies. Table 5.10 shows the differences in patterns when looking at research question one disaggregated by school.

Table 5.10 Discrepancies in Patterns When Disaggregated by School: Percentage that Discussed Knowledge, Dispositions, and Actions

Dispositions	**School A N= 8**	**School B N=5**	**School C N=5**	**School D N=4**
The principals' beliefs reflected their opinion of the CCSS and how online reading and research and the CCSS are related.	38%	60%	0%	50%
Actions				
Principals took an active role in modeling, facilitating, or leading professional developments for staff and/or students.	75%	40%	80%	100%

In terms of dispositions, at School C, the principal's beliefs being reflected in the CCSS and how reading research and the CCSS are related were not discussed by any participants. At School B, there was minimal discussion about principals taking an active role in modeling, facilitating, or leading professional developments for staff and/or students or the principal being influential in their district in terms of technology integration.

Disaggregated by teachers' level of new literacies integration. When looking at the knowledge, dispositions, and actions of principals disaggregated by teachers' level of new literacies integration, there were four patterns that had discrepancies. Table 5.11 shows the discrepancies in patterns.

The teachers that were considered emerging or limited in terms of integration new literacies in the classrooms provided a different perspective in terms of the dispositions of their principal. They did not discuss the principals' beliefs including the purpose of integrating technology and literacy like the teachers that were full integrated. They also did not talk about the principals' taking into account teachers' needs when planning support and professional development. They did not discuss that the principals' beliefs reflected how the CCSS and online reading and research are related.

Table 5.11 Discrepancies in Patterns When Disaggregated by Classroom Teachers' Level of New Literacies Integration: Percentage that Discussed Knowledge, Dispositions, and Actions

Dispositions	**Limited/Emerging N=4**	**Fully Integrating N= 11**
Principals' beliefs included the purpose of integrating technology and literacy.	0%	36%
Principals' beliefs reflected an understanding and consideration of teachers' needs when planning support and professional development.	0%	27%
The principals' beliefs reflected their opinion of the CCSS and how online reading and research and the CCSS are related.	0%	27%
Actions		
Principals took an active role in modeling, facilitating, or leading professional developments for staff and/or students.	50%	91%
Principals differentiated support for teachers.	25%	45.5%

In terms of principals' actions, there were two areas that teachers considered limited or emerging in their new literacies discussed less frequently than teachers considered fully integrating. Half of the teachers that were considered emerging or integrating discussed their principals modeling, facilitating or leading professional developments. Only one teacher considered limited or emerging discussed the principal providing differentiated support.

Research Question Two

Disaggregated by school. When looking at the dimensions of instructional leadership of principals disaggregated by school, there were discrepancies in two patterns. Table 5.12 shows the differences in patterns.

Table 5.12 Discrepancies in Patterns When Disaggregated by School: Percentage that Discussed Dimensions of Instructional Leadership

Mission (M)	**School A N= 8**	**School B N=5**	**School C N=5**	**School D N=4**
Principals set long-term, broad goals related to technology integration.	50%	60%	60%	0%
Managing Instruction (MI)				
Support staff helped teachers integrate new literacies.	88%	40%	80%	0%

Teachers at School D did not discuss their principal's long-term goals. However, teachers and principals at School D discussed how teachers created individual goals. In addition, at School D, the teachers did not talk about support staff helping teachers integrate new literacies. Unlike the other schools, School D did not have support staff that worked with classroom teachers to integrate literacy and technology. The principal explained during her interview that she "was the support staff."

Disaggregated by teachers' level of new literacies integration. When looking at the dimensions of instructional leadership disaggregated by teachers' levels of new literacies integration, there were discrepancies in two patterns. Table 5.13 shows the differences in patterns.

Table 5.13 Discrepancies Patterns When Disaggregated by Teachers' Level of New Literacies Integration: Percentage that Discussed Dimensions of Instructional Leadership

Mission (M)	**Limited/Emerging N=4**	**Fully Integrating N= 11**
Principals set long-term, broad goals related to technology integration.	25%	45%
Managing Instruction (MI)		
Principals used the CCSS as a way for principals to incorporate new literacies into classroom instruction.	25%	55%

Only one teacher that was considered limited/emerging in their new literacies integration discussed their principal having long-term, broad goals. The teachers considered limited/emerging in their new literacies integration did not perceive their principals to have beliefs that connected the CCSS and new literacies. They also did not perceive that their principals used the CCSS as a way for teachers to integrate new literacies in their classrooms.

Emergent Codes Disaggregated

Overall, when the emergent patterns were disaggregated, they were similar. When the emergent codes disaggregated by school were examined, there were very little discrepancies in the number of participant responses. The same also occurred when the emergent patterns were disaggregated by classroom teachers' level of new literacies integration.

Themes

The third research question focused on the intersection of the knowledge, dispositions, and actions of the principals with the dimensions of instructional leadership (Hallinger & Murphy, 1985). Creswell (2012) explained that themes form in qualitative research when the data are interpreted to discover the larger meaning of the data. After analyzing all the patterns, and reviewing the transcripts, three themes emerged that demonstrated the knowledge, dispositions, and actions of the principals intersect with the dimensions of instructional leadership (Hallinger & Murphy, 1985):

- The principals in this study were literacy leaders.
- The principals articulated a focus on all students having equitable opportunities to integrate new literacies.
- The principals established a culture of trust and professional growth.

This section is organized based on the three themes that emerged from the patterns. A summary of the themes is located in Appendix L. Tables were developed to show the number of participants that discussed each main code. This data was used in helping to organize the patterns that emerged to create themes. It is important to note that the narrative that follows synthesizes the findings in a slightly different way than the previous sections allowing the reader to view the data in a more holistic way. Since many main codes overlap and intersect (dispositions and mission; actions, managing instructional program, and promotes school climate), the narrative will provide a more thorough and synthesized explanation of the themes, as opposed to simply restating the patterns.

The Principals Demonstrated Literacy Leadership

The principals at these schools demonstrated Literacy Leadership, however, it is important to note that the principals never directly said, "I am a literacy leader." The questions in the interview guide involved the integration of literacy and technology, yet through the responses of the participants in this study, there is evidence that the four principals were literacy leaders. Based on the *Standards for Reading Professionals* (IRA, 2010), literacy leadership included the following categories for principals:

- Foundational Knowledge (Knowledge)
- Curriculum and Instruction (Knowledge, Dispositions, Mission, Actions, and Managing Instruction)
- Assessment and Evaluation (Knowledge, Dispositions, Actions, and Managing Instruction)
- Creating a Literate Environment (Dispositions, Actions, and Managing Instruction)

- Professional Learning and Leadership (Dispositions, Actions, Promotes School Climate) (IRA, 2010).

These categories of literacy leadership overlapped with the main codes from the first two research questions. Table 5.15 shows the number of participants that discussed each main code related to literacy leadership. The number of participants is listed on top, and below, in parentheses, the participants that discuss the main code are listed. The narrative includes examples from each of these main codes to support how the principal was a literacy leader based on the criteria for literacy leadership (IRA, 2010).

Table 5.14 Theme One Main Codes to Support Literacy Leadership: Number of Participants that Discussed Theme

Literacy Leadership	**School A N=8**	**School B N=5**	**School C N=5**	**School D N=4**	**Total N= 22**
Knowledge	3 (P,1,4)	x	2 (P,13)	1 (P)	**6**
Dispositions	4 (P,1,3,5)	4 (P, 8,9,11)	2 (P,14)	3 (P,16, 17, 18)	**13**
Actions	8 (P,1,2,3 4,5,6,7)	5 (P,8,9, 10,11)	5 (P,12,13, 14,15)	4 (P,16,17,18)	**22**
Mission	4 (P, 1,2,6)	2 (P,9)	3 (P,13,15)	2 (P,17)	**11**
Managing Instruction	3 (P,1,2)	3 (P,9,10)	3 (P,14,15)	3 (P,17,18)	**12**
Promotes School Climate	5 (P,1,2,3,5)	3 (8,9,10)	3 (P,13,14)	3 (P,16,17)	**14**

Foundational knowledge. The principals demonstrated foundational knowledge when they discussed their knowledge of the CCSS and how the standards related to online reading, such as the demand for being analytical when reading online text and the importance of finding reliable and valid resources. In addition to the skills involved in online reading, teachers discussed their principals' knowledge about text complexity and close reading. T4 said, "She is

very knowledgeable about Common Core and how to set-up the *Literacy First* model when we are teaching."

Three of the principals in the study discussed their knowledge related to literacy leadership while two teachers at their schools also discussed their principals' knowledge of literacy leadership. The Principal at School C discussed his knowledge of the ISTE standards and how they applied in the classroom, while the Principal at School D discussed how her ongoing collaboration with a college professor increased her knowledge of ways technology integration could be improved in literacy and other content areas.

In addition, the principal at School A held a weeklong workshop for beginning teachers to teach them about the CCSS and help them plan lessons. T1 commented, "She has that knowledge, because she does the research."

Curriculum and instruction. Principals shared their dispositions about the curriculum (CCSS) and instructional practices. Participants discussed the connection between the CCSS and integrating literacy and technology in the classrooms. To manage instruction, principals conducted walkthroughs and conferenced with teachers.

The principals set expectations and had beliefs associated with integrating new literacies in the classrooms. The principal at School A said, "I think no matter what the content area is, it really has to be making sure that you are using technology as a tool."

One of the teachers at school expressed her thoughts on her principals' beliefs on integrating technology and literacy say, "As long as it is meaningful and focused." T9 at School C stated the expectations of her principal, "We aren't supposed to do anything that's not tied to standards. There is a purpose to everything we do."

In addition to the CCSS, the principal at School C created a scope and sequence to help teachers integrate technology at each grade level:

> We have kind of created a scope and sequence... I would say it is developing. We've created that, and part of that creation was based on what are you already doing, and how does that fit into the ISTE standards and how does that fall into the tech standards.

Teachers and principals in this study discussed connection between the CCSS and integrating new literacies. The principal at School B explained that her expectations included teachers documenting which CCSS the technology and literacy lessons were including and what the teachers' goals for the students were at the end of the lesson. At School D, the principal explained that she believed online research and presentations were included in the CCSS and were a 21st century skill. T7 explained her principal's expectations for having students use technology, "She wants us to use technology as much as we can for reading and writing and learning how to research."

Principals actions included being present in the classrooms in order to provide teachers with feedback. All four principals conducted walkthroughs and evaluations. After these observations, they conferenced with teachers to discuss how technology was being integrated in the classroom, find out if teachers needed support, and offer suggestions. The principal at School A stated:

> During observations we'll talk about different ways technology could have been used if it was during a literacy station, if it was during literacy station time. How was technology being utilized for the same kind of task they were doing?

Assessment and evaluation. The participants in this study discussed the link between the CCSS, online reading and research, and new state assessments.

T12 commented, “My priorities need to be math every day, reading needs to be very day, because those are my tested subjects.” Other teachers commented on how the CCSS, and online reading were preparing students for the state assessment. P9 mentioned, “There are so many standards that are linked to technology and different kinds of media.”

In addition, the Principal at School D expressed her beliefs in terms of using technology strictly for test preparation and to take state assessments. “Just so you weren’t getting on there to take a test. That shouldn’t be the only time they have the technology in their hands.”

Literate environment. Principals in this study provided opportunities and resources for students to participate in online reading and research projects and were creating a 21st century literate environment. All participants in this study discussed the principals’ actions of purchasing resources (or writing grants and having fundraisers) so teachers could integrate technology and literacy in classrooms. Although this was not discussed in terms of books, principals and teachers at all schools commented on students using technology for reading, research, and using technology to read books. The principal at School C stated:

> One of my goals has been to get kids to see that learning takes place 24 hours a day, 7 days a week, and if we give them and show them various ways they can make that happen, we’ve again planted a seed that maybe some amazing things happen outside of the school day. We see some of that I think through the things that we’ve exposed our kids to.

The principal at School A discussed how instead of using text books, students were using computer for research and how research served many different purposes:

> For example, with research, we’ve really pushed to have research stations in the classroom. Allowing students to take areas they are interested and use the skill that they

are working with in reading to be able to transfer that into research. Then transfer that into writing and then into some sort of speaking and listening presentation then that might be something they do with technology.

Professional learning and leadership. Principals discussed how professional learning was a priority for themselves and for teachers, and principals discussed how they were motivated, self-learners. The four principals in this study also collaborated with other principals, district personnel, instructional coaches, and college professors. They were motivated learners that enjoyed attending professional developments and conferences, and wanted to share their knowledge with the teachers. The principal at School D said, "I am a self-learner, and I just go out and learn." While the principal at School C explained, "So I've done, like there for a while, for a couple of years, I religiously would listen to classroom 2.0 webinars on Saturday morning and discover new ideas."

Three of the principals in this study influenced their school district in terms of technology integration. The principal at School A was the first principal in her district to have an elementary computer lab teacher. At School C, the principal was a founding member of the district's *Technology Task Force*. At School D, the principal was on the district's technology committee, the district's webmaster, and was responsible for the districts multi-leveled tiered support program.

The principals in this study created opportunities for teachers to be engaged in professional learning and leadership. Teachers were collaborating and providing ongoing professional development for each other at all four schools.

Equitable Opportunities for All Students

The principals at these schools ensured that all students had the opportunity to integrate new literacies. The last question asked participants what principals did to ensure that all students had the opportunity to integrate new literacies. However, throughout the interview, principals and teachers discussed the terms "all students," "everybody," and "everyone." Table 5.16 shows the number of participants that discussed each main code related to equitable opportunities for all students. The principals in this study created equitable opportunities for all students in the following ways:

- Principals set expectations (Dispositions, Actions, and Mission).
- Principals allocated resources (Actions and Managing Instruction).
- Principals observed in classrooms and conferenced with teachers (Actions and Managing Instruction).
- Principals structured the schedule (Actions and Managing Instruction).
- Principals created collaboration opportunities for teachers (Action and Promotes School Climate).

Table 5.15 Theme Two Main Codes to Support Equitable Opportunities for All Students: Number of Participants that Discussed Theme

Equitable Opportunities for All Students	School A N=8	School B N=5	School C N=5	School D N=4	Total N=22
Knowledge	x	x	x	x	**0**
Dispositions	3 (P,1, 2)	1 (8)	2 (P,13)	x	**6**
Actions	7 (P,1,2,3, 4,5,6)	4 (P,8,10, 11)	5 (P,12,13,14 15)	4 (P,16,17,18)	**20**
Mission	4 (P,2,6,7)	3 (8,9,10)	2 (P,12)	2 (14,17)	**11**
Managing Instruction	3 (P,1,4)	4 (P,8,10, 11)	3 (P,14,15)	2 (P,17)	**12**
Promotes School Climate	4 (P,1,2,5)	1 (P)	2 (12,13)	4 (P,16,17,18)	**11**

Principals set expectations. Expectations of the principals included all students integrating technology in the classrooms. Sometimes it was directly stated and other times it was implied. The principal at School A said, "In the long haul, our long-term goal is to have kids that are technology, media literate, be able to be good digital citizens."

T2 commented, "I think she thinks it is really important because our kids are 21st century learners she does want those kids and is really wanting to get technology in everyone hands."

At School B, T8 said, "We just want all the kids to be able to use the iPads because, especially fifth grade, because at the Sixth Grade Academy, everyone has an iPad."

While at School C, T13 explained, "That is a high priority for him. He wants students to be ready for…any new technology that comes out, he wants us to be ready for. We try and get all new technology that is out there." T15 said, "He stresses how it is incorporated into all other aspects of their lives and that they shouldn't have to "power down" when they come to work."

At School D, the principal talked about the classes she taught, but then how all students at the grade level worked on projects involving the same topic. "We are all going to do it."

Principals allocated resources. Each school in this study had a plan so that all students would be able to participate in new literacies experiences and each school had their own unique ideas about the integration of new literacies into the curriculum, which still led to the goal of all students being able to integrate new literacies in their classrooms. At some schools this included students attending special classes. In addition, teachers had a research station in their classrooms to continue the online reading and research process which is a part of the CCSS.

The integration of new literacies was implemented in a variety of ways in each school setting. At School A, students were able to attend computer lab class with the computer teacher

two to three times a week. Students learned 21st century skills as well as online reading, research, and presentation skills, which is another component of the CCSS.

Project-based learning allowed students at School B the opportunity to participate in new literacies. Online reading and research took place during language arts, science, and social studies. Due to the fact that one computer lab was reserved for *SuccessMaker*, there was another computer lab for teachers, as well as access to iPad and laptop carts.

