

Bill Powers

Southwest Baptist University

BARRIERS AND BEST PRACTICES OF TWITTER

FOR PROFESSIONAL LEARNING:

A QUALITATIVE STUDY OF MISSOURI PRINCIPAL PERCEPTIONS

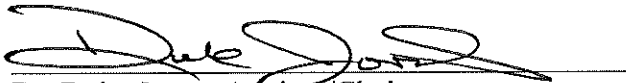
The undersigned, approved by the Department Chair of Graduate Studies in Education, have examined a dissertation entitled:

BARRIERS AND BEST PRACTICES OF TWITTER

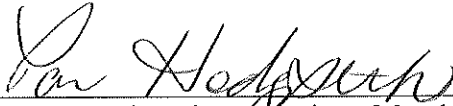
FOR PROFESSIONAL LEARNING:

A QUALITATIVE STUDY OF MISSOURI PRINCIPAL PERCEPTIONS

Presented by Bill Powers, a candidate for the degree of Doctor of Education, and hereby certify that in their opinion it is worthy of acceptance.



Dr. Duke Jones, Advisor/Chair
Professor of Graduate Studies
Southwest Baptist University



Dr. Pam Hedgpeth, Committee Member
Professor of Graduate Studies in Education
Southwest Baptist University



Dr. John Jungmann, Committee Member
Superintendent
Springfield R-12 Public Schools

BARRIERS AND BEST PRACTICES OF TWITTER
FOR PROFESSIONAL LEARNING:
A QUALITATIVE STUDY OF MISSOURI PRINCIPAL PERCEPTIONS

A Dissertation

Presented to

The Faculty of the Graduate Education Department

Southwest Baptist University

In Partial Fulfillment

of the Requirements for Degree

Doctor of Education

By

Bill Powers, (B.S., M.S. Ed)

Dr. Duke Jones, Dissertation Advisor

December 2016

Acknowledgements

I want to thank my wife Dana for walking beside me and guiding me down this road. She helped push me through the completion of my Master's degree and now my doctorate. Her love, encouragement, and editing helped me get where I am today. She is the most dedicated and selfless person I know. I love you! I also would be remiss to not thank my son Seely. All he has ever known is his parents going to school. He never once complained about us having to go to class, write papers, study, or write our dissertations. I hope he has seen Dana and I overcome adversity, push through the difficulties of work, life, and school, and of course all the hard work and determination it takes to accomplish a goal. Seely – you can do anything you set your mind to as long as you work hard, stay focused, and never give up. We love you and are proud of you!

My advisor, Dr. Duke Jones, has been amazing. Early in the process Dr. Jones told me the dissertation process is like eating an elephant. It is big, does not taste good, and will take a long time to eat, but if we eat it one bite at a time we will get it done. There were times I had no idea what I was doing, but you kept me focused, were always encouraging me, and I felt like you always put my work first. Your positive attitude and high energy definitely helped me push through to the end. I appreciate you more than you will know. I would also like to thank Dr. James Truelove, and my committee members Dr. John Jungmann and Dr. Pam Hedgpeth. Thank you Dr. Truelove for taking time to guide me through chapter three and the methodology process. Dr. Jungmann I appreciate your vision, modeling of lifelong learning, and doing what is best for our students. Your insights were instrumental to the completion of this work. Finally, Dr. Hedgpeth, I always knew no matter how good I thought my dissertation was you would make it

better. Your knowledge, expertise, and insights helped push me to be better now than when I started this process. You always helped make me and my work better. Thank you all so much!

Table of Contents

Table of Contents	i
List of Tables	v
Abstract	vi
Chapter One: Introduction to the Study	1
Problem Statement	4
Rationale for the Study	6
Research Questions	7
Conceptual Framework	8
Limitations	10
Delimitations	11
Design Controls	11
Methodology.....	11
Definitions of Key Terms.....	12
Summary.....	14
Chapter Two: Review of Literature.....	17
Introduction.....	17
Effective Professional Learning.....	19
Effective Professional Development.....	22
Effective Mentoring and Coaching.....	24
Effective Collaboration.....	29
Effective Communities of Practice.....	30
Traditional Professional Learning for Educational Leaders.....	34

Effective Professional Learning for Educational Leaders.....	37
Effective Professional Development for Educational Leaders.....	39
Effective Collaboration for Educational Leaders.....	41
Educational Leaders’ Communities of Practice.....	42
Educational Leaders’ Communities of Practice Using Virtual Learning.....	44
Educational Leaders Use of Social Media for Professional Learning.....	47
Barriers to Social Media Use for Educational Leaders.....	49
Twitter.....	51
Twitter 101.....	54
Summary.....	56
Chapter Three: Research Design and Methodology.....	57
Introduction.....	57
Participants.....	57
Sampling Procedures.....	59
Research Setting.....	61
Theoretical Underpinnings.....	62
Research Design.....	63
Validity and Reliability.....	66
Instrumentation.....	68
Data Analysis.....	69
Summary.....	71
Chapter Four: Analysis of Data.....	73

Introduction.....	73
Participants.....	74
Principal One.....	79
Principal Two.....	79
Principal Three.....	79
Principal Four.....	79
Principal Five.....	80
Principal Six.....	80
Validity and Reliability.....	81
Data Analysis.....	82
Research Question 1.....	85
Research Question 2.....	90
Summary.....	98
Chapter Five: Conclusions and Recommendations.....	99
Introduction.....	99
Summary of Methods.....	99
Conclusions.....	100
Educational Implications	106
Recommendations.....	111
Summary.....	112
References.....	114
Appendix A.....	129
Appendix B.....	132

Appendix C	133
Appendix D	134

List of Tables

Table 1: Twitter Use by Gender	74
Table 2: Age	75
Table 3: Highest degree attained	75
Table 4: Current school setting.....	75
Table 5: Years in Education.....	76
Table 6: Years in Administration.....	76
Table 7: Years in Administration and Using Twitter for Professional Learning	76
Table 8: Region of Missouri Respondents are currently Administrators.....	77
Table 9: Principals Recommended as Highly Effective from Educational Leaders in Missouri	78
Table 10: Principals Supporting each Theme for Barriers to Using Twitter for Professional Learning	85
Table 11: How often respondents used Twitter	86
Table 12: How long respondents have used Twitter for Professional Learning.....	87
Table 13: Principals Supporting each Theme for Best Practices Using Twitter for Professional Learning	91
Table 14: Moderated Chats Missouri Pre-k – 12th grade Administrators Participate.....	95