Students at School C attended weekly classes with the library/media specialist where students worked on research and presentation skills. Teachers were also provided release time to plan lessons for their classroom with the library/media specialist so these same learning experiences could take place in the classroom.

At School D, students had weekly classes with the principal where they focused on digital citizenship and new literacies. School D was able to have a 1:1 student to device ratio that helped ensure that all students had the opportunity to integrate new literacies. In addition, students changed classes, so the teachers with stronger technology integration skills were responsible for teaching the online reading and research and presentation components.

The principals observed in classrooms and conferenced with teachers. The principals at all four schools were conducting walkthroughs. By being visible in the classrooms, the principals monitored that all students were having opportunities to integrate literacy and technology.

Technology integration was a specific category on the walkthrough tools at all four schools. School A had daily walkthroughs, while teachers at the other three schools usually expected to receive at least one walkthrough a week. The principal at School D said, "I feel at an

advantage because when I go into different classrooms, I get to see different teachers doing things with technology and I can share with other teachers."

The conferences after the walkthroughs were opportunities for teachers to learn about potential ideas that principals had observed in other classrooms. Teachers discussed how conversations with their principal helped give them ideas and direction and it provided an opportunity to monitor their goals, as well as making sure they were integrating 21st century skills in their lessons.

Principals structured the schedule. Each school principal created times where all students were engaged in new literacies activities. At School A, students attended computer lab two to three times a week. Teachers taught students specific skills, such as how to cite sources and how to find reliable resources, and when they were in the classroom they were able to apply these skills. The computer teacher also made sure teachers knew what students were learning in her classes, so teachers could build on the students' knowledge. Also, the teachers at School A created research literacy workstations so all students could participate in online research during guided reading.

At School B and School C, teachers had laptop and iPad carts that were checked out to them for the purpose of research. Since School B had a school-wide focus of project-based learning, all students were engaged in online research. At School C, students met with the library/media specialist at least twice a week for lessons that included researching.

At School D, the principal taught a Power Class on Friday afternoons. Students were researching and learning digital citizenship skills. This was in addition to the online research projects all students were working on in their classrooms. Students at School D switched teachers. This helped ensure that all students were having the same technology opportunities.

T18 explained that if one teacher was stronger in technology integration than their peers, all students in that grade level would have that teacher and all students would have equal opportunities to integrate technology.

Principals created collaboration opportunities for teachers. One purpose of collaboration was to have teachers share ideas with one another that would increase the equitable opportunities for all students in terms of technology integration. At School A and School B, teachers were able to observe one another teaching lessons that included technology integration during language arts.

At School C, all teachers were provided release time to plan technology integration lessons with the library/media specialist. Teachers also participated in *Tool Time for Technology* where teachers shared ideas on how they were integrating technology in their classrooms. T8 explained that he learned about *CNN Student News* from another teacher during a *Tool Time for Technology* meeting. He used the news program as a way for students to research current events and blog about them.

Teachers at School D were required to share how they were integrating literacy and technology at PLC meetings. The principal explained how she learned many years ago that checklists were ineffective ways to manage technology usage in the classrooms. By having teachers share projects that students had completed not only gave other teachers more ideas, but helped her monitor teacher accountability.

Culture Based on Trust and Professional Growth

The principals in this study created a school culture based on trust and professional growth. Integrating new literacies in elementary classrooms can create many new challenges for teachers including learning new technology, integrating technology in meaningful ways, and

teaching students how to use technology for reading comprehension. Table 5.17 shows the number of participants that discussed each main code related to how the principals' created a culture based on trust and professional growth. The principals in this study did the following to create a culture based on trust and professional growth:

- Goals and expectations were individualized (Dispositions, Actions, and Mission).
- Teachers felt safe to experiment and take risks (Actions and Promotes School Climate).
- Principals provided encouragement (Actions, Managing Instruction, and Promotes School Climate).
- Teachers had technology questions answered (Actions and Promotes School Climate).
- Teachers received ongoing professional development (Actions and Promotes School Climate).
- Teachers had opportunities to collaborate (Actions and Promotes School Climate).

Table 5.16 Theme Three Main Codes to Support Culture Based on Trust and Professional Growth: Number of Participants that Discussed Theme

Culture Based on Trust and Professional Growth	School A N=8	School B N=5	School C N=5	School D N=4	Total N= 22
Knowledge	x	x	x	x	**0**
Dispositions	2 (P,1)	x	2 (P,13)	2 (P,16)	**6**
Actions	5 (P,2,3,6,7)	3 (P,9,10)	5 (P,12,13,14, 15)	3 (P,17,18)	**16**
Mission	5 (2,3,5,6,7)	3 (8,9,10)	2 (P,12)	x	**10**
Managing Instruction	4 (P,1,2,4)	3 (P,9,10)	3 (P,14,15)	2 (P,17)	**12**
Promotes School Climate	4 (P,1,3,5)	4 (P,8,9,10)	3 (P,12,13)	3 (P,16,18)	**14**

Goals and expectations were individualized. Principals in this study believed personalized goal setting was a way to help teachers grow professionally. Three of the principals

in this study individualized goals or differentiated expectations to help determine what types of professional developments were most appropriate for their teachers. T1 at School A explained and T13 at School C explained that the expectations really were based on what level teachers were at in terms of integrating literacy and technology.

At School D, the T16 described how the principal knew teachers comfort levels when they were learning new technology. The principal at School D commented, "I've had to be accepting of where everyone is at."

Experimenting and taking risks. Teachers at three schools (Schools A, School B, and School C) were encouraged to take risks and try new ideas in their classrooms. Teacher 10 talked about trying new ideas with the instructional coach and grade-level teachers. T13 said, "He always says, 'try it and see…if it doesn't work out, that's fine, but try it.'"

> T18 commented about how she was able to experiment with new ideas in her classroom: She gives me time to work and figure out things, and makes me feel like it is okay to try it, even if it doesn't work the first time. A safe environment to try things, explore and learn.

The principal at School C felt strongly about providing teachers with an environment where they could take risks. He explained, "Permission to explore, permission to use, permission to struggle…You know all of those things… I try and allow them that."

Encouragement. Teachers at all four schools discussed how the actions from the principals were encouraging them to integrate new literacies into their classrooms. The principal at School A said, "I kind of look at myself, I don't want to say as a coach, but also as a support, maybe, for teachers to think about what are some other ways we can pull in technology." While T2 said:

> She is really good about asking us what we are needing and how and when we need it and using like our instructional coach encourages us if it is a need that we can't get from our mentor and really working one on one with us. She does a really good job of just coming out and showing up and asking, 'hey what do you need from me?'

At School B, T9 said, "If there is anything offered by the district she will encourage us to go or ask us if we are interested in going." T9 also commented, "I think she is very supportive and she agrees with it. She does everything she can if we have a problem to try and solve it. I think she is very supportive in that way."

School C's principal was described as encouraging by multiple teachers. T15 said, discussed how he always stepped up and asked if he there was any support teachers need or anything he could help them with. T14 explained:

> He's great at just communicating to the district about what resources we need. Great at encouraging us to fill out grants to get support, signs grants with us to help us get resources…and made a big push, getting laptops at our school…up-to-date, new carts coming.

At School D, T17 said, "She's the one that introduced technology. For me as a first year teacher, it's kind of different, but she has brought it all to me…very supportive when I've come up with ideas."

Questions answered. The teachers in this study indicated that they felt like they could have questions answered if they ran into difficulty using technology. T9 said, "If I can't take care of it, she finds out who can." While T14 discussed how she felt like the library/media specialist and the principal could answer questions:

> Our library/media specialist is great. We can go to her with any questions or concerns and she'll know, or she'll know or she'll know who to ask to get you the resources and help that you need. Also, my principal too.

The principal at School A discussed how teachers could have questions answered by the instructional coach or the computer teacher. The teachers concurred. T1, T3 discussed how they had technology questions answered by both the computer teacher and the instructional coach, while T5 said:

> Like the first time we had laptops up this year, none of them would logon in the Internet. I just call her up, and say, 'K, I need your help!' and she'll come running down as fast as she can. This morning my SMART Board was glitching, and she came down and helped.

T3 explained that the principal asked teachers, 'hey what do you need from me?' Then if there were needs, making sure questions were answered, and also matching teachers up with the instructional coach, computer teacher, or another teacher that could also support them.

Since School D, did not have the support staff like the other schools in this study, the principal would not only answer questions, but create "how to" technology videos that teachers could watch. In addition, the teachers helped one another. T17 discussed how he had questions answered by other teachers in the building, "I mean a lot of them are the ones that...if I ever have questions, I ask them and they'll tell me or give me their feedback."

Ongoing professional development. Accessing support through support staff, coaches, and principals, and through collaboration with colleagues provided teachers with continued professional development at the building level.

At School A, teachers received professional development from the principal, and they had release time to observe one another teacher. The principal at School A felt like having teachers observe one another was a way to support professional development for teachers.

Feedback from peers through lesson observations was one way teachers were continuing their professional development. Weekly meetings with instructional coaches were another way teachers at School B were collaborating and continuing to grow professionally.

As ongoing support was discussed in terms of continuing professional development at the building level, buy accessing support through coaches, principal, or support staff. T5 stated, "She does a lot of modeling or she'll walk us through step-by-step, kind of like you would with your own kids." P1 said:

At School C, teachers participated in *Tool Time for Technology* as a way to continue learning more about how to effectively integrate technology into their classrooms. Teachers at school D shared how they were integrating literacy and technology at monthly meetings, and they were the only school that discussed having the opportunity to attend conferences outside of the district.

Opportunities to collaborate. Collaboration at all four schools contributed to a culture of trust and professional growth. T1 said, "We collaborate during our PLC time and the encouragement comes from having time to talk about it." The principal at School A stated:

> Our tech integration is so new I truly feel that all staff are willing to share and collaborate with one another on their own time to help build their knowledge base, after school, for example, a group of intermediate teachers are meeting to discuss how they are implementing close reading, what resources they are using including technology.

At school B, the teachers discussed being encouraged to share with one another. The instructional coach, who traveled to multiple buildings, also shared ideas with teachers. T8 said, "She encourages us to share lessons if we do something with technology to show each other."

At School C and School D, teachers discussed collaborating with one another after attending professional developments. T14 discussed how teachers collaborated after attending district professional development days, "We are invited to share one take-away or one way our daily instructional time has changed because of something that we learned that day."

Summary

Chapter Five describes the patterns related to the knowledge, dispositions, and actions of the principals and the patterns related to the dimensions of instructional leadership in terms of the principals' role in schools with classroom teachers integrating new literacies. This section included emergent patterns as well as disaggregated patterns based on the first two research questions and the emergent patterns. It concluded with the three themes that emerged from the data analysis. Chapter Six will summarize the study, explain the findings, discuss the significance of the study, implications for professional practice, and recommendations for future research.

Chapter 6 - Discussion

The interviews from teachers, support staff, and principals provided insight into the knowledge, dispositions, and actions of principals in high-poverty elementary schools with teachers integrating new literacies. It also examined the leadership characteristics of the principal using the dimensions of instructional leadership (Hallinger & Murphy, 1985) as a framework to analyze data. This final chapter includes a summary of the study, the findings from the study based on the three research questions, significance of this study, implications for practice, and recommendations for future studies.

Summary of the Study

The principal's leadership is a key factor in terms of school effectiveness (Fullan, 2007; Hallinger & Heck, 1998; Leithwood & Riehl, 2003) and is a key factor in the integration of technology into classrooms with a goal of improving instruction and learning (Bauer & Kenton, 2005; Dawson & Rakes, 2003). Without the support of the building principal, no matter how much professional development teachers receive, most will not integrate technology (Dawson & Rakes, 2003). However, integrating new literacies into the classroom requires more than just the integration of technology. The integration of new literacies uses technology; however, the focus is on the use of information along with the acquisition of knowledge (Leu et al., 2004).

The purpose of this multiple-case study (Yin, 2009) involved learning about the roles of principals in high-poverty schools with classroom teachers integrating new literacies. The researcher purposefully selected schools where students were engaged in online reading and research. At these schools, students were engaged in new literacies by finding and locating information through online resources, answering questions, synthesizing information, and communicating their findings to others (Coiro et al., 2008; Henry, 2006; Karchmer-Klein &

Shinas, 2012; Leu et al., 2013). Using the conceptual framework of instructional leadership (Hallinger & Murphy, 1985) as well as the knowledge, dispositions, and actions of the principal as a lens to analyze the data, interviews of principals, teachers, and support staff were transcribed in order to learn more about the leadership qualities of these principals.

New literacies are a specific component of technology integration, and the research on new literacies has discussed the importance of teachers understanding not only how to use the technology, but professional development on how to integrate technology and literacy in the classroom (Hutchison & Reinking, 2011; International Reading Association, 2009; Lankshear & Knobel, 2011). Therefore, it is important to note that sometimes the patterns and themes focus specifically on new literacies, while other times they include the integration of technology and literacy.

Findings

Discussion of Research Question One

How do the knowledge, dispositions, and actions of elementary principals in high-poverty schools influence the integration of new literacies by classroom teachers?

Based on the patterns, derived from the analysis, principals in this study demonstrated knowledge, dispositions, and actions that helped classroom teachers integrate new literacies. The main analytic code of knowledge was discussed the least by participants, and it was discussed primarily by the principals. There was a question in the interview guide for teachers (Appendix D) that discussed the principals' knowledge. When the principals answered this question, they discussed specifics about information they have acquired; however, the answers from teachers reflected the actions of the principal instead of knowledge. This could be attributed to the fact that teachers perceived the knowledge of the principal to be related to the

actions of the principal. It is important to point out that the actions of the principal described by the teachers were consistent with the knowledge reported by the principal.

Knowledge. "The leadership in a school largely determines the outcome of technology integration; however, administrators cannot fully or effectively support technology if they do not understand it" (Dawson & Rakes, 2003, p. 33). It was the principals' knowledge in this study that helped contribute to their ability to be literacy leaders and support classroom teachers in the integration of new literacies in their classrooms.

The knowledge of the four principals in this study showed the following patterns:

- Principals were knowledgeable about the role of new literacies in the CCSS.
- The principals acquired knowledge by being motivated, self-taught learners.
- The principals acquired knowledge by collaborating with colleagues to learn more about integrating technology and literacy.

The principals in this study were knowledgeable and understood the demands of the CCSS and supported teachers in their integration of new literacies in the classroom. The CCSS include students engaged in new literacies practices when they conduct online research, evaluate their sources, and create reports and presentations on their findings (Castek & Gwinn, 2012; Kist, 2013; Leu et al., 2013). The principals in this study were knowledgeable about the CCSS and therefore set expectations that included students conducting online research projects and creating presentations.

Research has shown that there is a correlation between the technology professional development that principals receive and the level of technology integration in their schools (Dawson & Rakes, 2003). The principals in this study wanted to learn more about successfully integrating technology in their school. They attended professional developments and

conferences, followed current blogs and twitter feeds that focused on 21st century literacy skills, and experimented with new ideas before sharing them with the teachers.

Collaborating with colleagues was another way that principals gained knowledge. The principals in this study collaborated with instructional coaches, other principals, district personnel, and college professors. The focus of their collaborations included learning new ideas, sharing ideas, and setting goals.

Dispositions. The dispositions or beliefs of the four principals in this study showed the following patterns:

- Principals' beliefs included goals and expectations for the integration of literacy and technology.
- Principals felt they should consider the needs of teachers when planning support and professional development.
- Principals believed the purpose of integrating literacy and technology were based on students learning 21st century literacy skills.
- Principals believed that new literacies were embedded in the CCSS.

Setting visions and goals has been discussed in the research on literacy leadership (Beers et al., 2010; Reeves, 2008), instructional leadership (Leithewood et al., 2004; Louis et al., 2010; Murphy et al., 1983), and technology leadership (Dexter, 2008; ISTE, 2009; Levin & Schrum, 2013). Research has discussed how the expectations established by the principal impact how technologies and new literacies are integrated in classrooms (Anderson & Dexter, 2005; Dawson & Rakes, 2003; Hutchison & Reinking, 2011). Principals that establish goals and a vision have been documented in schools where technology integration was widespread. At the schools in this study, the goals and expectations focused on the purpose of technology integration.

Principals discussed the importance of having students learn 21st century skills which included being media literate and practicing digital citizenship. Teachers in this study discussed the expectations in terms of all students utilizing technology for the purpose of learning.

Understanding the needs of teachers integrating technology into their classrooms was discussed by principals and teachers in this study. Taking into account teachers' perceptions can influence successful professional development and technology integration in classrooms (Anthony, 2012; Ertmer et al., 2012; Hutchison & Reinking, 2011). The needs of teachers were considered by principals when planning professional developments and providing support for teachers. Teachers described how they believed principals looked at the needs of teachers and they varied expectations depending on the teachers' comfort level with integrating technology.

The purpose of integrating new literacies was based on the idea that students were learning 21st century skills by integrating literacy and technology. Principals expected to see students developing the proficiency with the tools of technology, and wanted students to synthesize what they were reading in order to create presentations (NCTE, 2013). Principals discussed how technology should not be used for test-taking purposes. They also discussed the role technology plays in learning. The principal at School A commented, "We really want them to leave us being responsible with the technology, but also how to use the technology as a tool to help them learn or share what they learn."

When integrating new literacies and technology, the curriculum should be the foundation for integration (Creighton, 2003; Schrum et al., 2011; Staples et al., 2005). In this study, the principals' beliefs reflected their opinion of the CCSS and how new literacies were related. These beliefs were also consistent with the principals' actions. Recent researchers have pointed out the links between the CCSS and new literacies because both include researching, locating

information, evaluating the credibility of online sources, synthesizing findings, and using technology to interact and collaborate with others (Castek & Gwinn, 2012; Kist, 2013; Leu et al., 2013). The principals in this study discussed how they believed that the CCSS included online research projects. They also discussed the role of presentations as a part of the CCSS.

Actions. The patterns of the principals' actions included the following:

- Creating opportunities for collaboration
- Allocating resources
- Modeling, facilitating, and providing professional development
- Observing and conferencing
- Differentiating support
- Providing an influence at the district level
- Emphasizing the role of research in the CCSS.

The principals created opportunities for teachers to collaborate both formally and informally. The research on teacher collaboration has demonstrated an improved building culture and an increase in levels of student achievement (Hallinger, Bickman, & Davis, 1996; Supovitz, Sirinides, & May, 2010). Formal collaboration occurred during PLC times, faculty meetings, and during common plan times on specific days of the week at the different schools. Informal collaboration occurred between teachers and teachers, but also between teachers and instructional coaches. In both types of collaborations (formal and informal), teachers, shared ideas with one another and provided each other with feedback. Teachers at School C participated in monthly *Tool Time for Technology* meetings where teachers could share technology ideas with one another and have questions answered.

Teachers and principals at all four schools discussed the principals' actions in terms of acquiring resources. Resources in terms of devices with Internet access are necessary if students are to successfully read online (Leu et al., 2008). Each school used different types of resources (computers, laptops, tablets, or iPads); however, the goal was to have a 1:1 ratio while students were using technology for research purposes. This sometimes meant using the computer lab or checking out laptop carts. School D was the only school in this study with a true 1:1 ratio, although the other schools were able to have 1:1 ratio on certain days or at certain times, so all students would have their own device.

The principals in this study took an active role in modeling, facilitating, and providing professional developments for their staff. Schrum and Levin (2009) and Schrum et al. (2011) argued that principals must be prepared to model and discuss with staff and students how to collaborate and communicate using 21st century skills. Principals must be aware not only of tools for technology, but how to engage students in their learning (Schrum & Levin, 2009). In this study, two principals modeled technology integration activities during staff or PLC meetings for their staff regularly, while two principals facilitated these activities. By modeling and facilitating professional developments, principals were active in ensuring teachers received technology integration trainings.

The principals in this study were present in classrooms. They observed and evaluated teachers, and then followed-up with teachers by having post conferences to discuss technology integration. Being present in the classrooms allowed principals to communicate the goals of the school, and allowed for observations that guided the principals on the needs of students and teachers (Hallinger & Murphy, 1985). Walkthroughs were another way the principals maintained high visibility and observed teachers' instructional practices in a natural setting

(Cervone & Martinez-Miller, 2007; Louis, 2010). Feeney (2014) explained that walkthroughs allow teachers and principals to explore the evidence collected, reflect on its meaning, and decide on next steps. Principals looked at these conferences as an opportunity to learn more about teachers' needs, while teachers looked at these conferences as ways to learn more. T1 explained how the feedback conferences provided her with different ideas to integrate literacy and technology and if she was having trouble, her principal would point her in the direction of someone that could help her.

Differentiated support included surveys, setting goals, and working with teachers that needed additional support. Planning for individual differences has been shown to be effective when planning professional developments for groups of teachers (Beers et al., 2010; Levin & Schrum, 2013). Principals used differentiated support to provide ongoing, job-embedded, professional development, and they worked with specific teachers to help them receive the support they needed so they could be successful integrating technology and new literacies into their classroom.

The principals in this study were influential in their district. Three of the principals in this study were contributing to the decisions that the district was making in terms of technology initiatives. The principal at School A, would make technology decisions at the building level, and the district would see the benefit, and soon the initiative was spreading to other schools. The principal at School C was always willing to pilot new technology first with his staff and informed the district of the results. He also served on the district's *Technology Task Force.* The principal at School D served on the district's technology committee and was the district's webmaster.

The principals emphasized the role of research in the CCSS. The principals in this study discussed how they encouraged research in the classrooms and how research was included in the CCSS. Castek and Gwinn (2012) explained that the CCSS provide an overview of the potential that 21st century literacy offers students, which includes online research and writing. Kist (2013) described multiple CCSS lessons that included digital writing, collaborative writing, and collaborative informational reading assignments.

The principal at School A remarked, "We've really pushed to have research stations in the classroom." T3 at School discussed A discussed how the teachers received professional development to help them integrate research into their language arts lessons and make sure the lessons were tied to the CCSS. At School B, project-based learning involved a research component that was linked to the CCSS. The principal at School B, said, "That is how we have been integrating the technology and research piece. We've also been teaching them tools they will need later."

School C created their own scope and sequence for technology integration that was tied to the Common Core. At School D, the teachers and principals discussed how they wanted parents to have access to some of the same research sites students were using at school, and the principal built a web page for the English Language Arts CCSS that included multiple website that were ideal for researching at home.

Disaggregated data. When data were disaggregated by school for research question one, the following discrepancies in patterns were reported:

- The principals' beliefs reflected their opinion of the CCSS and how online reading and research and the CCSS are related.

- Principals took an active role in modeling, facilitating, or leading professional developments for staff and/or students.

At School C, the participants did not discuss if the principals beliefs reflected the principal's opinion of the CCSS and how online reading and research are related to the CCSS.

At School B, the pattern, principals took an active role in modeling, facilitating, or leading professional developments for staff and/or students, was not discussed by as many participants as the other schools. However, the principal discussed how she facilitated professional developments for staff on technology integration. The prior week she invited a librarian from the public library to provide a professional development for the teachers about a specific online research program for students.

When data were disaggregated by teachers' level of new literacies integration for research question one, the following differences were reported:

- Principals' beliefs included the purpose of integrating technology and literacy.
- Principals' beliefs reflected an understanding and consideration of teachers' needs when planning support and professional development.
- The principals' beliefs reflected their opinion of the CCSS and how online reading and research and the CCSS are related.
- Principals took an active role in modeling, facilitating, or leading professional developments for staff and/or students.
- Principals differentiated support for teachers.

These patterns were clearly different for teachers that were considered limited or emerging on their level of new literacies integration. After carefully reviewing the transcripts, there was nothing to indicate that this group of teachers perceived their principals' beliefs

reflected an understanding and consideration of teachers needs when planning support or professional developments.

Additionally, this same group of teachers did not perceive their principals' actions to be differentiated between teachers based on the support they needed to integrate literacy and technology. Understanding teachers' perceptions influences successful professional development and technology integration (Anthony, 2012; Ertmer et al., 2012; Hutchison & Reinking, 2011). Teachers that were considered fully integrating believed that support was being differentiated.

These data appear to reveal that the perceptions of teachers with different levels of new literacies integration varies in terms of the type of support being received. If principals are to provide support to all teachers, these perceptions may need to be considered when planning professional development or specific supports.

Discussion of Research Question Two

How are the dimensions of instructional leadership evident in the leadership of elementary principals in high-poverty schools with classroom teachers integrating new literacies?

Looking at the dimensions of instructional leadership (Hallinger & Murphy, 1985), the principals in this study set expectations and goals (mission) for teachers. Principals managed instruction and focused on creating a school climate that supported the integration of new literacies.

Mission. Defining a mission has been identified as a key component for school leaders because of the importance of goal setting and defining expectations (Leithwood et al., 2004; Louis et al., 2010; Murphy et al., 1983). According to the Wallace Foundation (2013) effective principals establish a vision for their school. The patterns of the mission revealed the following:

- Principals set goals.
- Principals set expectations.

The long-term goals discussed by the principals included preparing students for the 21st century. This included having students use technology to enhance learning and providing multiple learning opportunities for students through the use of technology integration.

The expectations from principals included specific direction about usage in the classrooms. The verb "use" was frequently mentioned as an expectation when teachers were discussing the principals' expectations. This included utilizing technology for the purpose of researching projects.

Managing instruction. When principals manage instruction, they were focused on teaching and learning (Leithwood et al., 2004; Louis et al, 2010, Marzano et al., 2005; Robinson et al, 2008). In this study managing instruction included:

- Principals acquired resources.
- Principals used standards as a basis for technology integration.
- Principals had support staff helped teachers integrate new literacies.
- Principals supervised and evaluated instruction.

Access to resources, specifically access to the Internet and software and resources for students to conduct presentations, was discussed the most in terms of coordinating the curriculum. These discussions included how principals were funding technology and acquiring resources. Louis et al. (2010) explained that acquiring resources were part of managing the instructional program for principals. The *Standards for Reading Professionals* (IRA, 2010) discussed how resources such as media and communication technologies are necessary to

prepare learners for the 21st century. In this study, principals acquired iPads, laptops, tablets, and video recording equipment for the purpose of researching and presenting.

Participants in this study discussed how they used the CCSS as well as technology standards to help students improve their online reading and research skills, and work with students on written communication and presentation skills. Teacher 17 said, "It specifically states in there [CCSS] that they need to have research skills. They need to be able to use technology."

Principals in three of the schools had support staff, which included computer teachers, library/media specialists, and instructional coaches. Their roles included providing professional development to teachers, teaching students lessons that they would continue in the classroom, and answering teachers' questions.

Both principals and teachers discussed walkthroughs, evaluations, and reflective conversations as a way the principals in this study supervised and evaluated instruction. Feedback has been shown to be effective in the change of instructional practices (Leithwood et al., 2004; Louis et al. 2010; Marzano et al., 2005; Robinson et al., 2008). The principals discussed the advantages of observations in terms of a way to get teachers to think about the potential that technology offered, while the teachers explained how feedback from the principals after walkthroughs or evaluations was a way for them to learn new ideas.

School culture. Levin and Schrum (2013) discussed how every administrator in their study was the driving force in technology integration. These administrators provided teachers with ongoing support to be successful. The one pattern that emerged under the main code of school culture was: Principals created a culture where teachers received ongoing support.

Teachers received support from support staff, were able to take risks, and had time to integrate new ideas.

Ongoing support was discussed by teachers and principals in terms of continuing professional development at the building level which included accessing support through coaches, principal, or support staff. According to Darling-Hammond et al. (2009), professional development should be tied to goals rather than being focused on isolated activities. If professional development was going to influence teacher's practices, then it needed to include the application of knowledge to teachers' planning and instruction (Darling-Hammond et al., 2009). The principals worked to make the professional developments for teachers applicable to their instruction. Schrum and Levin (2009) argued that focusing on individual needs and the activities that are essential for the entire staff are critical when planning professional developments. Instructional coaches, library/media specialists, and other support staff collaborated with teachers on an individual basis to help them integrate technology and literacy with their students.

Researchers have considered a collaborative culture among teachers one of the aspects of promoting a positive climate in schools (DuFour & Marzano, 2009; Fullan, 2007; Leithwood et al., 2004; Louis et al., 2010). Collaboration with teachers and support staff occurred with a goal of sharing ideas with one another. Teachers were also able to have questions answered from either the principal or support staff. In addition, the principals made sure someone supported teachers when there were technology issues (Staples et al., 2005). Teachers in this study described feeling like they were encouraged to take risks and try new ideas that they learned from professional developments. They were also given time to integrate ideas with students.

Disaggregated data. When data were disaggregated by school for research question two, the following discrepancies in patterns were reported:

- Principals set long-term broad goals related to technology integration.
- Support staff helped teachers integrate new literacies.

At School D, the teachers and principals discussed individual technology integration goals for teachers based on the individual needs of the teacher. Therefore, there was not a discussion by any participants of long-term broad goals. School D was the only school that did not have support staff to help teachers integrate literacy and technology. However, the principal took on a role similar to instructional coach and created videos to help teachers use various programs. Participants discussed how the principal was in classrooms setting up technology for the teachers, and the principal even commented that she was the support staff in the building in terms of technology integration.

When data were disaggregated by teachers' level of new literacies integration for research question two, the following discrepancies in patterns were reported:

- Principals set long-term, broad goals related to technology integration.
- Principals used the CCSS as a way for principals to incorporate new literacies into classroom instruction.

It was difficult to determine why these two patterns had discrepancies. One possibility was that since there were six first-year teachers participating in this study, and some of them were considered limited or emerging in their new literacies, that they did not fully understand the goals of the principal. In addition, since they had just completed their first nine weeks of school, they maybe were still learning how the CCSS applied into the curriculum in terms of new literacies integration.

Discussion of Research Question Three

How do the knowledge, dispositions, and actions of elementary principals intersect with the dimensions of instructional leadership?

Through the intersection of dimensions of instructional leadership (Hallinger & Murphy, 1985), and the knowledge, dispositions, and actions of principals, qualities emerged that described the principals in this study, as well as the school environments. The following three themes were discussed:

- The principals in this study were literacy leaders.
- The principals provided equitable opportunities for all students.
- The principals created a culture based on trust and professional growth.

Literacy leadership. Current research has discussed the importance of having a principal that is a literacy leader (Beers et al., 2010; Dowell et al., 2012; Overholt & Szabocsik, 2013; Reeves, 2008). The principals in this study demonstrated literacy leadership through:

- Foundational Knowledge
- Curriculum and Instruction
- Assessment and Evaluation
- Creating a Literate Environment
- Professional Learning and Leadership (IRA, 2010).

Stein and Nelson (2003) argued that administrators, including principals, must have an understanding of the subjects taught in their buildings. They explained that as the demands on principals to increase to improve student achievement, teaching, and learning, they must have leadership content knowledge and instructional leadership. In order to lead schools, principals needed content knowledge if they were to provide professional development, implement

curriculum, plan for student interventions, and build the culture of a school community (Stein & Nelson, 2003). The principals' knowledge not only impacted how they planned and organized activities to support teachers but also in how they worked with teachers to provide professional development that would meet the needs of their staff. Three of the principals in the study discussed their knowledge related to literacy leadership while two teachers at their school also discussed their principals' knowledge of literacy leadership.

Principals' literacy leadership in the area of curriculum and instruction included the principals' knowledge, beliefs, and actions. Teachers and principals discussed how the focus of technology integration in classrooms was based on standards. T9 said, "We aren't supposed to do anything that's not tied to standards. There is a purpose to everything we do." The dispositions of the principals in this study demonstrated literacy leadership because their beliefs were related to the standard curriculum and instruction because the principals' focused on the purpose of technology integration and they set expectations for teachers. The sentiment by the principal at School C was similar to the other principals in this study. "In the long haul, our long-term goal is to have kids that are technology, media literate, be able to be good digital citizens." Literacy leaders must take actions in their school (Bean, 2012). Principals must supervise and manage instruction as well as providing resources to support instruction (IRA, 2010). The principals in this study acted as literacy leaders in terms of their actions by providing resources, modeling, facilitating, or providing professional developments for staff on integrating literacy and technology and new literacies, and observing and conferencing with teachers. Participants discussed the connection between the CCSS and integrating literacy and technology in the classrooms. Principals were present in the classrooms so they could provide teachers with feedback. Reeves (2008) explained that principals can "walk marathons through classrooms of a

school and accomplish nothing if they do not begin with a clear concept of what effective instruction looks like" (p. 92). The principals in this study had a clear concept of effective technology integration instruction, and conferenced with teachers to discuss how technology was being integrated in the classroom, to find out if teachers needed support, and offered suggestions.

The principals demonstrated literacy leadership in the area of assessment and evaluation by their knowledge of the CCSS and how they related to assessments. Three of the principals discussed the link between the CCSS, online reading and research, and assessments. *The Standards for Reading Professionals* (IRA, 2010) described leaders that have a goal of assessments to optimize student learning. Since principals focused on the connection between the CCSS and new literacies, teachers were expected to have students engaged in online research projects. At the time of the study, three of the principals had signed up to pilot the *Smarter Balance* assessment. They discussed how the skills students were learning by researching and writing were preparing them for the *Smarter Balance* assessment.