Abstract

Educators seek professional learning to meet their personal needs and the needs for their students each year. However, many times the professional learning is not tailored to the audience and the costs to attend conferences does not lend itself to being effective use of time and resources. Many educators are now turning to Twitter for professional learning. Twitter allows the user to login anytime and anyplace to connect and learn with others on topics of their choosing. Social media is a growing medium educators are using to eliminate the need to travel and reduce costs associated with conferences. Much of the research to this point has focused on how teachers use Twitter for learning. Through this research, the researcher sought the answers to two research questions around the learning of principals: 1.) What are the barriers keeping Missouri's current public school principals serving in prekindergarten through twelfth grade buildings from using Twitter for professional learning? and 2.) What are best practices for managing barriers to using Twitter as a professional learning tool? The design of this qualitative study allowed the researcher to gather data from 539 leaders in Missouri and from in-depth interviews with six individuals to address the research questions. Through the work the researcher found the barriers principals encountered were lack of time, feeling confused or overwhelmed, and the limited characters within Twitter. Respondents noted best practices to using Twitter were resource acquiring and sharing resources, ability for collaboration, networking, and participating in chats, and using Twitter as a public relations tool for their school.

Chapter One

Introduction

Social media can be found and accessed anytime and anyplace 24 hours a day, 7 days a week and is prevalent almost anywhere individuals look today. Whether it is in television commercials or shows, movies, sporting events, newscasts, world events, billboards, product placement, or celebrities vying for more followers, it is a growing medium that is available to anyone, anywhere, with Internet connectivity or an Internet enabled device.

Twitter was originally fashioned to allow users to send “small bursts of information,” known as “tweets,” about daily events to other users of the service (Twitter, Inc., n.d.). As recent as January 2015, according to a Pew research study, 74 percent of adults online use social network sites (SNSs), of which 23 percent use Twitter (Duggan, et al., 2015).

With the increased use of social media to connect online (Duggan, et. al., 2015), Twitter could potentially provide educational leaders a free venue in which connecting with others in similar positions around the world is as simple as connecting to the Internet via a computer, tablet, or handheld device through synchronous chats or asynchronous tweeting. Through Twitter, educators are able to contribute and discuss ideas, and to share and acquire resources by tweeting links to education-related articles, blogs, wikis, and other websites (Brown, 2012; Lu, 2011). It is learning on demand for anyone with a Twitter account at any time, in any place, and in any space. Through developing a professional learning network (PLN) leaders can connect with other educators from the comfort of home, participate in scheduled online chats around a variety of educational topics, form an online learning community to access at any time, and follow educational

conferences without paying the high cost of travel or accommodations, and registration fees.

Twitter is a microblog in which users post tweets, messages of 140 characters or less, and can include pictures and links to documents and articles. These messages can be read by anyone who “follows” the person who tweets the original message. Followers can “retweet” messages they receive, posting it for their followers to read as well. Tweets can be directed to specific people by using the person’s username, such as @MrPowersCMS, in the message (Twitter.com, 2016).

As the use of social media, specifically Twitter and hashtags (#), continues to grow and become more popular among educators, more education conferences are catching on to mainstream media and using pre-determined hashtags as a way to share the learning with those educators in attendance (Lalonde 2011) and also to those following along from their homes, work, or any location with Internet connectivity or an Internet enabled device.

According to a recent study conducted by MMS Education (MMS Education et al., 2012) the number of educators using social networks has increased from 61 percent in 2009 to 82 percent in 2012. Their original survey was conducted in 2009 and duplicated in 2012. Their 2012 blind online survey resulted in 694 responses of which 82 percent of the educators reported being members of a social networking site. Thirty-nine percent of the respondents stated they had a Twitter account. Of the 694 educators who responded to the survey, approximately 20 percent were school principals and 52 percent of those principals shared they had a Twitter account. Although that sounds like a robust number, when the data were mined a little further, the results showed that only about 70 of the

principals who completed the survey in the MMS Education study had a Twitter account. This statistic potentially indicates that less than 1 percent of the school principals in this country have a Twitter account based on the fact there are approximately 150,000 schools in this country, according to a 2008 report from National Center for Educational Statistics. Brett Baker, an account executive from Twitter, shared that educators are a dominant presence on Twitter, accounting for more than approximately 4,000 tweets a minute (Stevens, 2014). However, this does not give us any indication about the number of school principals who are actively participating within this platform.

Before social media and the Internet learning was a social event (Lave and Wenger, 1991; Vygotsky, 1962). With the advent of the Internet and social media sites, such as Twitter, it is now easier than ever to connect, collaborate, and learn with educators in the same district, city, state, United States, or countries abroad. Depending on whom you follow and who follows you, Twitter can be used for professional networking because it can connect people with like interests and communication happens in real-time, so the exchange of information is immediate (Dunlap & Lowenthal, 2009).

Barth (1986) stated professional learning of educational leaders is a key to a schools success and Senge (1990, 2006) outlined five disciplines - personal mastery, mental models, building shared visions, team learning, and systems thinking - that, together, form the basis of learning organization theory. Senge said, "The organizations that will truly excel in the future will be organizations that discover how to tap people's commitment and capacity to learn at all levels in an organization."

Through initial research very little has been found regarding educational leaders' use of social media, specifically Twitter, for professional learning. However, the research

base is continuing to develop as the medium grows in popularity among educators. Much of the research studied from the past 10 years, since the inception of Twitter in March 2006, focuses on teacher use in developing a PLN to expand their practice and development as educators. Educational leaders can use this social media tool as a way to decrease isolation, decrease professional learning costs, and increase leadership capacity for themselves and of their staff.

Traditionally, professional development or professional learning, is an event, or conference, for educational leaders to attend once a year, a formal association meeting that occurs a few times each year, and for some school districts professional learning is provided internally through the school district. This sporadic and inconsistent learning and collaboration is not found to be effective. According to Fullan (2008a), we cannot continue to be islands. Peers with purpose, or purposeful networks, provide educational leaders with support and a positive pressure (Fullan 2008a). However, self-directed, differentiated, job embedded, and social learning as an ongoing way of learning is more sustainable and effective (Darling-Hammond, LaPointe, Meyerson, Orr, & Cohen, 2007).

Problem Statement

The use of Twitter for educational leader's professional learning is a resource many are unaware of at this time based on research from Pew. According to Pew, only 23 percent of all adults currently using social media are on Twitter (Duggan, et. al, 2015). However, Twitter proponents list a number of educational benefits, such as enhanced communication, collaboration, and engagement (Lu, 2011). It also provides learning on demand for those seeking to consume or produce learning through a social medium.

Through this research the researcher is looking to find what barriers keep Missouri's current public school principals serving in prekindergarten through twelfth grade buildings from using Twitter for professional learning and to provide a list of best practices based on principal perceptions who currently use Twitter as a learning tool.