In classrooms integrating literacy and technology, providing a literate environment extended beyond books. The teachers in this study were provided multiple resources (laptops, iPads, and tablets) for students to use that offered Internet access where students could use multiple websites for research purposes. Leu et al. (2013) explained that literacy included multiple forms and the CCSS included research and technologies as a component to literacy:

> To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas, to conduct original research in order to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and non-print texts in media forms old and new. The need to conduct research

and to produce and consume media is embedded into every aspect of today's curriculum. (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010, p. 4).

The principals in this study created opportunities for teachers to be engaged in professional learning and leadership (IRA, 2010). According to the IRA *Standards for Reading Professionals* (2010), professional learning and leadership requires, "collaboration, is job embedded, builds trust, and empowers teachers, and those who lead such efforts must have effective interpersonal, leadership, and communication skills." One of the three themes of this study was that the principals created a culture of trust and ongoing professional development which was an example of being a literacy leader that valued professional growth and building teacher capacity (Fullan, 2007).

Another way that principals demonstrated professional learning and leadership was in how they connected their foundational knowledge about literacy and leadership to the implementation of effective programs that promote new literacies and 21st century skills (IRA, 2010). Principals were providing professional developments connected to the CCSS, and they set goals and expectations for teachers based on these standards.

All students. Researchers who have studied educational leadership agree that effective principals establish a school-wide vision of commitment to high standards and the success of all students (Wallace Foundation, 2013). The following are ways that principals ensured that all students had equitable opportunities to integrate new literacies:

- Principals set expectations.
- Principals allocated resources.
- Principals observed in classrooms and conferenced with teachers.

- Principals structured the schedule.
- Principals created collaboration opportunities for teachers.

Only one question in the interview guided involved "all students," however, the teachers and principals used the terms "all students," "everybody," and "everyone." Many times these terms were tied to the expectations of the principals. Expectations by principals were critical in literacy leadership (Beers et al., 2010; Reeves, 2008), instructional leadership (Leithewood et al., 2004; Louis et al., 2010; Murphy et al., 1983), and technology leadership (Dexter, 2008; ISTE, 2009; Levin & Schrum, 2013).

Resources were allocated at each school in a way that was equitable and fair. Teachers must have access to resources aligned with the curriculum (IRA, 2010). Leu et al. (2008) discussed how laptops in the classrooms with wireless Internet connection were the most desirable resource for online reading and research because they limited transition times to computer labs, and students could have their own device to conduct research. Resources, in the form of tablets, laptops, computers, and iPads, were available to teachers and students for the purpose of integrating technology and new literacies. Teachers at School A had access to either a laptop cart, iPad cart, or tablet cart. At School B, teachers had access to iPad carts or laptop carts. At School C teachers had access to laptop carts, and at School D, there were enough iPads for each student to have their own iPad during the school day.

All schools had a visible principal presence in classrooms. Principals were conferencing with teachers to ensure that students were integrating literacy and technology.

Reich et al. (2012) cautioned about the inequities of technological access within the same school. By being visible in classrooms and ensuring students were engaged in online reading

projects, the principals were able to observe first-hand that all students were participating in new literacies.

The schedule was structured at schools, which helped create equal opportunities for all students. At School A, students were able to attend computer lab class with the computer teacher two to three times a week in addition to working on a research literacy work station daily during guided reading centers. Project-based learning allowed students at School B the opportunity to participate in new literacies. Online reading and research took place during language arts, science, and social studies. Students at School C attended weekly classes with the library/media specialist. Students were working on research and presentation skills. At School D, students had weekly classes with the principal where they focused on digital citizenship and new literacies. In addition, at School D, T18 discussed by having students change classes, there were strong teacher integrators at each grade level, which would ensure that all students had access to integrate literacy and technology.

Providing teachers with opportunities to collaborate and share ideas are another way to promote equitable opportunities at schools. Collaboration was discussed by all participants in this study and was described as a way for teachers to learn from their peers or to share ideas with one another. At School D, the principal discussed that even if teachers had access to technology every day, it was important to make sure it was being integrated into the curriculum. She explained that by having teachers share how they were integrating literacy and technology at PLC meetings was a way to help ensure that technology integration was occurring.

Culture based on trust and professional growth. Integrating new literacies in elementary classrooms can create many new challenges for teachers including learning new technology, integrating technology in meaningful ways, and teaching students how to use technology for

reading comprehension (Bauer & Kenton, 2005; Cuban et al., 2001; Hutchison & Reinking, 2011; Kara-Soteriou, 2009; Schrum et al., 2011). The principals in this study created a school culture based on trust and professional growth through the following ways:

- Principals set goals and expectations that were individualized.
- Teachers felt safe to experiment and take risks.
- Principals provided encouragement.
- Teachers had their questions answered.
- Teachers received ongoing professional development.
- Teachers had opportunities to collaborate.

By individualizing goals and expectations, teachers received professional development based on their needs. Levin and Shrum (2013) explained that ongoing, differentiated professional development was a key component in schools successfully integrating technology. Schrum and Levin (2009) discussed the importance of focusing on individual needs of teachers when planning professional developments. Multiple principals commented that teachers would be bored if everyone had to sit through the same professional developments.

Teachers need to have opportunities to experiment with technology and to feel successful with technology integration (Ertmer & Ottenbreit-Leftwich, 2010). The principals in this study provided support for teacher to make them feel safe and willing to take risks. Teachers were encouraged to experiment and try new ideas to integrate technology and literacy in their classrooms.

Principals provided encouragement. Ertmer and Ottenbreit-Leftwich (2010) argued that an encouraging culture was one of the key components in schools integrating technology. Teachers were encouraged to try new ideas in their classrooms. Encouragement from teachers

also included supporting teachers when they needed help. T9 stated, "She does everything she can if we have a problem to try and solve it." T11 explained that even though it might take a little more time to try something new, her principal encouraged her to take that time. By creating a culture where teachers were supported, they felt encouraged.

The research has argued the importance of principals making sure there is someone in the school that will support teachers when there are technology issues (Levin & Schrum, 2013; Staples et al., 2005). Ensuring that teachers have technical support if there are questions is a key to successful technology integration (Levin & Schrum, 2013). In this study, if teachers had questions or concerns, they felt comfortable asking other teachers, their principals, instructional coaches, the computer teacher, or the library/media specialist. For technical problems, each school had a contact person from the Information Technology Department that would answer their questions.

Principals provided teachers with ongoing professional development. Teachers need knowledge of technology and the potential technology offers (Ertmer & Ottenbreit-Leftwich, 2010; Lawless & Pellegrino, 2007). The IRA's *New Literacies and 21st Century Position Statement* (2009) discussed how models of professional development need to incorporate the new online tools and resources teachers are expected to use in their classrooms. Teachers in this study had multiple opportunities for job-embedded professional development with the online tools and apps that students were expected to use. At three of the schools, teachers were able to work with support staff. Principals also held professional developments and teachers shared ideas with one another during PLC meetings. Three of the schools had support staff that would be in the classrooms supporting teachers as they tried new technology with students. At the fourth school, the principal was in the classrooms, supporting teachers. Additionally, providing

teachers with ongoing professional developments on how to integrate technology and having someone available to support teachers while they were integrating technology and new literacies were ways principals were supporting teachers.

Collaboration was a form of support for teachers in this study. The Wallace Foundation (2013) described that in order to create a culture with a sense of community, principals must fight teacher isolation. According to the *Standards for Reading Profe*ssionals (IRA, 2010), principals should create a climate where teachers and staff work collaboratively when integrating technology and new literacies in instruction. The principals in this study emphasized the importance of collaboration among teachers. Teachers were provided common plan times, release time to observe one another, and opportunities to work with support staff that not only answered questions, but also were willing to provide support to teachers.

Significance of the Study

This study adds to the knowledge base of new literacies. It increases the research on leadership qualities of principals in high-poverty schools with classroom teachers integrating new literacies. The research has discussed the importance of teachers understanding not only how to use the technology, but educating on how to integrate technology and literacy in the classroom if they are to successfully integrate new literacies (Hutchison & Reinking, 2011; International Reading Association, 2009; Lankshear & Knobel, 2011). The findings from this study also support the broader component of literacy and technology integration which includes the instructional application of technology with a focus on the curriculum (Creighton, 2003; Levin & Schrum, 2013).

This study also provides new research on the importance of all students integrating new literacies and what steps principals can take. In addition, the benefits of principals collaborating

with other principals, and the influence of principals on their districts in terms of technology integration are discussed.

Affirmations of Current Research

This study affirmed current research on the integration of new literacies, however it is important to note the setting of the study were four high-poverty schools. In these four high-poverty elementary schools, current research was reaffirmed in the following ways:

- Principals provided ongoing, differentiated professional development to teachers.
- Principals supported teachers as they integrated new literacies in their classrooms.
- Principals created a culture where teachers were able to take risks.
- Principals set specific expectations and had long-term goals for technology integration.
- The importance of the curriculum when integrating technology and new literacies.

DuFour and Fullan (2013) argued that the best professional developments for teachers are job-embedded and engage teachers in the work (as opposed to listening to presentations about the work). By providing ongoing, differentiated professional development to teachers, this study affirmed what current research has recommended (Levin & Schrum, 2013; McKenna & Wolpole, 2008; Sprankle, 2012; Staples et al., 2005). In addition, the principals in this study were working on building teacher capacity (Bean, 2012; Fullan, 2007) by having teachers present to their peers after attending professional developments.

Hutchins and Reinking (2011) argued that teachers cannot be expected "to bear the sole responsibility for increasing integration of information and communication technologies (ICTs) into literacy instruction" (p. 331). Schrum et al. (2011) discussed the importance of principals setting goals, and then supporting teachers in meeting these goals. In order to support teachers integrate new literacies, the principals in this study took the following steps:

- Allocated resources for technology integration.
- Coordinated support staff.
- Set aside collaboration times for teachers.
- Conducted walkthroughs and follow-up conferences.
- Ensured that teachers' questions were answered when there were difficulties with technology integration.

Principals created a culture where teachers were able to take risks. This includes teachers feeling safe and trusting their colleagues. Having trust in schools increases the likelihood that new initiatives will be accepted because establishing a culture based on trust reduces the sense of risk associated with change (Bryk & Schneider, 2003). Bryk and Schneider (2003) also explained that when schools are grounded in a trustful culture, teachers feel safe to experiment with new practices. Bird, Wang, Watson and Murray (2009) discussed how teachers' effectiveness improves if teachers have sense of belonging and a commitment to the success of their school. In these schools, the principals created a culture where teachers were supported and encouraged to integrate literacy and technology. Ertmer and Ottenbreit-Leftwich (2010) explained that one of the key components in schools integrating technology was an encouraging culture. Some of the teachers in this study discussed how they felt like they could take risks and try new ideas in their classrooms. The teachers at School C and School D set goals and they had time to experiment. Teachers from all four schools in this study discussed having someone that could answer their questions if they had difficulty integrating technology. The teachers were able to trust that if they ran into problems, they would be supported. They knew they would have their questions answered by other teachers, the principal, instructional coaches, support staff, or even other teachers/support staff in the district.

Setting goals as an effective leadership practice has been documented in the research (Hallinger, 2011; Leithwood et al., 2004; Louis et al., 2010; Murphy et al., 1983; Robinson et al., 2008; Wallace Foundation, 2013). Leu et al. (2008) discussed that one of the needs for research on new literacies involves leadership and how they provide the vision and leadership to direct the changing nature of reading comprehension instruction in their schools and districts. The principals in this study set specific goals and expectations tied to the integration of technology. Schrum et al. (2011) discussed the importance of principals identifying and articulating specific educational goals that teachers and the school were required to meet, suggesting ways that technology integration could support the goals, and supporting teachers in achieving these goals. In order to support these goals and expectations, the principals provided vision and leadership by acquiring resources, structuring the school environment where teachers could collaborate with one another, have questions answered, and be supported when they were taking risks and trying to integrate new ideas into their classrooms. Principals expected that students were engaged in online research and principals expected that the resources were utilized for this purpose.

The research has documented that when integrating new literacies and technology, the curriculum must be the basis for integration (Creighton, 2003; Schrum et al., 2011; Staples et al., 2005). The schools in this study were focused on the CCSS as a way to integrate new literacies in classrooms. Principals were knowledgeable about the CCSS and how new literacies, including using technology to identify important questions, locating information, critically evaluating the information, synthesizing information, and then communicating the answers to others, were applicable to online reading and research (Leu et al., 2013). In addition, principals established expectations that technology integration must be tied to standards. Leu et al. (2009b) pointed out how framing the Internet as technology led to a less productive set of policies and technology

standards became isolated instead of integrated. However, the principals in these schools framed the Internet as a context to reading, writing, and communicating which led to policies that integrated literacy and technology into classrooms in the following ways:

- Technology standards became integrated into the curriculum.
- Instruction in Internet use was integrated into multiple subject areas.
- Classroom teachers were responsible for teaching online reading, research, and communication use. (Leu et al., 2009b)

New Understandings from this Study

New data emerged from this study that adds to the research on both principal leadership and new literacies. The following new findings emerged:

- Principals provided equitable opportunities for all students to integrate new literacies.
- Principals collaborated with colleagues for support for themselves.
- Principals were influential in their district in terms of technology integration.

The digital divide has been discussed in terms of students even having unequal access to technology within the same school (Franklin, 2007; Reich, Murnane, & Willett; 2012; Reinhart et al., 2011). Researchers have also discussed the fact that there were more opportunities for 21st century learning in affluent schools than schools serving less affluent students (Coiro et al., 2008; Reich et al., 2012). It is important that all students have equal access to ICTs (IRA, 2009). Some of the ways principals in this study ensured that all students had an equitable opportunity to participate in new literacies were: scheduling computer classes for all students to attend, providing resources that allowed students to conduct online research, and observing in classrooms regularly to ensure that technology integration was occurring and it was purposeful.

In addition, new literacies integration was not just for English Language Arts (ELA). Even though some schools' language arts programs did not allow teachers the freedom to choose activities, they were still integrating online reading and research projects during science and social studies. Leu et al. (2009b) explained that once the focus shifts to true integration as opposed to a focus on technology, new literacies and online research can expand to multiple content areas. In this study, students were able to research the topics they were learning about in other content areas. For example, in a fourth grade classroom, they were research different regions, and in another classroom students had just completed an owl unit in science, and students were presenting their research findings to their peers.

While the benefits of collaboration in education are not new, the focus is typically on teacher collaboration, (DuFour & Marzano, 2009; Marks & Pritney, 2003). However, in this study, the principals benefited and received support from other principals, district personnel, instructional coaches, and college professors. This diverse group of people provided ideas and support to the principals in this study. Principals discussed how important it was to share ideas with people that understood their vision. Hargreaves, Harris, and Boyle (2010) explained that many times teachers are encouraged to collaborate, but principals are not encouraged. They explained that in other high-academic performing countries, collaboration among principals is the norm and the benefits extend to improving student achievement. Honig (2012) described how in recent years some school districts have moved away from occasional professional developments for principals to job-embedded support where principals have a network that allows them to develop their capacity as a building leader (Honig, 2012).

Principals were influential in terms of technology integration for their district. Dawson and Rakes (2003) explained that it was important for superintends to "recognize the influence

principals have on the use of technology in their schools, and encourage principals to become directly involved with technology initiatives (p.46)." The schools where this study occurred had districts that were heavily involved in technology integration initiatives. However, three of the principals in this study were influential in their district and were contributing to the decisions that the district was making in terms of technology initiatives. Two of the principals served on the district technology committee. The principal at School A would make technology decisions at the building level, and the district would see the benefit, and soon the initiative was spreading to other schools. The principal at School C was always willing to pilot new technology first with his staff, which helped the district learn more about new technology.

Implications for Professional Practice

When looking at the findings of this study, it is important to acknowledge the limitations. The boundaries for this multiple-case study were limited to four high-poverty public elementary schools in different districts in Northeast Kansas. Not all teachers participated in this study, which means that the perceptions of those in the study cannot be assumed to be the same perceptions of the staff members that did not participate. This study was also limited in the fact that it defined leadership in a way that focuses on the actions of the principal. Another framework might have revealed different information. In addition, this was a qualitative study to learn more about leadership in high-poverty schools integrating new literacies. Based on the purpose of this qualitative study, the findings were not intended to be generalizable. Having visited four different schools, there were many ideas being implemented in different ways at each school, which helped provide a variety of options when integrating new literacies. Despite the limitations, there are insights for principals to help integrate new literacies.

Support Staff

The importance of support staff in the integration of new literacies and technology integration has been documented (American Association of School Librarians, 2009; Bean, 2012; Beers et al., 2010; Cosmah & Saine, 2013; Joyce & Showers, 2002; Sprankle, 2012; Staples et al., 2005). In this study, new literacies integration occurred because principals coordinated support staff efforts in a way that supported both teachers and students. By having multiple support staff available to teach classes to students, co-teach with teachers, and/or plan lessons with teachers, principals were ensuring that teachers were supported while at the same time students were having additional opportunities to integrate new literacies. Support staff would teach lessons to students that supported new literacies integration, and then students would have opportunities to practice these lessons in the classrooms.

Computer teachers, instructional coaches, and library/media specialists were utilized to support teachers and students integrate new literacies. At two of the schools (School A and School C), students met multiple times per week with either the computer teacher or the library/media specialist. In addition, support staff at three schools (School A, School B, and School C), supported teachers integrating new literacies. They planned lessons with teachers, answered questions, and conducted professional developments. Since School D did not have support staff like the other schools in the study, the principal acted as support staff for both teachers (by providing professional development, planning with teachers, and answering questions) and students (teaching weekly technology classes).

Obstacles Did Not Stop Integration

Obstacles did not limit the integration of new literacies. Having higher student to computer ratios or mandatory reading programs did not deter the commitment to the integration of new literacies. In order for students to conduct online research projects and create

presentations, students required Internet access and a device (computer, laptop, iPad, etc). Leu et al. (2008) discussed the importance of students having their own devices when conducting online reading and research. Through careful scheduling, principals managed to have students their own device when researching, which influenced the amount of research and presentations students were able to integrate. Technically, only one school had a true 1:1 ratio, yet this did not limit the other schools ability to integrate online reading and research. Teachers were able to sign-up for additional computer lab times and they had access to iPad, laptop, or tablet carts multiple times a week, so students could be engaged in online research and presentations.

In addition, the principals in this study did not let district funding limit their ability to acquire new technology. The principals in this study were proud of the fact that they had acquired technology resources through fundraising and grant writing. This was acknowledged by teachers, principals, and support staff.

Initiatives that required scripted reading programs or mandatory computer time to improve test scores did not hinder the integration of new literacies. Teachers would integrate new literacies during other content areas such as science or social studies. Students would conduct research during literacy workstations. By having specific goals and expectations set by the principals, teachers and students were able to integrate new literacies without letting obstacles limit the integration.

Ongoing, Differentiated Professional Development

The principal's leadership and commitment to professional development helped contribute to the integration of new literacies. Leadership and support for professional development has been documented to have a high predictive influence on teacher integration of technology in the classroom (Creighton, 2003).The principals in this study did not rely on one

way to support teachers' ongoing professional development (Beers et al., 2010; Levin & Schrum, 2013). They provided numerous opportunities for teaches to have ongoing, job-embedded, differentiated professional development (Larson et al., 2009; Levin & Schrum, 2013; Sprankle, 2012). Through their actions, principals promoted ongoing professional development by:

- ***Differentiating support based on teachers' needs.*** If teachers needed more support, they were able to attend different professional developments. If teachers did not need assistance, they were helping lead professional developments. They used surveys to learn about teachers needs and also encouraged teachers to set individual technology goals.
- ***Facilitating and leading professional developments.*** These professional developments included ways to integrate literacy and technology in the classroom. Principals were knowledgeable about the tools of technology and how they applied to the CCSS.
- ***Providing professional development opportunities where teachers could observe other teachers.*** Teachers were able to learn about how other teachers were integrating technology and literacy and what this integration looked like in other classrooms.
- ***Working with teachers to set individualized technology integration goals.*** This allowed teachers to focus on technology integration at their comfort level.
- ***Observing and conferencing with teachers.*** The principals in this study had an understanding of effective technology integration instruction, and conferenced with teachers to discuss how technology was being integrated in the classroom, to find out if teachers needed support, and to offer suggestions. If principals offered ideas to teachers, they also ensured the necessary support for teachers to integrate the ideas.

- ***Conferencing with teachers served multiple purposes.*** Principals looked at these conferences as an opportunity to learn more about teachers' needs, while teachers looked at these conferences as ways to learn more. Teachers discussed how this not only gave them additional ideas, but if they were struggling with an aspect of technology integration, the principal provided assistance or ensured they received the assistance they needed through support staff.
- ***Creating collaboration opportunities for teachers.*** Teachers collaborated with one another through common plan times and PLC times with teacher led agendas. This allowed teachers to focus on their technology integration needs. In addition principals were building teacher capacity by having teachers lead collaboration sessions.

Recommendations for Future Research

The purpose of this study was to look at the roles of principals in high-poverty elementary schools with classroom teachers integrating new literacies to learn how a principal's knowledge, dispositions, and actions influence the integration of new literacies in their elementary schools. Based on the findings from this research, principals exhibited characteristics of literacy leaders, took steps to ensure that equitable opportunities were occurring, and created a culture of trust and professional growth for staff. Additional research on literacy and technology will enable educators to better understand the changes taking place in literacy instruction with the integration of 21st century skills (IRA, 2009). Based on the analysis of data in this study, the following list includes suggestions for future research.

- ***Hiring practices of principals.*** Although it was not planned, this study included five teachers hired immediately after they graduated from college without any teaching experience. In addition, there were three other teachers with less than five years'

experience that participated in the study. These three teachers were also hired by the principals in this study without any teaching experience. Since technology integration was a priority in these schools, it would be insightful to learn more about the hiring practices of principals in schools integrating new literacies and what qualities principals look for in teachers when they hire new staff.

- ***Funding for technology integration and support staff.*** Three of the teachers in this study had minimal control over their building budgets because the school district provided technology. It took careful planning in order for these principals to acquire more resources. By budgeting, saving money, writing grants, and holding fundraisers, these principals worked to increase technology access in their building. More research is needed on the funding role of principals in Title I schools, how much control they have over their budgets, and how this impacts instruction and achievement. In addition, the schools in this study all differed in terms of support staff available that worked with teachers when they integrated literacy and technology. More research in the area of funding support staff and their roles and responsibility and how this impacts classroom teachers' ability to successfully integrate new literacies is needed.
- ***District's role.*** Three of the districts in this study were heavily involved in professional developments for teachers that were structured around technology integration. They had instructional fairs, and one school district offered release time for teachers at each grade level to collaborate with their colleagues about CCSS and technology. Additionally, three of the schools in this study discussed the support they received from the Information Technology department in terms of having questions answered and repairing or replacing broken equipment. Learning more about how districts support principals in

the integration of new literacies would be beneficial in terms of understanding how the support from the district translates into effective implementation. Since three of the principals in this study were influential in their district, learning more about the roles that principals play in terms of district leadership may also provide more insight.

- ***The beliefs of teachers aligned with the beliefs of principals.*** In this study when the data were analyzed, there were times when teachers discussed their own beliefs. This study was focused on the roles of the principals, and one aspect of this study examined the principals' beliefs. There was not enough data to analyze if the teachers' beliefs were consistent with their principals' beliefs. When integrating technology into the curriculum, understanding teacher's beliefs has been documented as important consideration for principals when creating expectations and planning professional developments (Anthony, 2012; Ertmer et al., 2012; Hutchison & Reinking, 2011). Research on the consistency between teachers' and principals' beliefs might yield results that could help administrators when implementing new initiatives.
- ***Potential for increased family engagement.*** Teachers and principals discussed ways they were integrating new literacies and how they were sharing the presentations and information about how parents could support students at home. This emerged when participants discussed how they were integrating new literacies in their building. This study did not focus on family engagement, yet the responses showed promising potential on how to bridge the home-school connection. The school and classroom websites at all four schools were used to not only communicate information about technology and literacy, but also used to share project with parents. Recent research described how new literacies can be integrated in classrooms as young as first grade through Family Message

Journals (Seeger & Johnson, in press). Further research focused on new literacies and family engagement might show principals how they can use technology integration in the classrooms as a way to increase family involvement.

- ***Teachers observing other teachers as a form of ongoing professional development.*** The Wallace Foundation (2013) listed teachers observing in peer observations as one of the strategies that effective principals utilized to build teacher capacity. Two of the schools in this study (School A and School B) required that teachers observe other teachers teaching lessons that included technology integration. Teachers at School A were provided with release time during the school day to complete their observations, while teachers at School B used professional development days to conduct observations. The goal at each school was for teachers to learn more about technology integration and how to improve instruction when integrating literacy and technology. Teachers were providing each other with feedback. More research in this area of ongoing professional develop might discover if technology integration observations by teachers translates into practice and how this impacts teacher efficacy.
- ***Support for teachers that are limited or emerging in integrating new literacies.*** These buildings were purposefully selected because many teachers were integrating new literacies. There were only four teachers in this study that were considered limited or emerging based on the Teacher Questionnaire (Appendix A). Their perspectives could provide information on what support is needed, what types of professional developments would be beneficial, and how to help teachers integrate, especially considering that they are not fully integrating, and they did not feel that their principal was differentiating support. When the needs were analyzed for teachers that were considered limited or

emerging, very little data emerged, and the researcher was unable to determine if they truly did not have any needs or if they were unaware that there were supports that they were missing because they did not know about them. Further research could help determine which supports are most likely to move teachers from limited or emerging integration to fully integrating.

- ***Principals collaborating.*** Hargreaves et al. (2010) discussed how teachers collaborated in schools, but many times principals did not have this opportunity. They explain that the benefits of principal collaboration have been documented in other countries as a way to improve achievement and help create cultures of trust and collective responsibility. The principals in this study were fortune to collaborate with other principals, district personnel, instructional coaches, and college professors as a form of support and to share ideas about how to integrate technology in their schools. This area emerged as the data were analyzed, and more in-depth research could help learn how principals' collaborating impacts the integration of technology and new literacies in their schools. Research on principals and teachers collaborating may yield more data about how these interactions influence the integration of new literacies by classroom teachers.
- ***Influence of new literacies on student achievement.*** The role of the principal influencing student achievement has been documented (Waters et al., 2003). Throughout this study, the researcher was present in schools, and was able to see evidence of students integrating new literacies through research projects and presentations. Student achievement was outside the scope of this study, but determining a link between the participation in new literacies and student achievement might provide insight into how new literacies impact student achievement.

- ***Different Design.*** This study examined the principals' role in integrating new literacies in high-poverty schools by using a qualitative design and used instructional leadership as a framework to analyze the data. Other leadership frameworks, such as distributed or transformational, might provide different insight. Since this study focused on high-poverty elementary schools, choosing schools that are not high-poverty might reveal different data patterns about the principal's role in schools with classroom teachers integrating new literacies. A quantitative research study could look at student achievement in schools with classroom teachers integrating new literacies.

Concluding Thoughts

In these four high-poverty elementary schools, the principals were an integral part of technology integration. There were multiple factors that contributed to the principals' role in high-poverty schools with classroom teachers integrating new literacies. The principals in this study were literacy leaders, knowledgeable about the role of research in the CCSS. They understood the purpose of technology integration. Their knowledge translated into their beliefs and actions. Principals demonstrated how their knowledge of new literacies and 21st century skills impacted their dispositions and actions to implement effective programs that promoted new literacies and 21st century skills.

The principals' dispositions included the importance of students learning 21st century literacy skills. They also believed that new literacies were embedded in the CCSS and that all students should have equitable opportunities to integrate literacy and technology.

Principals' actions included creating a culture of trust and professional growth where teachers were able to receive differentiated professional development and were encouraged to take risks and try new ideas in their classrooms. Through observations and conferencing,

principals provided feedback to teachers and worked with teachers to ensure they were receiving the support necessary to successfully integrate new literacies in their classroom. Principals created schedules which maximized student learning opportunities for the integration of literacy and technology. They also ensured that teachers and students had the appropriate resources to conduct online research projects and presentations.

This study provides a deeper understanding of the many components involved in the leadership of a high-poverty school with classroom teachers integrating new literacies. By focusing on both the importance of students learning 21st century skills and the importance of supporting teachers through professional growth, these principals demonstrated 21st century leadership.

Appendix A - Teacher Questionnaire

1. In what ways are students using technology to plan and conduct research?
2. In what way are students communicating their online research findings to others?
3. In what ways are students taught to locate information though technology?
4. In what ways do students evaluate the information they find on the Internet to make sure it is reliable and that it is from a credible source?
5. How do you use technology in your classroom as a way for students to collaborate with their peers?

Teacher Frequency Survey: Integrating New Literacies in Classrooms

	Never	Infrequently	Once a Month	Weekly	Daily
Students use the Internet for research to answer questions.					
Students use the Internet for writing (blogs, message boards, etc.)					
Students are locating information on the Internet (using search engines such as Google).					
Students evaluate the information they find on the Internet to make sure it is reliable and that it is from a credible source.					
Students use multiple sources of information when they are conducting online research.					
Students summarize their online research.					
Students communicate their online research results using technology (for example iMovie, PowerPoint, YouTube, blogs, apps, etc.)					
Students collaborate with peers when working on research projects involving online resources.					

Appendix B - IRB Approval Letter

KANSAS STATE UNIVERSITY | University Research Compliance Office

TO: Trudy Salsberry
Educational Leadership
313 Bluemont

Proposal Number: 6838

FROM: Rick Scheidt, Chair
Committee on Research Involving Human Subjects

DATE: 10/3/2013

RE: Approval of Proposal Entitled, "A Multiple-Case of Elementary Principals in Title 1 Schools with Classroom Teachers Integrating New Literacies: Knowledge, Dispositions, & Skills."

The Committee on Research Involving Human Subjects has reviewed your proposal and has granted full approval. This proposal is **approved for one year from the date of this correspondence, pending "continuing review."**

APPROVAL DATE: 10/3/2013

EXPIRATION DATE: 10/3/2014

Several months prior to the expiration date listed, the IRB will solicit information from you for federally mandated **"continuing review" of the research**. Based on the review, the IRB may approve the activity for another year. **If continuing IRB approval is not granted, or the IRB fails to perform the continuing review before the expiration date noted above, the project will expire and the activity involving human subjects must be terminated on that date. Consequently, it is critical that you are responsive to the IRB request for information for continuing review if you want your project to continue.**

In giving its approval, the Committee has determined that:

☒ There is no more than minimal risk to the subjects.
☐ There is greater than minimal risk to the subjects.

This approval applies only to the proposal currently on file as written. Any change or modification affecting human subjects must be approved by the IRB prior to implementation. All approved proposals are subject to continuing review at least annually, which may include the examination of records connected with the project. Announced post-approval monitoring may be performed during the course of this approval period by URCO staff. Injuries, unanticipated problems or adverse events involving risk to subjects or to others must be reported immediately to the Chair of the IRB and / or the URCO.

1863 2013 150

203 Fairchild Hall, Lower Mezzanine, Manhattan, KS 66506-1103 | (785) 532-3224 | fax (785) 532-3278 | k-state.edu/research/comply

Appendix C - Interview Guide Principals

1) What is your role in terms of your school integrating literacy and technology? (actions)
2) In the intermediate grades (3-5), what do you believe is important when it comes to integrating literacy and technology? (beliefs)
3) In what ways do you encourage teachers in the intermediate grades to integrate literacy and technology? (actions)
4) Where did you receive your technology education? (knowledge/professional development for principals)
5) In what ways are literacy and technology integration aligned with the curriculum (Aligning New Literacies with the Curriculum: Creighton, 2003; Schrum et al., 2011; Staples et al., 2005)
6) What are your school-wide technology goals? (Defining the Mission: Hallinger & Murphy, 1985; Robinson et al., 2008) (Technology Goals: Dexter, 2008; ISTE, 2009; Levin & Schrum, 2013)
7) What are your expectations in terms of integrating literacy and technology in the intermediate grades? (Defining the Mission: Leithwood et al., 2004; Louis et al., 2010; Murphy et al., 1985) (Technology Expectations: Dexter, 2008; Dooley, 1998; Schrum et al., 2011)
8) How are these goals/expectations communicated to teachers? (Defining the Mission- Leithwood et al., 2004; Louis et al., 2010; Murphy et al., 1985) (Technology Expectations: Dexter, 2008; Dooley, 1998; Schrum et al., 2011)

9) What kinds of technology professional developments have your teachers been able to attend to help them integrate literacy and technology? (Promoting School Climate: DuFour & Marzano, 2009; Fullan, 2007; Hallinger & Murphy, 1985; Leithwood et al., 2004; Louis et al., 2010).
10) How do you decide what type of PD that teachers need in terms of integrating literacy and technology? (Knowledge/Promoting School Climate: Leadership: DuFour & Marzano, 2009; Fullan, 2007; Hallinger & Murphy, 1985; Leithwood et al., 2004; Louis et al., 2010) (Technology Integration: Ertmer and Ottenbreit-Leftwich, 2010; IRA, 2009; Schrum & Levin, 2009)
11) What kinds of support do you as a principal receive in terms of integrating technology and literacy? (Actions/Managing Instructional Program/Promoting School Climate/Professional Development for Principals) (Dawson & Rakes, 2003).
12) How do you support teachers in terms of integrating technology & literacy? (Actions/Managing Instructional Program/Promoting School Climate) (Bauer & Kenton, 2005; Dawson & Rakes, 2003; ISTE, 2009; IRA, 2009)
13) In what ways do you differentiate support based on teachers' perceptions of technology? (Teachers' Perceptions) (Anthony, 2012; Ertmer et al., 2012; Hutchison & Reinking, 2011)
14) In what ways do you ensure that all students have to integrate literacy and technology (lit review)?
15) How are you funding your extra technology support staff?