Professional learning can be costly and very time consuming for educational leaders. Due to tightening budgets, increased accountability measures, and the need to be more innovative in and out of the classroom, in addition to the many other demands placed on building leaders, the use of Twitter is a just-in-time learning opportunity based on research from *How People Learn* (NRC, 2000).

Fucoloro (2012) explained there is little research available on the topic of educators' perceptions and usage behaviors associated with participation in informal, online professional learning networks like Twitter to support educational leaders' professional learning needs. The studies that do exist focus on managed and closed networks that have been developed for research purposes. By investigating how to connect, and provide best practices for Twitter use, more of Missouri's current public school principals serving in prekindergarten through twelfth grade buildings could connect and collaborate for professional learning. This may provide district officials or state departments of education personnel options to barriers such as time, money, and geographic location to help further grow school principals.

As stated previously, little research has been collected on the use of Twitter as a tool for creating communities of practice and supporting professional learning (Archambault, Wetzel, Foulger, & Williams, 2010; Kear, 2011, Carpenter & Krutka 2014). The unprecedented growth, power, engagement, and popularity of Twitter lie in its endless

networking opportunities, and needs to be explored as a venue for professional growth and learning (Gerstein, 2011).

The National Staff Development Council (2009) suggested that informal, online professional learning networks meet many of the criteria of effective professional learning, and further study is needed to determine their effectiveness in improving leadership, teaching, and student achievement. This study may assist school districts, state departments of education, universities, and professional organizations in determining how social networking tools like Twitter may support professional learning and lifelong learning of school leaders. Exploring perceptions of school leaders who participate in weekly Twitter chat groups may inform educational leaders on potential benefits and drawbacks of using Twitter to support school leaders.

Purpose for the Study

The purpose of this qualitative study is to determine if barriers exist and also identify what barriers keep Missouri's current public school principals serving in prekindergarten through twelfth grade buildings from using Twitter for professional learning. Secondly, the researcher will provide a list of best practices from principals using Twitter as a medium for professional learning garnered from the study.

Twitter, whose mission is to give everyone the power to create and share ideas and information instantly without barriers, launched in July of 2006 and was incorporated April 19, 2007. There are currently 310 million active users who send approximately 500 million tweets per day (Twitter.com, 2016). Studies on the use of Twitter for professional learning are limited and the majority found focus on teacher professional

learning. Carpenter and Krutka (2014) found in their study 86 percent of K-16 educator's surveyed use Twitter for collaboration within their professional learning network.

Social media is available 24 hours a day, seven days a week via Internet enabled devices to find professionals or specific topics in education, yet many still go the traditional route to receive professional learning. Due to continued cuts and limited funding this free professional learning is one way in which educational leaders can stay on the forefront of the latest strategies, research, and innovations in education. Twitter allows educators to no longer feel isolated or on an island, thus eliminating the limitations of geography, and can now connect with other educational leaders across the country with a simple tweet at any time 24 hours a day seven days a week.

Hypothesis

Through this study the researcher is looking to find what barriers, if any, keep Missouri's current public school principals serving in prekindergarten through twelfth grade buildings from using Twitter for professional learning and provide a list of best practices based on principal perceptions who currently use Twitter as a learning tool.

Research Questions

RQ1: What are the barriers keeping Missouri's current public school principals serving in prekindergarten through twelfth grade buildings from using Twitter for professional learning?

RQ2: What are best practices for managing barriers to using Twitter as a professional learning tool?

Theoretical Framework

Through this study the researcher is looking to find what barriers, if any, keep Missouri's current public school principals serving in prekindergarten through twelfth grade buildings from using Twitter for professional learning. The research will also provide a list of best practices based on perceptions of current principals Twitter use for professional learning.

Through initial research on professional learning for educational leaders the researcher has found theorists ideas on social learning as far back as the 1960's with Lev Vygotsky and then the 1980's and Roland Barth's research.

First introduced by Lev Vygotsky (1962), social learning theory, stated we learn through our interactions and communications with others. Vygotsky (1962) examined how our social environments influence the learning process and suggested that learning takes place through interactions with peers and other experts. In order to create a learning environment that maximizes the learner's ability to interact with each other it must be done through discussion, collaboration, and feedback.

Barth (1986) noted professional learning of educational leaders is a key to a schools success. Barth later said professional learning was a 'wasteland' and was a 'one size fits all' concept (1986).

Learning organization theory came about in 1990 with Peter Senge's work, *The Fifth Discipline: The Art and Practice of the Learning Organization* (1990, 2006). According to Senge (1990):

Learning organizations are organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of

thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together...The organizations that will truly excel in the future will be organizations that discover how to tap people's commitment and capacity to learn at all levels in an organization (pp. 3-4).

Senge (1990) outlined five disciplines - personal mastery, mental models, building shared visions, team learning, and systems thinking - that, together, form the basis of learning organization theory. Senge described a discipline as a body of theory and technique that must be studied and mastered to be put into practice, and as an ongoing and even lifelong.

In the early 1990's Lave and Wenger, and in the early 2000's Wenger, shared insight on communities of practice and expanded on Vygotsky's theory of social learning when a group has a common interest and doesn't happen in traditional manners (1991). Fullan (2008a) said school leaders cannot continue to be islands and Darling-Hammond et al. (2007) said learning should be self-directed and ongoing.

Most recently learning has started to shift to a virtual community with the help of social media such as Twitter. Siemens (2005) refers to this as Connectivism and Downes (2006) said knowledge and learning is not transferred, but is shared via a person's personal learning network via conversations.

Effective school leaders are described as people who effectively form and utilize learning communities for ongoing professional learning, according to DuFour and Marzano (2011). School leaders lack adequate ongoing professional learning opportunities and research is scarce on how Twitter can be used to support their learning needs. Social network websites, such as Twitter, may allow educational leaders to

engage in meaningful professional dialogue (Dunlap & Lowenthal, 2009). Twitter's brevity, immediacy, and openness can empower educators and students to interact with a variety of people in new ways. Given Twitter's popularity, adaptability, and capacity to create unique opportunities for communication, it seems worthwhile to examine its role in education (Carpenter & Krutka, 2014).

This researcher hopes to build upon these early theorists ideas of social learning with the virtual technology of Twitter. Through Twitter, educational principals and leaders are able to share, learn, and grow without the additional cost, geographical challenges, or time constraints that often prohibit one from attending a conference or workshop. Via Twitter the 'experts' in the field of education are one tweet away for free at any time and from any place.

Limitations/Delimitations/Assumptions

Limitations:

- 1) This study was limited geographically to the state of Missouri as the researcher sent the questionnaire to all current public school principals serving in prekindergarten through twelfth grade buildings in Missouri.
- 2) The researchers personal bias, although unintentional, due to heavy use of Twitter by the researcher, and presenting at local and state conferences on the how and why of using Twitter for professional learning.
- 3) The researcher did not use Twitter professionally from November of 2013 to August 2014 in order to limit the bias moving forward.

Delimitations:

- 1) The sample size was limited as the researcher sent the questionnaire to all current public school principals serving in prekindergarten through twelfth grade buildings in Missouri.

Design Controls

The researcher is using a qualitative study using a causal-comparative analysis. The main objective of this study is to determine what barriers, if any, inhibit Missouri's public school principals serving in prekindergarten through twelfth grade buildings from using Twitter for professional learning and what the best practices for managing those barriers are based on participant responses.

Qualitative studies are conducted in education and are common in order to seek to discover and understand a phenomenon, a process, or the perspectives of the people involved (Merriman, 1998). Creswell (2009) noted researchers use qualitative studies to delve deeper into a more complex, detailed issue to garner a better understanding by talking directly with people.

A causal-comparative study is being done due to the nature of the group being researched. The basic causal-comparative design involves selecting two groups that differ on some variable of interest and comparing them on some dependent variable (Gay, et. al., 2009).

Methodology

This will be a qualitative study to find what barriers, if any, keep Missouri's current public school principals serving in prekindergarten through twelfth grade buildings from

using Twitter for professional learning and provide a list of best practices based on principal perceptions who currently use Twitter as a learning tool.

Twitter is ever evolving and its use by principals for professional learning being a subject with very little research due to its relative newness piques this researcher's interest.

At this time the researcher plans to send a questionnaire to all current public school principals serving in prekindergarten through twelfth grade buildings. Through the questionnaire the researcher will have a collection of demographics, whether the respondent is a Twitter user or not, and why they are not using Twitter for professional learning will be gathered to see what themes, if any, develop from the research data. By determining what barriers principals perceive as reasons they are not using Twitter it is the hope of the researcher to provide next steps and resources for principals, districts, departments of educations and professional learning organizations to eliminate these perceived barriers to ease the use of this free tool for professional learning. The resources of best practice will be gathered from the data collected from those principals currently using Twitter.

Further interviews will be conducted with approximately three participants using and three participants not using Twitter to delve deeper in the topic.

Definition of Key Terms

Asynchronous learning - The idea of learning the same material at different times and locations.

Connectivism - Social networked learning; connection-based learning and knowledge.

Hashtag – The # symbol used to categorize and group topics on social media like Twitter.

Personal/Professional Learning Network (PLN) – Personal/Professional Learning Network that is learner-driven, problem-based, interest-motivated, deliberately formed networks of people and resources capable of guiding independent learning and professional needs.

Principals – current public school principals serving in prekindergarten through twelfth grade buildings in the state of Missouri.

Professional Development - Skills and knowledge attained for both personal development and career advancement.

Professional Learning – when educators reflect on professional practice, collaborate and share ideas, and strive to improve student outcomes on a daily basis.

Social Media – The online forms of communicating that any individual can employ, which include blogs, micro-blogs such as Twitter and social networking sites such as Facebook. Contrast with "industrial media," which refer to professionally produced radio, TV and film.

SNSs – Social Networking Sites

Synchronous learning - Learning at the same time by activities such as attending a lecture or during a Twitter chat.

Tweet - A short, 140-character message published via Twitter.

Twitter - online social networking and micro-blogging service that enables users to send and read "tweets", which are text messages limited to 140 characters. Registered users can read and post tweets, but unregistered users can only read them.

Twitter chat(s) - Pre-organized times to tweet using pre-organized hashtags #. Chats are a way for people to find others with common interests and communicate via Twitter.

Summary

Chapter one introduces the researchers' topic to find what barriers keep Missouri's current public school principals serving in prekindergarten through twelfth grade buildings from using Twitter for professional learning and provide a list of best practices based on principal perceptions who currently use Twitter as a learning tool.

Twitter is a resource for educational leaders across the country as a way to connect, grow, and learn by simply using an Internet enabled device. Through the use of Twitter for professional learning cost, geographic location, and time are no longer a limiting factor as there can be just-in-time learning.

Chapter two is an overview of the theorists and theories on social learning from the 1960's to present day. Social learning has evolved over time from face-to-face learning to a blended model of face-to-face and virtual. The review of literature includes research related to how professional learning has evolved from the work of Senge (1990, 2006) focusing on systems thinking, to today with the development and increased use of technology as a tool for learning. Beginning with effective professional learning and effective professional development for adult learners, effective mentoring and coaching, to effective collaboration. The research will then focus on educational leaders and traditional professional learning, to effective professional learning and professional development, effective collaboration, and finally communities of practice for educational leaders. Finally, the review of literature will focus on educational leader's use of virtual

learning, the use of social media for professional learning, barriers to social media use for professional learning, and finally Twitter as a professional learning medium.

Chapter three presents the methodology used to gather the data as it relates to the topic and will begin to develop in the fall of 2016. The researcher will email all current Missouri public school principals serving in prekindergarten through twelfth grade buildings to gather basic demographics such as age, gender, level of education, and years as a principal, type of school they principal, and region of Missouri in which they lead. Then the researcher will ask whether the respondent is a Twitter user or not, and why they are not using Twitter for professional learning will be gathered to see what themes, if any, develop from the research data. Other areas of focus will be to gather a list of perceived barriers on why they are not using Twitter for professional learning purposes and a list of best practices for using Twitter as a professional learning tool.

By determining what barriers principals perceive as reasons they are not using Twitter it is the hope of the researcher to provide next steps and resources for principals and districts to eliminate these perceived barriers to ease the use of this free tool for professional learning.

Chapter four will present the findings and results of the researchers study through possible themes found in the demographics and answers to the research questions. Through the data analysis the researcher will highlight and emphasize the most important findings based on the questionnaire results through themes found while analyzing results. The researcher will also interview both Twitter users and non-users to delve deeper in the subject and provide a deeper understanding of both barriers and best practice.

Chapter five is the conclusion and recommendations on the topic. The researcher will share key findings and recommendations for future study on the topic.

Chapter Two

Review of Literature

Introduction

Professional development is a vital component to the continued growth of educational leaders (Marzano, Waters, & McNulty, 2005). Educators must be lifelong learners who reflect and grow through their own practice via collaboration with colleagues, mentors, and coaches (Fullan, Rincon-Gallardo, & Hargreaves, 2015; McNulty, 2011; National Staff Development Council, 2008) and it is imperative that effective professional development occur in every school (Hargreaves & Shirley, 2009).