Demographic Questions (not for data analysis, but for Chapter 4)

1. What is your educational background (degrees)?

2. How many years have you been in education?
3. How many years have you been a principals?
4. What is your school demographics in terms of…

    Number of students

    Percentage of Free and Reduced Lunch

    Percentage of ELL students

    Percentage of students with an IEP

    Racial make-up of the school

Appendix D - Interview Guide Classroom Teachers

1. What is the role of the principal in terms of your school integrating literacy and technology? (actions)
2. How does your principal demonstrate their knowledge of the integration of literacy and technology? (knowledge)
3. What beliefs do you think your principal has when it comes to integrating technology and literacy? (beliefs)
4. In what ways does your principal encourage you to use technology? (Actions/Managing Instructional Program/Promoting School Climate) (Bauer & Kenton, 2005; Dawson & Rakes, 2003; ISTE, 2009; IRA, 2009)
5. In what ways are literacy and technology integration aligned with the curriculum (Aligning New Literacies with the Curriculum: Creighton, 2003; Schrum et al., 2011; Staples et al., 2005)
6. What are your school-wide technology goals? (Defining the Mission: Hallinger & Murphy, 1985; Robinson et al., 2008) (Technology Goals: Dexter, 2008; ISTE, 2009; Levin & Schrum, 2013)
7. What are the expectations from the principal in terms of integrating literacy and technology in the classroom? (Defining the Mission: Leithwood et al., 2004; Louis et al., 2010; Murphy et al., 1985) (Technology Expectations: Dexter, 2008; Dooley, 1998; Schrum et al., 2011)
8. How are these goals/expectations communicated to you? (Defining the Mission-Leithwood et al., 2004; Louis et al., 2010; Murphy et al., 1985) (Technology Expectations: Dexter, 2008; Dooley, 1998; Schrum et al., 2011)

9. What kinds of technology professional developments have you been able to attend that help you integrate literacy and technology?
10. (Promoting School Climate: DuFour & Marzano, 2009; Fullan, 2007; Hallinger & Murphy, 1985; Leithwood et al., 2004; Louis et al., 2010).
11. How are you encouraged by your principal to apply what you learned in professional development into your classroom? (Knowledge/Promoting School Climate: Leadership: DuFour & Marzano, 2009; Fullan, 2007; Hallinger & Murphy, 1985; Leithwood et al., 2004; Louis et al., 2010) (Technology Integration: Ertmer and Ottenbreit-Leftwich, 2010; IRA, 2009; Schrum & Levin, 2009)
12. What kinds of support do you receive in terms of integrating literacy and technology? (Actions/Managing Instructional Program/Promoting School Climate) (Bauer & Kenton, 2005; Dawson & Rakes, 2003; ISTE, 2009; IRA, 2009)
13. In what ways does your principal differentiate support based on teachers' needs? (Teachers' Perceptions of Technology Integration) (Anthony, 2012; Ertmer et al., 2012; Hutchison & Reinking, 2011)
14. How does your principal ensure that all students have the opportunity to integrate literacy and technology? (Lit Review)

Demographic Questions (not for data analysis, but for Chapter 4)

1. What is your educational background (degrees)?
2. How many years have you been teaching?
3. How many years have you been teaching at this grade level?
4. What are your class demographics?

Number of students?

Number of students with an IEP?

Number of ELL students?

Racial make-up?

Appendix E - Interview Guide Certified Support Staff

1. What is the role of your principal in terms of your school integrating literacy and technology? (actions)
2. What is your role in terms of your school integrating literacy and technology?
3. What are the expectations from the principal in terms of integrating literacy and technology in the classroom? (Defining the Mission: Leithwood et al., 2004; Louis et al., 2010; Murphy et al., 1985) (Technology Expectations: Dexter, 2008; Dooley, 1998; Schrum et al., 2011)
4. How are these goals/expectations communicated to you? How are they communicated to teachers? (Defining the Mission-Leithwood et al., 2004; Louis et al., 2010; Murphy et al., 1985) (Technology Expectations: Dexter, 2008; Dooley, 1998; Schrum et al., 2011)
5. How does your principal demonstrate their knowledge of the integration of literacy and technology? (knowledge)
6. What are your school-wide technology goals? (Defining the Mission: Hallinger & Murphy, 1985; Robinson et al., 2008) (Technology Goals: Dexter, 2008; ISTE, 2009; Levin & Schrum, 2013)
7. What kinds of technology professional developments have you been able to attend that help you integrate literacy and technology? FU- Why did you attend these PDs? (Promoting School Climate: DuFour & Marzano, 2009; Fullan, 2007; Hallinger & Murphy, 1985; Leithwood et al., 2004; Louis et al., 2010).
8. Why did you attend these PDs?

9. In what ways does your principal differentiate support based on teachers' needs? (Teachers' Perceptions of Technology Integration) (Anthony, 2012; Ertmer et al., 2012; Hutchison & Reinking, 2011)
10. How does your principal ensure that all students have the opportunity to integrate literacy and technology? (Lit Review)
11. How does your principal ensure that all students have the opportunity to integrate literacy and technology? (Lit Review)

Demographic Questions (not for data analysis, but for Chapter 4)

1. What is your educational background (degrees)?
2. How many years have you been in education?
3. What is your current position?
4. How many years have you been in your present position?

Appendix F - Informed Consent

PROJECT TITLE: A Case Study of Elementary Principals in Title I Schools with Classroom Teachers Integrating New Literacies: Knowledge, Dispositions, and Skills.

APPROVAL DATE OF PROJECT: October 2013
EXPIRATION DATE OF PROJECT: October 2014
PRINCIPAL INVESTIGATOR: Dr. Trudy Salsberry
CO-INVESTIGATOR(S): Bridget Stegman

CONTACT NAME AND PHONE FOR ANY PROBLEMS/QUESTIONS: Dr. Trudy Salsberry, tas@ksu.edu

IRB CHAIR CONTACT/PHONE INFORMATION:

- Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.
- Jerry Jaax, Associate Vice Provost for Research Compliance and University Veterinarian, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

SPONSOR OF PROJECT: None
PURPOSE OF THE RESEARCH: The purpose of this study is to gain insight into the leadership characteristics of principals in Title I schools with classroom teachers integrating new literacies.
PROCEDURES OR METHODS TO BE USED: This multiple-case study of teachers and principals from Title I schools integrating new literacies will include one-on-one interviews with classroom teachers and principals. Audio taping equipment will be used to record interviews.

LENGTH OF STUDY: October 2013 – May 2014. This study consists of one-on-one interviews lasting approximately 45 minutes to one hour. Principals will be interviewed one time. Classroom teachers will first have a Selection Questionnaire administered by the

researcher. Then approximately four teachers at each site will participate in 45 minute-one hour long interviews.

RISKS OR DISCOMFORTS ANTICIPATED: No known risks

BENEFITS ANTICIPATED: This study will seek to understand the leadership characteristics of principals working in Title I schools with teachers integrating new literacies.
EXTENT OF CONFIDENTIALITY: Names of participants and the school they teach at will be changed to protect confidentiality. Individual results will not be shared.

TERMS OF PARTICIPATION: I understand this project is research, and that my participation is completely voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled.

I verify that my signature below indicates that I have read and understand this consent form, and willingly agree to participate in this study under the terms described, and that my signature acknowledges that I have received a signed and dated copy of this consent form.

Participant Name:

Participant Signature:
Date:

Witness to Signature: (project staff)
Date:

Appendix G - Field Note Form

Teacher Name: Grade: School:	Notes:
Teacher Name: Grade: School:	Notes:
Teacher Name: Grade: School:	Notes:
Teacher Name: Grade: School:	Notes:

Appendix H - Artifacts Collected

	School A	School B	School C	School D
Technology Plans	Yes			
IT Support	Yes		Yes	
Parent Links for Educational Websites	Yes	Yes	Yes	Yes
Classroom Websites	Yes	Yes	Yes	Yes
CCSS	Yes			
Tech Standards			Yes	
Teacher Evaluations	Yes	Yes	Yes	Yes
Strategic Plan		Yes		
School Website	Yes	Yes	Yes	Yes
Friday Celebrations			Yes	
Teacher PD			Yes	
School Websites that support CCSS				Yes

Appendix I - Number of Participants that Discussed the Principals' Knowledge, Dispositions, and Actions

Knowledge	SA N=8	SB N=5	SC N=5	SD N=4	Total N=22
Common Core and New Literacies	2 (P, 1)	x	1 (P)	1 (P)	**4**
Acquired knowledge through Principals Collaborating	1 (P)	2 (P,11)	1 (P)	1 (P)	**5**
Understands Purpose of Technology Integration	x	x	1 (P)	1 (P)	**2**
PD	x	1 (P)	x	1 (P)	**2**
Motivated/Self-Taught	1 (P)	1 (P)	1 (P)	1 (P)	**4**

Key: SA= School A, SB= School B, SC= School C, SD.

The number of responses is on top. The numbers in parentheses indicate if the principal (P) commented. Teachers are listed by the number assigned to them in the study.

Beliefs	SA N=8	SB N=5	SC N=5	SD N=4	Total N=22
Goals /Expectation	7 (P, 1, 2, 3, 4, 5, 6)	4 (P,8,9, 10)	4 (P,12, 13, 14)	4 (P,16, 17, 18)	**19**
Common Core	3 (P,1,7)	3 (P,10, 11)	x	2 (P,17)	**8**
Understands Purpose of Integrating Technology	2 (P,1)	2 (P,10)	3 (P,12, 15)	2 (P,16)	**9**
Understanding Teachers' Needs	2 (P,1)	1 (P)	2 (P,13)	2 (P,16)	**7**
Risk Taking	1 (P)	x	x	1 (P)	**2**
Principals' Needs	1 (P)	1 (P)	1 (P)	1 (P)	**4**

Actions	**SA N=8**	**SB N=5**	**SC N=5**	**SD N=4**	**Total N= 22**
Building Level Support					
Conferences	8 (P,1,2,3, 4,6,7)	2 (P,11)	4 (P,13,14,15)	3 (P,16,18)	**18**
Resources (Tech/PD)	7 (P,1,2,3,4, 5,6)	5 (P, 8,9 10,11)	5 (P,12,13,14, 15)	3 (P,16,17)	**20**
Fundraising/Grants	2 (P,1)	1 (P)	4 (P,13, 14, 15)	1 (P)	**8**
Teacher Collaborating	8 (P,1,2,3,4, 5,6,7)	5 (P,8,9, 10,11)	5 (P,12,13, 14,15)	4 (P,16,17, 18)	**22**
Walkthroughs (Observations/ Evaluation)	4 (P,2, 3,4)	3 (P,9,11)	2 (P,12)	3 (P,16, 17)	**12**
PLC Time	5 (P,1,3,4,6)	2 (P,11)	2 (P,13)	4 (P,16,17 18)	**13**
Teachers Observ. other Teachers	1 (P)	2 (P,9)	x	x	**3**
Time to Integrate and Experiment	2 (P,1)	x	4 (P,13,14 15)	2 (P,18)	**8**
Modeling	6 (1,2,3,4, 5,6)	x	3 (12,13, 15)	3 (P,17, 18)	**12**
Teaching Teachers/ Students	5 (P,2,3,4,5)	x	x	3 (P,16,17)	**8**
Facilitating Professional Development	x	2 (P,9)	1 (P)	x	**3**
Questions Answered	5 (P,1,2, 3,5)	1 (9)	1 (14)	1 (17)	**8**
Examples of Encouragement	3 (P,1,2)	2 (P,9)	4 (P,12,14, 15)	3 (P,17, 18)	**12**
Diff. Support					
Surveys	1 (P)	x	1 (P)	1 (P)	**3**
Teachers Set Goals	1 (1)	x	2 (P,13)	2 (P,17)	**5**
Choice (different options related to differentiating	x	x	1 (P)	1 (P)	**2**

support)										
Examples of Diff	2 (P,5)		2 (P,11)		2 (P,14)		2 (P,18)		**8**	
Other Actions										
Taking Risks	x		1 (10)		3 (P,13, 14)		1 (P)		**5**	
Influence on District	2 (P,3)		x		2 (P,14)		1 (P)		**5**	
Understands Purpose of Technology Integration	1 (P,2)		x		1 (15)		2 (P,16)		**4**	
Principal Collaborating	1 (P)		2 (P,11)		1 (P)		1 (P)		**4**	
Common Core	2 (P,3)		1 (P)		1 (P)		2 (P,16)		**6**	
Unpaid Work	2 (P,3)		x		x		1 (P)		**3**	
Making a Choice – Time Related	1 (P)		1 (P)		x		1 (P)		**3**	

Appendix J - Number of Participants that Discussed Dimensions of Instructional Leadership: Mission, Managing Instruction and Promoting School Climate

Mission (M)	**SA N=8**		**SB N=5**		**SC N=5**		**SD N=4**	**Total N=22**
Framing School Goals (M1)								
-*School Goals*	*4 (P,2,6,7)*		*3 (P,9,10)*		*3 (P,12,13)*		*0*	***10***
-*Teacher Goals*	*0*		*0*		*0*		*3 (P,16,17)*	***3***
-*Expectations*	*6 (P,1,3,5,6, 7)*		*2 (8,9)*		*5 (P,12,13, 14,15)*		*3 (16,17,18)*	***16***
-*Other*	*0*		*0*		*0*		*1*	***1***
Total Framing School Goals (M1)	7 (P,1,2,3,5 6,7)		4 (P,8,9 10)		5 (P,12, 13, 14, 15)		4 (P,16,17, 18)	**20**
Communicating Goals (M2)	3 (2,6,7)		4 (P,8,10, 11)		4 (P,12, 13, 14)		4 (P,16, 17, 18)	**25**

Key: SA= School A, SB= School B, SC= School C, SD= School D.

The number of responses is on top. The numbers in parentheses indicate which teacher(s)/ principal commented about the specific code.