“The ability to collaborate—on both a small and large scale—is becoming one of the core requisites of postmodern society. . . . In short, without collaborative skills and relationships, it is not possible to learn and to continue to learn as much as you need in order to be an agent for social improvement” (Fullan, 1993, pp. 17–18). Further, adults need time to learn from and with each other in meaningful ways. When collaborative adult learning becomes a regular part of the day educators can share existing knowledge. This in turn creates a collaborative atmosphere and models lifelong learning for students (National Staff Development Council, 2008).

Hattie (2009) noted the principal has an effect size of 0.36 and professional learning is 0.62 on student achievement. Both can lead to almost one year growth in achievement for students. Also, DuFour & Marzano (2011) suggested that professional learning is a vital component in the support of the school leader’s self-efficacy and ability for schools to improve, which leads to improved student outcomes. The professional learning must also meet their individual needs by being self-directed, on-going, job-embedded, and

social (Darling-Hammond et al., 2007). Guskey (2003) found four key elements of effective professional learning: (a) enhancement of content and pedagogical knowledge; (b) sufficient time and resources; (c) collaboration that is structured and purposeful; and (d) the promotion of collegially and collaborative exchanges.

The practice of educators working in isolation is a long outdated practice. Induction programs and professional development in the 21st century school is no longer about improving as an individual, but should be a collaborative effort. Collectively, then shared through networks, allows an idea and knowledge to enhance the group (Fulton, Yoon, & Lee, 2005, p. 4).

Hattie (2015) emphasized collaboration among educators to improve practice. He stated communities within the school can help educators identify areas for improvement, planning next steps and interventions, and in turn evaluate the interventions success. Collaboration for educational leaders provides a space to dialogue about day-to-day happenings, brainstorm ideas for common issues, and reaffirms what's going well in their schools (Intrator & Scribner, 2008).

During the initial review of current literature much is found regarding the history of professional learning for teachers. More recently studies have been conducted involving teachers and the use of social media as a tool for professional learning. However, researchers studying the use of Twitter by educational leaders are limited and just beginning to develop. Many testimonials have been found via educational leaders' individual blogs sharing first-hand accounts of how they have connected with other leaders and education experts across the country to share ideas, connect, learn, and grow together. As stated previously this has limited the literature on professional learning and

leaves educational leaders little guidance on strategies to support and improve themselves (Brown et al. 2002). Further, Guskey (2007) described 85 percent of professional learning happening in schools as too isolated, too generic, and does not take into account the realities of the schools in which educators exercise leadership today.

The review of literature includes research related to how professional learning has evolved over time from the work of Senge (1990, 2006) focusing on systems thinking, to today with the development and increased use of technology as a tool for learning. Beginning with effective professional learning and effective professional development for adult learners, effective mentoring and coaching, to effective collaboration. The research will then focus on educational leaders and traditional professional learning, to effective professional learning and professional development, effective collaboration, and finally communities of practice for educational leaders. Finally, the review of literature will focus on educational leader's use of virtual learning, the use of social media for professional learning, barriers to social media use for professional learning, and finally Twitter as a professional learning medium.

Effective Professional Learning

Peter Senge's work, *The Fifth Discipline: The Art and Practice of the Learning Organization* (1990, 2006), outlined five disciplines - personal mastery, mental models, building shared visions, team learning, and systems thinking that provided the basis for learning organization theory. According to Senge (1990) a learning organization exhibits people building capacity with and for one another. This is accomplished and nurtured through new and collaborative thinking by learning how to learn together. Successful

organizations will excel once they tap into their people's capacity and learning at all levels of the organization

Senge described a discipline as a body of theory and technique that must be studied and mastered to be put into practice, and as an ongoing and even lifelong.

According to Senge (2006), people with a high level of personal mastery are able to consistently realize the results that matter most deeply to them. In effect they do so by being committed to their own lifelong learning and the quest for continual learning is the spirit of the learning organization. Clarifying what is important to us and learning how to see current reality more clearly creates "creative tension" or a force that brings about an effort to seek resolution. By doing so it leads to continually clarifying and deepening personal vision. This prevents the reactive mindset causing one to blame problems on someone or something else.

Mental models, according to Senge, are deeply ingrained assumptions, generalizations or even pictures or images that influence how people understand the world and how it is taken into action. The key for the learning organization is to turn the mirror inward and learn what our internal mental models are then share them through "learningful" conversations that balance inquiry and advocacy. This requires learning organization to break from the deeply ingrained assumptions that influence the way it understands the world and the actions taken (Senge, 2006).

The third discipline is a shared vision. Shared visions are important because they provide a common idea and sense of destiny for the learning organization by unearthing shared pictures of the future that bring about genuine commitment and enrollment by

stakeholders and not just compliance. Together the learning organization holds a shared picture of the future they seek to create (Senge, 2006).

The fourth discipline, team learning, allows teams to have a higher “IQ” together where they develop extraordinary capacities for coordinated action. According to Senge (2006), it starts with dialogue or the practice of getting ideas out and thinking together where team members suspend assumptions and began thinking together.

Systems thinking, the fifth discipline, is the ultimate goal to being a Learning Organization.

Senge (2006) said leverage is key and the whole is greater than the sum of the parts. The four disciplines interrelate and must develop to look at the system as a whole to see how everything interacts and are used together. Systems thinking ties them all together into being a learning organization.

Tying systems thinking back to the school setting, Guskey (2003) found four key elements of effective professional learning: (a) enhancement of content and pedagogical knowledge; (b) sufficient time and resources; (c) collaboration that is structured and purposeful; and (d) the promotion of collegially and collaborative exchanges. Building on the work of Guskey, the National Staff Development Council (2009) emphasized that professional learning is most effective when it happens weekly; has a continuous cycle of improvement; has job-embedded support; and is supported by external assistance such as courses, workshops, institutes, conferences, and networks that advance ongoing school-based professional learning. Also, DuFour & Marzano (2011) suggested that professional learning is a vital component in the support of the school leader’s self-efficacy and ability for schools to improve, which leads to improved student outcomes.

The professional learning must also meet their individual needs by being self-directed, on-going, job-embedded, and social (Darling-Hammond et al., 2007).

The National Staff Development Council (2009) noted schools utilize several designs and processes when effectively meeting the professional learning needs of educators. Some of these designs and processes discussed in the next section includes effective professional development, effective mentoring and coaching, effective collaboration, and effective communities of practice.

Effective Professional Development

Professional development is a vital component to the continued professional learning of educational leaders (Marzano, Waters, & McNulty, 2005). The type of professional development and the format in which it is given has changed over the years (Hargreaves & Shirley, 2009), but it still remains imperative for school leaders. While the format and style has changed over the years it has improved and has been beneficial for educators on the receiving end as well. However, some educators dread professional development due to the poor delivery methods (National Staff Development Council, 2008; Reeves, 2009). Many times poor professional development is not differentiated and is a one-size-fits-all approach disseminated to all educators regardless of content area and level of expertise (McNulty, 2011; Reeves, 2009). Professional development can come in the form of a conference, seminar, workshop, or a course at a college or university. It can also take an informal context through discussions with colleagues, independent reading and research, observations of a colleague, or other learning from a peer (Mizzel, 2010).

Effective professional development engages educators in learning opportunities that are supportive, job-embedded, instructionally-focused, collaborative, and ongoing. The

most effective professional development occurs when it is in the context of educators' daily work. When learning is part of the school day, all educators are engaged in growth rather than learning being limited to those who volunteer to participate on their own. School-based professional development helps educators analyze student achievement data during the school year to immediately identify learning problems, develop solutions, and promptly apply those solutions to address students' needs (Mizzel, 2010).

Effective professional development can take on many different formats and be accomplished in a variety of ways while not being set in stone. Schools must have a clear and consistent vision (Senge, 2006) and a culture of intentionality for effective professional development to occur (Fullan, Rincon-Gallardo, & Hargreaves, 2015; National Staff Development Council, 2008; McNulty, 2011). Educators must be lifelong learners who reflect and grow through their own practice via collaboration with colleagues, mentors, and coaches (Fullan, Rincon-Gallardo, & Hargreaves, 2015; McNulty, 2011; National Staff Development Council, 2008) and it is imperative that effective professional development occur in every school (Hargreaves & Shirley, 2009). To be effective, professional development requires thoughtful planning followed by careful implementation with feedback to ensure it responds to educators' learning needs. Educators who participate in professional development then must put their new knowledge and skills to work. Professional development is not effective unless it causes educators to improve their instruction (Mizell, 2010). Adults need time to learn from and with each other in meaningful ways and when collaborative adult learning becomes a regular part of the day educators can share existing knowledge. This in turn creates a collaborative atmosphere and models lifelong learning for students (National Staff

Development Council, 2008). Effective professional development engages teams of educators to focus on the needs of students by learning and problem-solving in order to ensure success for all students (Mizell, 2010). The ultimate goal of professional development is for adult learning to lead to increased student achievement and focus on the skills educators need in order to address students' major learning challenges (Mizell, 2010).

Effective professional development is needed in order to gain the skills essential in becoming effective educators. The complexity of education leads to one-third of educators leaving the profession in the first three years and nearly 50 percent within five years (Ingersoll, 2003). Goldring and Taie found in their Principal Attrition and Mobility study (2014) from 2012 - 2013 the 114,330 school principals (public and private) who were principals during the 2011–12 school year, 78 percent remained at the same school during the following school year (“stayers”), six percent moved to a different school (“movers”), and 12 percent left the principalship (“leavers”). In addition, five percent of principals were from schools that reported the principal had left, but the schools were unable to report the current occupational status of the principal.

Due to this alarming statistic, mentoring and coaching of new educators has been found very effective in lowering the attrition rate.

Effective Mentoring & Coaching

Coaching and mentoring are two ways to better meet individual learner's needs. According to Grissom and Harrington (2010), they found strong evidence not all types of professional learning for educational leaders are equally effective at improving leader performance. What they found was a significant positive association between principal

participation in formal mentoring and coaching. Hargreaves and Fullan (2000) stated that, “Mentoring would never reach its full potential unless it is guided by a deeper conceptualization that treats it as central to the task of transforming the teaching profession itself.”

Charlotte Danielson (1999) found that mentoring helps novice educators face their new challenges; through reflective activities and professional conversations, they improve their practice as they assume full responsibility for a class. Danielson also concluded that mentoring fosters the professional development of both new educators and their mentors. Alsbury and Hackmann (2006) found four factors that increased the likelihood of mentoring success for educational leaders, including sufficient time to meet, mentors initiating communication, pairings from the same district, and specific interpersonal skills, namely, listening rather than advising and asking questions rather than always giving answers. In the Dyer (2010) study those who were assigned a mentor were positive regarding opportunities to develop skills in a safe environment, enjoyed having a sounding board, and appreciated guidance and direction.

Mentoring provides mentees a support system while it provides the mentor a way to share expertise as it is a way to model, support, guide, and give feedback to new educators. Kanuka (2005) offered another view, believing that mentoring can help to develop more collegial and compassionate departments and institutions. It is effective due to its nonjudgmental nature and provides a colleague a way to familiarize themselves with the culture, policies, procedures, and practices (Robbins, 1999).

Well-designed mentoring programs also lower the attrition rates of new educators (National Association of State Boards of Education, 1998). Kathleen Boyer (1999) found

that among new special education teachers who continued to teach for a second year, 20 percent stayed because of the support they received and a study of new educators in New Jersey reported the first-year attrition rate of educators trained in traditional college programs without mentoring was 18 percent, whereas the attrition rate of first-year educators whose induction program included mentoring was only five percent (Gold, 1999).

To be effective, mentoring programs need focus and structure. Kyle, Moore, and Sanders (1999) noted that prospective mentors must learn the mentoring process prior to mentoring through their own professional development so they learn what is expected of them before assuming their duties. Their research also showed that mentees also need support and the opportunity to discuss ideas, problems, and solutions with other mentors.

Most importantly, research shows that new educators who received intensive mentoring had a significant effect on student achievement after as little as two years (Serpell & Bozeman, 1999; Strong, Fletcher, & Villar, 2004). In fact, one study found that teacher-to-teacher coaching and mentoring was more likely to result in higher-order learning experiences for students than traditional professional development activities (Quick et al., 2009).

Appropriate training for the mentor's expanded teaching role improves the quality of a mentoring program. A formal, comprehensive mentoring program developed at Vanderbilt University in Nashville, Tennessee, for example, provided mentors with specific knowledge and skills related to their new and expanded teaching roles. Evertson and Smithey (2000) found novice educators working with trained mentors possessed a higher level of teaching skills than new educators whose mentors were not trained. This

finding demonstrates the mere presence of a mentor is not enough; the mentor's knowledge of how to support new educators and skill at providing guidance are also crucial.

Coaching is the art of identifying and developing one's strengths to improve their effectiveness, according to the National Staff Development Council (2008). Coaching helps one move from where they currently are in a situation to where they want to be via personal or group transformation. Coaching is often viewed as a just-in-time learning opportunity and is learner-driven (National Staff Development Council, 2008).