Managing Instruction (MI)	**SA N=8**		**SB N=5**		**SC N=5**		**SD N=4**	**Total N=22**
Supervising and Evaluating Instruction (MI1)	6 (P,1,2,3,4, 6)		3 (P, 9,11)		4 (P,12,14,15)		3 (P,16,17)	**16**
Coordinating Curriculum (MI2)								
-Standards	*3 (P,1,2)*		*3 (9,10,11)*		*2 (P,15)*		*4 (P,16,17,18)*	***12***
-Support Staff	*7 (P,2,3,4,5, 6,7)*		*2 (P,10)*		*4 (P,12,13,14)*		*0*	***13***
-Classroom Activities	*2 (P,4)*		*0*		*1 (15)*		*0*	***3***
-Resources	*5 (P,1,2,3,5)*		*3 (P,8,10)*		*5 (P,12,13, 14,15)*		*2 (P,16)*	***15***
-Principal	*2 (5,7)*		*2 (9,11)*		*3 (P,17,18)*		*3 (P,17,18)*	***10***
-Other	*3*		*1*		*0*		*0*	***4***
Total Coordinating Curriculum(MI2)	8 (P,1,2,3,4, 5,6,7)		5 (P, 8, 9, 10, 11)		5 (P,12,13,1415)		4 (P,16, 17,18)	**22**
Monitoring Student Progress (MI3)	4 (P,2,3,4)		1 (P)		2 (13,14)		2 (P,18)	**9**

Promoting School Climate (SC)	**SA N=8**	**SB N=5**	**SC N=5**	**SD N=4**	**Total N=22**
Protects Instructional Time (SC1)	4 (P,1,5,7)	0*	0	2 (P,16)	**6**
Promote PD (SC2)					
-*Collaboration*	*4 (P,1,2,3)*	*2 (8,10)*	*4 (P,12,13 14)*	*3 (P,16,17)*	**13**
-*Common Plan*	*3 (P,1,2)*	*0*	*1 (13)*	*0*	**4**
-*District Level Professional Development*	*5 (P,3,4,5,6)*	*5 (8,9,10)*	*1 (12)*	*0*	**11**
- *Building Level PD*	*5 (P,1,2,3,4)*	*3 (P,8,9)*	*1 (P)*	*1 (P)*	**10**
-*Ongoing Building Support*	*3 (2,3,4)*	*5 (P,8,9, 10,11)*	*4 (P,12,13, 14)*	*3 (P,16,18)*	**15**
-*PLC*	*3 (1,6)*	*0*	*0*	*1 (18)*	**4**
-*Multiple*	*3 (1,3,5)*	*2 (10,11)*	*2 (13,15)*	*2 (16,18)*	**9**
-*Conference*	*0*	*0*	*1 (15)*	*2 (17,18)*	**3**
-*Permission to Take Risks*	x	1 (10)	3 (P,13, 14)	1 (P)	**5**
-*Time to Integrate*	2 (P,1)	x	4 (P,13,14 15)	2 (P,18)	**8**
Total Promote PD (SC2)	8 (P, 1,2,3,4, 5,6,7)	5 (P,8,9,10,11)	5 (P, 12,13,14 15)	4 (P,16,17,18)	**22**
Maintain High Visibility (SC3)	2 (2,5)	1 (P)	3 (P,13, 14)	4 (P,16,17,18)	**10**
Provide Incentives for Teachers (SC4)	0	1 (11)	1 (P)	1 (P)	**3**
Enforce Academic Standards (SC5)	1 (P)	0	0	0	**1**
Provide Incentives for Students (SC6)	0	0	1 (P)	0	**1**

***Not included because comments were not related to new literacies.**

Appendix K - Number of Participants that Discussed Emergent Categories

Emergent Categories	SA N=8	SB N=5	SC N=5	SD N=4	Total N=22
Financial Role	3 (P, 1,5)	2 (P,11)	1 (P)	1 (P)	**7**
HR Role	3 (P, 2,3)	0	0	0	**3**
Family Engagement	2 (P,4)	1 (10)	3 (P,12, 15)	2 (P,16)	**8**
District Support	8 (P,1,2,3,4, 5,6,7)	5 (P,8,9,10, 11)	5 (P,12,13, 14,15)	3 (P,16,17)	**21**
District Initiative	5 (P, 1,4,6,7)	4 (P, 8, 9, 10)	4 (P, 12, 13, 14)	3 (P, 16, 18)	**16**
Teacher Beliefs	6 (1,2,3,4 5,6,7)	4 (8,9, 10,11)	4 (12,13,14, 15)	3 (16,17,18)	**17**
Teacher Usage	7 (1,2,3,4, 5,6,7)	2 (8,10)	4 (12,13,14,15)	3 (16,17,18)	**16**
Teacher Need	6 (1,2,3,4, 5,6)	3 (8,9,10)	2 (12,15)	3 (16,17,18)	**14**
Students Support Not Related to New Literacies	1 (P)	3 (P, 8, 9)	x	x	**4**
Teacher Knowledge	3 (1,4,5)	2 (9,11)	x	2 (17,18)	**7**

Key: SA= School A, SB= School B, SC= School C, SD = School D.

The number of responses is on top. The numbers in parentheses indicate if the principal (P) commented. Teachers are listed by the number assigned to them in the study.

Appendix L - Summary of Themes

The following themes emerged when examining the knowledge, dispositions, and actions of principals and how they intersected with the dimensions of instructional leadership (Hallinger and Murphy, 1985), which includes the following components: Mission, Managing Instruction, and Promotes School Climate.

Theme 1

Principals were Literacy Leaders demonstrated through:

- Foundational Knowledge (Knowledge)
- Curriculum and Instruction (Knowledge, Dispositions, Mission, Actions, and Managing Instruction)
- Assessment and Evaluation (Knowledge, Dispositions, Actions, and Managing Instruction)
- Creating a Literate Environment (Dispositions, Actions, and Managing Instruction)
- Professional Learning and Leadership (Dispositions, Actions, Promotes School Climate) (IRA, 2010).

Theme 2

Principals created equitable opportunities by:

- Principals set expectations (Dispositions, Actions, and Mission).
- Principals allocated resources (Actions and Managing Instruction).
- Principals observed in classrooms and conferenced with teachers (Actions and Managing Instruction).
- Principals structured the schedule (Actions and Managing Instruction).
- Principals created collaboration opportunities for teachers (Action and Promotes School Climate).

Theme 3

Principals created a school culture based on trust and professional growth by:

- Goals and expectations were individualized (Dispositions, Actions, and Mission).
- Teachers felt safe to experiment and take risks (Actions and Promotes School Climate).
- Principals provided encouragement (Actions, Managing Instruction, and Promotes School Climate).
- Teachers had technology questions answered (Actions and Promotes School Climate).
- Teachers received ongoing professional development (Actions and Promotes School Climate).
- Teachers had opportunities to collaborate (Actions and Promotes School Climate).

References

Anderson, R. E., & Dexter, S. L. (2005). School technology leadership: An empirical investigation of prevalence and effect. *Educational Administration Quarterly, 41*(1), 49-82.

American Association of School Librarians (AASL). (2009). *Empowering learners: Guidelines for school library media programs*. Chicago, IL: American Library Association.

Anthony, A. (2012). Activity Theory as a framework for investigating district-classroom system interactions and their influences on technology integration. *Journal of Research on Technology in Education*, *44*(4), 335-356.

Attewell, P. (2001). The first and second digital divides. *Sociology of Education, 74*(3), 252–259.

Attewell, P., Suazo-Garcia, B., & Battle, J. (2003). Computers and young children: Social benefit or social problem? *Social Forces*, *82*(1), 277-296.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bauer, J., & Kenton, J. (2005). Toward technology integration in the schools: Why it isn't happening. *Journal of Technology and Teacher Education, 13*(4), 519-546.

Bean, R. (2012). Literacy leadership in a culture of collaboration. In R. M. Bean & A. S. Dagen (Eds.), *Best practices of literacy leaders* (pp. 3-20). New York: Guilford Press.

Bean, R., & Dagen, A. (2012). Schools as places of learning. In R.M. Bean and A.S. Dagen (Eds.), *Best practices of literacy leaders* (pp. 355-378). New York: Guilford Press.

Beers, C. S., Beers, J.W., & Smith, J.O. (2010). *A principal's guide to literacy instruction.* New York: The Guilford Press.

Bird, J. J., Wang, C., Watson, J. R., & Murray, L. (2009). Relationships among principal authentic leadership and teacher trust and engagement levels. *Journal Of School Leadership*, *19*(2), 153-171.

Bossert, S. T., Dwyer, D.C., Rowan, B., & Lee, G.V. (1982). The instructional management role of the principal. *Educational Administration Quarterly*, *18*(3), 34-64.

Brockmeier, L. L., Sermon, J. M., & Hope, W. C. (2005). Principals' relationship with computer technology. *NASSP Bulletin*, *89*45-63.

Bryk, A. & Schneider, B. (2003). Trust in schools: A core resource for school reform. *Educational Leadership, 60*(6), 40-45.

Burns, J. M. (1978). *Leadership*. New York: Harper & Row.

Cambourne, B. (2002). Holistic, integrated approaches to reading and language arts instruction: The constructivist framework of an instructional theory. In A. E. Farnstrup, & S. J. Samules (Eds.), *What research has to say about reading instruction* (pp. 25-47). Newark, DE: International Reading Association.

Castek, J. (2012). If you want students to evaluate online resources and other new media-teach them how. In D. Lapp & B. Moss (Eds.), *Exemplary instruction in the middle grades* (pp. 105-123). New York: Guilford.

Castek, J., Coiro, J., Guzniczak, L., & Bradshaw, C. (2012). Examining peer collaboration in online inquiry. *Educational Forum, 76(*4), 479-496.

Castek, J., & Gwinn, C. (2012). Technology in the literacy program. In R.M. Bean & A.S. Dagen (Eds.), *Best practices of literacy leaders: Keys to school improvement* (pp. 295-316). New York: Guilford Press.

Castek, J., Zawilinski, L., McVerry, G., O'Byrne, I., & Leu, D.J. (2011). The new literacies of online reading comprehension: New opportunities and challenges for students with learning difficulties. In C. Wyatt-Smith, J. Elkins, & S. Gunn (Eds.), *Multiple perspectives on difficulties in learning literacy and numeracy* (pp. 91–110). New York:

Springer.

Center for Media Literacy. (2005). *Literacy for the 21st century: An overview and orientation guide to media literacy education. Part 1 of the CML medialit kit: Framework for learning and teaching in a media age.* Retrieved from www.medialit.org/cml-medialit-kit

Cervetti, G., Damico, J., & Pearson, P. (2006). Multiple literacies, new literacies, and teacher education. *Theory Into Practice, 45*(4), 378-386.

Cervone, L., & Martinez-Miller, P. (2007). Classroom walkthroughs as a catalyst for school improvement. *Leadership Compass, 4*(4). Retrieved from http://www.naesp.org/resources/2/Principal/2009/M-A_p30.pdf

Coiro, J. (2003). Reading comprehension on the Internet: Expanding our understanding of reading comprehension to encompass new literacies. *The Reading Teacher, 56*(5), 458-464.

Coiro, J. (2009). Promising practices for supporting adolescents' online literacy development. In K.D. Wood & W.E. Blanton (Eds.), *Literacy instruction for adolescents: Research-based practice* (pp. 442–471). New York: Guilford.

Coiro, J. (2012). The new literacies of online reading comprehension: Future directions. *Educational Forum, 76*(4), 412-417.

Coiro, J., Castek, J., & Guzniczak, L. (2011). Uncovering online reading comprehension processes: Two adolescents reading independently and collaboratively on the Internet. In P.J. Dunston, L.B. Gambrell, K. Headley, S.K. Fullerton, & P.M. Stecker (Eds.), *60th yearbook of the Literacy Research Association* (pp. 354–369). Oak Creek, WI: Literacy Research Association.

Coiro, J., & Dobler, E. (2007). Exploring the online reading comprehension strategies used by sixth-grade skilled readers to search for and locate information on the Internet. *Reading Research Quarterly*, *42*(2), 214-257.

Coiro, J., Knobel, M., Lankshear, C., & Leu, D.J. (2008). Central issues in new literacies and new literacies research. In J. Coiro, M. Knobel, C. Lankshear, & D. Leu (Eds.), *Handbook of research on new literacies* (pp 1-22). New York: Lawrence Erlbaum.

Cosmah, M., & Saine, P. (2013). Targeting digital technologies in Common Core Standards: A framework for professional development. *New England Reading Association Journal*, *48*(2), 81-86.

Creighton, T. (2003). *The principal as technology leader*. Thousand Oaks, CA: Corwin Press.

Creswell, J. W. (2012). *Qualitative inquiry and research design: Choosing among five Approaches* (3rd ed.). Thousand Oaks, CA: Sage.

Cuban L. (2001). *Oversold and underused: Computers in the classroom*. Cambridge, MA: Harvard University Press.

Cuban, L., Kirkpatrick, H., & Peck, C. (2001). High access and low use of technologies in high school classrooms: Explaining an apparent paradox. *American Educational Research Journal*, *38*(4), 813–834.

Darling-Hammond, L., Wei, R., Andree, A., Richardson, N., & Orphanos, S. (February, 2009). *Professional learning in the learning profession: A status report on teacher development in the United States and abroad.* National Staff Development Council.

Davis, S., & Darling-Hammond, L. (2012). Innovative principal preparation programs: What words and how we know. *Planning & Changing*, *43*(1/2), 25-45.

Davies, R. (2011). Understanding technology literacy: A framework for evaluating

educational technology integration. *Techtrends: Linking Research & Practice to Improve Learning*, *55*(5), 45-52.

Dawson, C., & Rakes, G. C. (2003). The influence of principals' technology training on the integration of technology into schools. *Journal of Research on Technology in Education*, *36*(1), 29-49.

Dean, C., Hubbell, E.R., Pilter, H., & Stone, B. (2012). Classroom instruction that works: Research based strategies for increasing student achievement. Alexadria, VA: ASCD.

Dexter, S. (2008). Leadership for IT in schools. In J. Voogt & G. Knezek (Eds.), *International handbook of information technology in primary and secondary education* (pp. 543–554). New York: Springer Science + Business Media, LLC.

Dooley, K. E. (1998). Change facilitation and implementation: A model for school diffusion of computer technology and telecommunications. *Planning & Changing*, 29, 73-186.

Dowell, S., Hoewing, B., & Bickmore, D.L. (2012). A framework for defining literacy leadership. *Journal of Reading Education, 37*(2), 7-15.

Drew, S. (2012). Open up the ceiling on the Common Core State Standards: Preparing students for 21st Century literacy now. *Journal Of Adolescent & Adult Literacy*, *56*(4), 321-330.

DuFour, R. (2002). The learning-centered principal. *Educational Leadership, 59*(8), 12–15.

DuFour, R., DuFour, R., Eaker, R., & Many, T. (2006). *Learning by doing: A handbook for professional learning communities that work*. Bloomington, IN: Solution Tree.

DuFour, R. & Eaker, R. (1998). *Professional learning communities at work: Best practices for enhancing student achievement.* Bloomington, IN: Solution Tree.

DuFour, R. & Fullan, M. (2013). *Cultures built to last: Systemic PLCs at work*. Bloomington, IN: Solution Tree.

DuFour, R., & Marzano, R.J (2009). High-leverage strategies for principal leadership.

Educational Leadership, 66(5), 62-68.

Duncan, A. (2010). The digital transformation in education: U.S. Secretary of Education Arne Duncan's remarks at the State Educational Technology Directors Association Education Forum (Novemeber 9, 2010). Retrieved from http://www.ed.gov/news/speeches/%E2%80%9C-digital-transformation-education%E2%80%9D-us-secretary-education-arne-duncan

Eagleton, M. B., & Dobler, E. (2007). Reading the Web: Strategies for Internet inquiry. New York: The Guilford Press.

Eagleton, M. B. & Guinee, K. (2002). Strategies for supporting student Internet inquiry. *New England Reading Association Journal*, *38*(2), 39-47.

Eilers, L., & D'Amico, M. (2012). Essential leadership elements in implementing Common Core State Standards. *Delta Kappa Gamma Bulletin*, *78*(4), 46-50.

Erstad, O. (2002). Norwegian students using digital artifacts in project-based learning. *Journal of Computer Assisted Learning*, *18*(4), 427–437.

Ertmer, P. A. (1999). Addressing first- and second-order barriers to change: Strategies for technology integration. *Educational Technology Research and Development, 47*(4), 47–61.

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of Research on Technology in Education, 42*(3), 255-284.

Ertmer, P., Ottenbreit-Leftwich, A., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & Education, 59*(2), 423-435.

Feeney, E. (2014). Design principles for learning to guide teacher walk throughs. *Clearing*

House, 87(1), 21-29.

Flanagin, A.J., & Metzger, M.J. (2010). *An empirical examination of youth, digital media use, and information credibility*. Cambridge, MA: MIT Press.

Franklin, C. (2007). Factors that influence elementary teachers use of computers. *Journal of Technology and Teacher Education, 15*(2), 267–293.

Fullan, M. (2007). *The new meaning of educational change*. New York: Teachers College Press.

Gee, J.P. (2007). *What video games have to teach us about learning and literacy* (2nd ed.). New York: Macmillan.

Gronn, P. (2002). Distributed Leadership. In K. Leithwood, P. Hallinger, K. Seashore Louis, G. Furman Brown, P. Gronn, W. Mulford and K. Riley (Eds). *Second International Handbook of Educational Leadership and Administration*, Dordrecht: Kluwer.

Guinee, K., Eagleton, M. B., & Hall, T. E. (2003). Adolescents' Internet search strategies: Drawing upon familiar cognitive paradigms when accessing electronic information sources. *Journal of Educational Computing Research, 29*(3), 363-374.

Hallinger, P. (2011). Leadership for learning: Lessons from 40 years of empirical research. *Journal* of *Educational Administration, 49*(2), 125-142.