Coaching allows one to learn by doing and provides an immediate opportunity to apply learning by being job-embedded. This also allows one to make changes while learning and applying the coaching lessons. A study by Joyce and Showers (2002), indicated only about five percent of educators apply learning from professional learning to the classroom. However, it increases to 90 percent application when they are coached along with the professional learning.

Differentiated coaching, much like differentiated teaching, focuses on how the coach can adjust their coaching style to provide activities that work with those being coached (National Staff Development Council, 2008). This allows the coach to move from the one-size-fits-all style as coaches typically work with educators at all levels of experience (National Staff Development Council, 2008). Coaching can be an effective medium for professional learning as it helps educators, who are now the learners, focus on their individual areas of need by working with a coach who models what is being asked of the educator to do (National Staff Development Council, 2008).

Guskey (2002) said it isn't the professional development, but experiencing success during the coaching and implementation that changes attitudes and beliefs and by seeing the success and clear evidence of improvement in the outcomes.

Toll (1995) indicated effective coaching goes beyond knowledge, but must include three additional areas to be effective. First, pay attention to attitudes, beliefs, and perceptions. Then, value the expertise of others and know the limitations of one's own expertise. Finally, Toll said, one must have true respect in the commitment to helping educators meet their goals.

Relationships are another key factor in a positive coaching environment. Knight (2007) stated the success or failure depends on the coaches' ability to clearly communicate, build positive relationships, and provide adequate support while it also provided educators the opportunities to explore in a safe environment built around trust. Crane (2007) adds that transformational coaching focuses on the coach providing performance feedback and relates to personal, interpersonal, and the technical aspects of the job. The coach guides by both supporting and challenging. Crane further states this is enhanced and more effective when rapport and relationships have been established. Costa and Garmston's (2016) Cognitive Coaching model also relies heavily on trust and rapport and focuses on planning, reflecting, or problem-solving. Taken a step further cognitive coaching allows for a deeper self-reflection with autonomy. Through effective mentoring and coaching models educators are provided the foundation to becoming effective collaborators.

Effective Collaboration

“The ability to collaborate—on both a small and large scale—is becoming one of the core requisites of postmodern society. . . . In short, without collaborative skills and relationships, it is not possible to learn and to continue to learn as much as you need in order to be an agent for social improvement” (Fullan, 1993, pp. 17–18). Collaboration is a key practice essential in creating a professional learning community (Senge, 1990).

The practice of educators working in isolation is a long outdated practice. Induction programs and professional development in the 21st century school is no longer about improving as an individual, but should be a collaborative effort. Collectively, then shared through networks, allows an idea and knowledge to enhance the group (Fulton, Yoon, & Lee, 2005, p. 4).

Hattie (2015) emphasized collaboration among educators to improve practice. He stated communities within the school can help educators identify areas for improvement, planning next steps and interventions, and in turn evaluate the interventions success.

Effective collaboration emphasizes both active and interactive learning experiences, often through participation in learning communities. When educators are physically, cognitively, and emotionally active and collaborate through activities of sharing and discussion (Lieberman & Pointer Mace, 2008; Quick et al., 2009; Tate, 2009), application and follow through (Lieberman & Pointer Mace, 2008; Quick et al., 2009), and reflection (Quick et al., 2009) it is deemed more effective. Effective professional development is interactive when it engages educators socially through regular opportunities to share problems, ideas, and viewpoints, and work together toward solutions (Guskey, 1995). Research shows that educators value opportunities to learn from and with one another

(Lieberman & Pointer Mace, 2008) toward common goals such as planning instruction, analyzing student work, and peer observations (Quick et al., 2009). The social nature of effective professional development facilitates teacher participation in learning communities. They can be organized by department, team, or grade level, by school, or through a network of schools (Lieberman & Pointer Mace, 2008). Learning communities are supported and sustained when

- school leadership is shared between principal and teachers;
- professional development is guided by shared mission, vision, and language;
- the school environment is characterized by trust, collaboration, accountability, and willingness to take professional risks (Flores, 2005; Lambert et al., 2007).

Peer feedback is a particularly important aspect of collaborative professional development. Research shows that educators learning is strengthened when they share their practice openly with colleagues and willingly accept feedback (Lambert et al., 2007; Lieberman & Pointer-Mace, 2008). Moreover, regular feedback supports educators learning by helping them build strengths, clarify ideas, and correct misconceptions (Guskey, 1995; Porter et al., 2003; Quick et al., 2009). It is also an important precursor to objective self-assessment, the “cornerstone of lifelong learning” (Senge et al., 2000, p. 44). Effective collaboration among educators leads to social learning and helps build a community. Through this community the discussion, collaboration, and feedback help create an effective community of practice for educators.

Effective Communities of Practice

Social learning theory, first introduced by Lev Vygotsky (1962), stated that we learn through our interactions and communications with others. Vygotsky (1962) examined

how our social environments influenced the learning process and he suggested learning takes place through interactions with peers and other experts. In order to create a learning environment that maximizes the learner's ability to interact with each other it must be done through discussion, collaboration, and feedback. Moreover, Vygotsky (1962) argued culture is the primary determining factor for knowledge construction. We learn through this cultural lens by interacting with others and following the rules, skills, and abilities shaped by our culture. Vygotsky said learning always occurs and cannot be separated from a social context. Consequently, the distribution of expert knowledge when others collaboratively work together to conduct research, share their results, and perform or produce a final project, help create a collaborative community of learners. Knowledge construction occurs within Vygotsky's (1962) social context that involve peer-peer and expert-peer collaboration on real world problems or tasks that build on each person's language, skills, and experience shaped by each individual's culture. The gradual release model of learning later developed from Vygotsky's theory. Moving from the frame of 'I do, we do, you do' the learner goes from being a consumer to a producer in the process.

According to Lave and Wenger (1991), learning is social and can occur outside the traditional formal learning setting and workplace. Wenger defined a community of practice as a group of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.

Fullan (2008a) stated educational leaders cannot continue to be islands. Peers with purpose or purposeful networks provide educational leaders with support and a positive pressure (Fullan 2008a). However, self-directed, differentiated, job-embedded, and

social learning as an ongoing way of learning is more sustainable and effective (Darling-Hammond, LaPointe, Meyerson, Orr, & Cohen, 2007).

Wenger (2015) stated a community of practice must have the domain, a community, and the practice in order to be considered a community of practice. According to Wenger (2015), the domain is defined as a shared domain of interest. Membership therefore implies a commitment to the domain and a shared competence that distinguishes members from other people. The community is defined as members who engage in joint activities and discussions, help each other, and share information. They build relationships that enable them to learn from each other. Members of a community of practice are practitioners. They develop a shared repertoire of resources: experiences, stories, tools, ways of addressing recurring problems—in short a shared practice. This takes time and sustained interaction to develop. When all three are in place and developed, this in turn cultivates the community.