Hallinger, P., Bickman, L., & Davis, K. (1996). School context, principal leadership, and student reading achievement. *Elementary School Journal, 96*(5), 527-550.

Hallinger, P., & Heck, R. H. (1998). Exploring the principal's contribution to school effectiveness: 1980-1995. *School Effectiveness and School Improvement, 9(2)*, 157-191.

Hallinger, P., & Murphy, J. (1985). Assessing the instructional leadership behavior of principals. *The Elementary School Journal, 86*(2), 217-248.

Hargreaves, A., Shirley, D., Harris, A., & Boyle, A. (2010). Collaborative Edge: How Helping

Others Helps You. *Principal*, 16-20.

Hatch, J.A. (2002). *Doing qualitative research in educational settings*. Albany: State University of New York Press.

Henry, L. A. (2006). SEARCHing for an answer: The critical role of new literacies while reading on the Internet. *Reading Teacher, 59*(7), 614-627.

Horng, E., & Loeb, S. (2010). New thinking about instructional leadership. *Phi Delta Kappan, 92*(3), 66-69.

Hoy, W., & Miskel, C. (2005). *Instructional leadership and reform*. Greenwich, CT: Information Age Publishing.

Hoy, W., & Miskel, C. (2008). *Educational administration: Theory, research and practice* (8th ed.). Boston: McGraw Hill.

Hull, G., Zacher, J., & Hibbert, L. (2009). Youth, risk, and equity in a global world. *Review of Research in Education, 33*(1), 117–159.

Hutchison, A., & Reinking, D. (2011). Teachers' perceptions of integrating information and communication technologies into literacy instruction: A national survey in the United States. *Reading Research Quarterly, 46*(4), 312-333.

International Reading Association. (2009). *New Literacies and 21st Century Technologies: A position statement of the International Reading Association*. Newark, DE: Author.

International Reading Association. (2010). *Standards for Reading Professionals.* Newark, DE: Author.

International Society for Technology in Education (ISTE). (2009). *National educational technology standards for administrators*. Retrieved from http://www.iste.org/standards/nets-for-administrators.aspx

Internet World Stats. (2012). Internet users in the world: Distribution by world regions. Retrieved from http://www.internetworldstats.com/stats.htm

Jensen, E. (2012). *Teaching with poverty in mind: What being poor does to kids brains and what schools can do about it*. Alexadria, VA: ASCD.

Jolls, T. (2008). Literacy for the 21st Century: An overview and orientation guide to media literacy education. Retrieved from http://www.medialit.org/sites/default/files/01_MLKorientation.pdf

Joyce, B., & Showers, B. (2002). *Student achievement through staff development* (3rd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Kaiser Family Foundation. (2009). *Generation M2: Media in the lives of 8–18 year-olds.* Retrieved from http://kff.org/other/poll-finding/report-generation-m2-media-in-the-lives/

Kara-Soteriou, J. (2009). Promoting technology integration through the leadership of school administrators. *New England Reading Association Journal*, *45*(1), 91-95.

Karchmer-Klein, R., & Shinas, V. (2012). Guiding principles for supporting new literacies in your classroom. *Reading Teacher*, *65*(5), 288-293.

Kingsley, T., & Tancock, S. (2014). Internet inquiry. *Reading Teacher*, *67*(5), 389-399.

Kist, W. (2013). New literacies and the Common Core. *Educational Leadership*, *70*(6), 38-43.

Knobel, M., & Wilber, D. (2009). Let's talk 2.0. *Educational Leadership, 66*(6), 20-24.

Labbo, L. D., Leu, D., & Kinzer, C. (2003). Teacher wisdom stories: Cautions and recommendations for using computer-related technologies for literacy instruction. *Reading Teacher*, *57*(3), 300-304.

Labbo, L.D., & Reinking, D. (1999). Negotiating the multiple realities of technology in literacy research and instruction. *Reading Research Quarterly, 34*(4), 478-492.

Lankshear, C., & Knobel, M. (2006). *New Literacies: New literacies: Everyday practices and classroom learning* (2nd ed.). New York: Open University Press.

Lankshear, C., & Knobel, M. (2011). *New literacies: Everyday practices and classroom learning* (3rd ed.). New York: Open University Press.

Larson, L. C. (2009). Reader response meets new literacies: Empowering readers in online learning communities. *Reading Teacher*, *62*(8), 638-648.

Larson, L., Kuhn, C. K., Collins, R. A., Balthazor, G., Ribble, M., & Miller, T. N. (2009). Moving from desperation to hope: Integrating technology as an antidote to desperation. *The Principal Leadership, 10*(4), 54-65.

Lawless, K. A., & Pellegrino, J. W. (2007). Professional development in integrating technology into teaching and learning: Knowns, unknowns, and ways to pursue better questions and Answers. *Review of Educational Research, 77*(4), 575-614.

Leithwood, K., & Jantzi, D. (2005). A review of transformational school leadership research 1996–2005. *Leadership and Policy in Schools, 4*(3), 177-199.

Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2004). *Review of research: How leadership influences student learning*. New York, NY: Wallace Foundation.

Leithwood, K. A., & Riehl, C. (2003). *What we know about successful school leadership*. Philadelphia: Laboratory for Student Success, Temple University.

Lemke, J.L. (2002). Travels in hypermodality. *Visual Communication*, *1*(3), 299–325.

Leu, D.J. (2007, May). *What happened when we weren't looking? How reading comprehension has changed and what we need to do about it*. Invited keynote address to the Research

Conference of the International Reading Association, Toronto, Canada.

Leu, D. J., & Kinzer, C. K. (2000). The convergence of literacy instruction with networked technologies for information and communication. *Reading Research Quarterly, 35*(1), 108-127.

Leu, D.J., Coiro, J., Castek, J., Hartman, D.K., Henry, L.A., & Reinking, D. (2008). Research on instruction and assessment in the new literacies of online reading comprehension. In C.C. Block & S.R. Parris (Eds.), *Comprehension instruction: Research-based best practices* (2nd ed., pp. 321–346). New York: Guilford.

Leu, D. J., Kinzer, C.K., Coiro, J., & Cammack, D. W. (2004). Toward a theory of new literacies emerging from the Internet and other information and communication technologies. In R. B. Ruddell & N. Unrau (Eds.), *Theoretical models and processes of reading* (5th ed., pp. 1570-1613). Newark, DE: International Reading Association.

Leu, D., Kinzer, C., Coiro, J., Castek, J., & Henry, L. (2013). New Literacies: A dual-level theory of the changing nature of literacy, instruction and assessment. In R. D. Alvermann, N. Unrau & R. Rundell Eds.), *Theoretical models and processes of reading* (6th ed., pp. 1150-1181). Newark, DE: International Reading Association.

Leu, D. J., McVerry, J. G., O'Byrne, W. I., Zawilinski, L., Castek, J., & Hartman, D. K. (2009a). The new literacies of online reading comprehension and the irony of no child left behind: Students who require our assistance the most, actually receive it the least. In L. Mandel Morrow, R. Rueda, & D. Lapp (Eds). Handbook of research on literacy instruction: Issues of diversity, policy, and equity (pp. 173-194). New York, NY: Guilford Press.

Leu, D. J., O'Byrne, W., Zawilinski, L., McVerry, J., & Everett-Cacopardo, H. (2009b). Expanding the new literacies conversation. *Educational Researcher, 38*(4), 264-269.

Leu, D. J., & Zawilinski, L. (2007). The new literacies of online reading comprehension. *New England Reading Association Journal, 43*(1), 1-7.

Levin, B., & Schrum, L. (2013). Technology-rich schools up close. *Educational Leadership, 70*(6), 51-55.

Lineburg, M.Y., & Gearheart, R. (2013). *Educating students in poverty: Effective practices for leadership and teaching.* Larchmont, NY: Eye on Education.

Louis, K., Leithwood, K., Wahlstrom, K., Anderson, S. (2010*). Learning from leadership: Investigating the links to improved student learning*. New York: Final report of research to the Wallace Foundation.

Marks, H.M. & Printy, S. M. (2003). Principal leadership and school performance: Integrating transformational and instructional leadership. *Educational Administration Quarterly, 39*(3), 370-397.

Marzano, R. J., Waters, T., & McNulty, B. (2005). *School leadership that works: From research to results*. Aurora, CO: ASCD and McREL.

May, H., & Supovitz, J. (2011). The scope of the principals efforts to improve instruction. *Educational Administration Quarterly. 47*(2). 332-352.

McKenna, M. C. (2006). Trends and trajectories of literacy and technology in the new millennium. In M. McKenna, L. Labbo, R. Kieffer, & D. Reinking (Eds.), *International handbook of literacy and technology* (Vol. II, pp. xi-xviii). Mahwah, NJ: Lawrence Erlbaum Associates.

McKenna, M. C, & Proctor, K. M. (2006). The role of technology in the professional development of literacy educators. In M. C. McKenna, L. D. Labbo, R. D. Kieffer, & D. Reinking (Eds.), International handbook of literacy and technology (Vol II, pp. 273-

286). Mahwah, NJ: Lawrence Erlbaum Associates.

McKenna, M. & Walpole, S. (2008). The literacy coaching challenge: Models and methods for grades K-6. NY, NY: Guilford Press.

McLaughlin, M., & Overturf, B. (2012). The Common Core: Insights into the K-5 standards. *Reading Teacher*, *66*(2), 153-164.

McLester, S. (2006). Stepping up to AYP. *Technology & Learning*, *27*(2), 20-28.

Mouza, C. (2008). Learning with laptops: Implementation and outcomes in an urban, under-privileged school. *Journal of Research on Technology in Education, 40*(4), 447-472.

Murphy, J. (1990). Principal instructional leadership. In P. W. Thurston & L. S. Lotto (Eds.), *Perspectives on the school. Advances in educational administration* (Volume 1, Part B, 163-200). Greenwich, CN: JAI Press Inc.

Murphy, J., Elliott, S. N., Goldring, E., & Porter, A. C. (2006). *Learning-centered leadership: A conceptual foundation.* Paper prepared for the Wallace Foundation grant on leadership assessment.

Murphy, J., Hallinger, P., Weil, M., & Mitman, A. (1983). Instructional leadership: A conceptual framework. *Planning & Changing*, *14*(3), 137-149.

National Center for Education Statistics. (2008). Number and internet access of instructional computers and rooms in public schools, by selected school characteristics: Selected years, 1995 through 2008. [Online]. Available: http://nces.ed.gov/programs/digest/2011menu_tables.asp

National Council for the Accreditation of Teacher Education (NCATE). (2008). *Professional Standards for the Accreditation of Schools, College and Departments of Education*. Washington, DC: National Council for Accreditation of Teacher Education.

National Council of Teachers of English. (2013). *NCTE statement on 21st Century literacies*. [Online]. Available: www.ncte.org/library/NCTEFiles/Resources/Magazine/CC0183_Brief_Literacy.pdf

National Governors Association for Best Practices (NGABP) and Council of Chief State School Officers (CCSSO). (2010). *The Common Core Standards for English language arts* in *literacy in history/social studies, science, and technical subjects.* Washington, DC: Authors.

New London Group, The. (2000). A pedagogy of multiliteracies: Designing social futures. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social futures* (pp. 9-38). London: Routledge.

Newmann, F., King, B., & Youngs, P. (2000, April). *Professional development that addresses school capacity*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Norris, K., Lucas, L., & Prudhoe, C. (2012). Examining critical literacy. *Multicultural Education*, *19*(2), 59-62.

Overholt, R., & Szabocsik, S. (2013). Leadership content knowledge for literacy: Connecting literacy teachers and their principals. *Clearing House*, *86*(2), 53-58.

Perkins, J. (2010). Personalizing teacher professional development: Strategies enabling effective learning for educators of 21st century students. *Quick, (113),* 15–19.

Prensky, M. (2001, October). Digital natives, digital immigrants. *On the Horizon*, *9*(5). Retrieved November 16, 2010, from http://www.albertomattiacci.it/docs/did/Digital_Natives_Digital_Immigrants.pdf

Pressley, M. (2002). Comprehension strategies instruction: A turn-of-the-century status report. In C.C. Block & M. Pressley (Eds.), *Comprehension instruction: Research-based best*

practices (pp. 11–27). New York: Guilford.

Printy, S. M., Marks, H. M., & Bowers, A. J. (2009). Integrated leadership: How principals and teachers share transformational and instructional influence. *Journal of School Leadership*, *19*(5), 504-532.

Reeves, D. B. (2008). The leadership challenge in literacy. *Educational Leadership*, *65*(7), 91-92.

Reich, J., Murnane, R., & Willett, J. (2012). The state of wiki usage in U.S. K–12 schools: Leveraging Web 2.0 data warehouses to assess quality and equity in online learning environments. *Educational Researcher*, *41*(1), 7-15.

Reinhart, J., Thomas, E., & Toriskie, J. (2011). K-12 Teachers: Technology use and the second level digital divide. *Journal of Instructional Psychology*, *38(*3/4), 181-193.

Robinson, V., Lloyd, C., & Rowe, K. (2008). The impact of leadership on outcomes: An analysis of the differential effects of leadership types. *Educational Administration Quarterly, (44)*5, 635-674.

Schrum, L. & Levin, B. (2009). *Leading 21st century schools: Harnessing technology for engagement and achievement.* Thousand Oaks, CA: Corwin.

Schrum, L., Galizio, L. M., & Ledesma, P. (2011). Educational leadership and technology Integration: An investigation into preparation, experiences, and roles. *Journal Of School Leadership*, *21*(2), 241-261.

Seeger, V. & Johnson, R. D. (in press). Implementing electronic Family Message Journals. In Rasinski, T. (Ed.) *Technology and Writing: New Approaches to Literacy Competency.* Bloomington, IN: Solution Tree.

Shanahan, T. (2012). The Common Core ate my baby. *Educational Leadership*, *70*(4), 10-16.

Smylie, M. A., Allensworth, E., Greenberg, R. C., Rodney, H., & Luppescu, S. (2001). *Teacher professional development in Chicago: Supporting effective practice*. Chicago, IL: Consortium on Chicago School Research.

Spillane, J. (2006). *Distributed leadership*. San Francisco: Jossey-Bass.

Sprankle, B. (2012). A plan for technology integration. *Technology & Learning, 32*(10), 38-40.

Staples, A., Pugach, M. C., & Himes, D. J. (2005). Rethinking the technology integration challenge: Cases from three urban elementary schools. *Journal of Research on Technology in Education, 37*(3), 285-311.

Stegall, P. (1998). *The principal: Key to technology implementation.* (ERIC Document Reproduction Service No. ED424614).

Street, B. (1995). *Social literacies*. London: Longman.

Street, B. (2003). What's new in new literacy studies? *Current Issues in Comparative Education, 5*(2), 1–14.

Stein, M., & Nelson, B. S. (2003). Leadership Content Knowledge. Educational Evaluation & Policy Analysis, 25(4), 423-448.

Stolle, E. (2008). Teachers, literacy and technology: Tensions, complexities, conceptualizations and practice. In Y. Kim, V. Risko, D. Compton, D. Dickinson, M. Hundley, R. Jimenez, K. Lander & D. Wells-Rowe (Eds.), *57th yearbook of the National Reading Conference* (pp. 56-69). Oak Creek, WI: National Reading Conference.

Stuart, L. H., Mills, A. M., & Remus, U. (2009). School leaders, ICT competence and championing innovations. *Computers & Education, 53*(3), 733-741.

Supovitz, J. A., Sirinides, P., & May, H. (2010). How principals and peers influence teaching and learning. *Educational Administration Quarterly, 46*(1), 31-56.

United States Department of Education (2001). No Child Left Behind Act of 2001: Enhancing

education through technology. Retrieved from http://www2.ed.gov/policy/elsec/guid/states/index.html#nclb

Wallace Foundation (2013). *The school principal as leader: Guiding schools to better teaching and learning.* New York: The Wallace Foundation.

Walpole, S. & McKenna, M. (2012). Literacy leadership in a culture of collaboration. In R. M. Bean & A. S. Dagen (Eds.), *Best practices of literacy leaders* (pp. 3-20). New York: Guilford Press.

Waters, T., Marzano, R. J., & McNulty, B. (2003). *Balanced leadership: What 30 years of research tells us about the effect of leadership on pupil achievement. A working paper*. Denver, CO: Mid-continent Research for Education and Learning (McREL).

Weber, J. (1996). Leading the instructional program. In S. Smith & P. Picle (Eds.), *School leadership* (pp. 253-278). Eugene, OR: Clearinghouse of Educational Management.

Yin, R. K. (2009). *Case study research: Design and methods* (3rd ed.). Newbury Park, CA: Sage.