Communities of practice in the educational setting have been in teacher training and in providing isolated administrators with access to colleagues (Wenger, 2015). According to Wenger (2015), in the education sector, learning is not only a means to an end, but it is the end product.

Guskey (2007) emphasized the traditional view of professional learning needs to be replaced by a broader conception that includes opportunities for educators to discuss, think about, try out, and practice new skills in an environment that values inquiry and experimentation. According to Schwarz (2013), educator professional learning must be more collaborative. Schwarz (2013) believes a Mutual Learning mindset begins the process for effective team collaboration. The mutual learning mindset includes the

factors of transparency, curiosity, informed choice, accountability, and compassion.

Schwarz also includes eight behaviors to go along with the mindset for effective teams.

The eight behaviors are:

- State views and ask genuine questions;
- Share all relevant information;
- Use specific examples and agree on what important words mean;
- Explain reasoning and intent;
- Focus on interests, not positions;
- Test assumptions and inferences;
- Jointly design next steps; and
- Discuss the undiscussable issues.

The eight behaviors and mutual learning mindset, according to Schwarz (2013), are much easier to attain when working teams agree on a topic and when the group members share the same views. However, when working with those of opposing views many of the behaviors become barriers and the team's effectiveness and the mutual learning mindset dissolves (Schwarz, 2013).

The National Staff Development Council (2009) stated informal, online professional learning networks meet many criteria for effective professional learning, and additional study is needed to determine its effectiveness in improving leadership, teaching, and student achievement.

New technologies such as the Internet have extended the reach of our interactions beyond the geographical limitations of traditional communities, but the increase in flow of information does not eliminate the need for community. In fact, it expands the

possibilities for community and calls for new kinds of communities based on shared practice (Wenger, 2015). Unlike traditional professional learning for educational leaders that required communities to travel to a specific geographic location at a specific time and date in order to come together to learn.

Traditional Professional Learning for Educational Leaders

Professional learning of educational leaders is a key to a schools success (Barth, 1986) as principals are considered the lead learners of their organizations. Educational leader's professional learning has also been described as a "wasteland" and traditional professional learning has been called an event or something done to you and being delivered as a one size fits all approach (Barth, 1986), with no differentiation. Most professional learning for today's educational leaders still resembles traditional methods by leaders attending conferences, workshops, and the use of educational consultants with one day or one time only seminars. Guskey (2007) explained most educators see professional learning as mandated events occurring a few days throughout the school year to keep up licensure and meet state education board demands. Professional learning must be something educational leaders do for their individual and site needs in order to grow and lead schools and districts in this day and age of high-stakes accountability. The professional learning also must meet their individual needs by being self-directed, on-going, job-embedded, and social (Darling-Hammond et al., 2007). Also, without meaningful feedback and on-going training, professional learning is difficult to sustain (Barth, 1986; Rutherford, 2010). Barth (1986) further stated, "Fostering a climate of reflection, learning, and cooperation among educators outside their schools will inevitably strengthen reflection, learning, and cooperation among adults and students

within the schools.” The National Staff Development Council (2009) defined professional learning as “a comprehensive, sustained, and intensive approach to improving teachers’ and school leaders’ effectiveness in raising student achievement” (p.1).

The Learning Forward professional learning organization, International Society for Technology in Education (ISTE), the Interstate School Leaders Licensure Consortium (ISLLC) and now the Professional Standards for Educational Leaders (2015), and Department of Elementary and Secondary Education (DESE) standards for professional learning state educational leaders play a major role in school, teacher, and student success. Educational leaders in the 21st century face a multitude of challenges. No longer are school principals merely managers, they must also be a master of collaboration, teamwork, and instructional leadership (Nettles & Harrington, 2007).

The Learning Forward's Standards for Professional Learning for Leaders (Killion, 2012) state “Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning.” The Missouri Model Standards for School Leaders, Standard 2 (2013) goes on to say, “Education leaders have the knowledge and ability to ensure the success of all students by promoting a positive school culture, providing an effective instructional program that applies best practice to student learning and designing comprehensive professional growth plans for staff.” ISTE standard 3 (2009) focuses on excellence in professional practice “Educational Principals promote an environment of professional learning and innovation that empowers educators to enhance student learning through the infusion of contemporary technologies and digital resources.

ISLLC standard 2 (2008) states a school administrator is an educational leader who promotes the success of all students by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth. Seven years later, the new Professional Standards for Educational Leaders (2015) note leaders “exert influence on student achievement by creating challenging, but also caring and supportive conditions conducive to each student’s learning. They relentlessly develop and support educators, create positive working conditions, effectively allocate resources, construct appropriate organizational policies and systems, and engage in other deep and meaningful work outside of the classroom that has a powerful impact on what happens inside it.”

Sledge (2013) suggested that school leaders need similar, if not greater, amounts of professional learning than teachers. Levine (2005) further explained the role of principals and superintendents is no longer just managing schools. He said we are in an era of change causing leaders to rethink what schools do and how we lead them through this change. Levine (2005) noted there are few current educational leaders prepared for this level of change and leaders must retool while the next generation of leaders are preparing to take their place.

DuFour and Marzano (2011) describe effective 21st century school leaders as those who (a) love those they are attempting to lead, (b) lead by example, (c) embrace responsibility, (d) articulate a clear, compelling, and focused vision, and (e) assist those they lead in feeling more capable by helping them become more capable themselves. DuFour and Marzano (2011) said by continuing with traditional professional learning and

leading schools in the traditional manner will continue to get traditional results rather than providing leaders with the tools to lead in the 21st century.

Effective Professional Learning for Educational Leaders

Guskey (2003) found four key elements of effective professional learning:

- enhancement of content and pedagogical knowledge;
- sufficient time and resources;
- collaboration that is structured and purposeful; and
- the promotion of collegially and collaborative exchanges.

As noted previously, the National Staff Development Council (2009) built off the work of Guskey and emphasized effective professional learning happens weekly; includes continuous improvement; is job-embedded with support; and also provides and includes external assistance like college courses, conferences, or networks that advance the ongoing school-based professional learning.

There have been various pieces exploring, advocating, or critiquing specific functions or applications of Twitter in education, but broader description of educators' uses of the medium is lacking (Archambault, Wetzel, Foulger, & Williams, 2010; Kear, 2011, Carpenter & Krutka 2014). The perspectives and experiences of K–12 teachers and administrators are also underrepresented in the literature. Further, the National Staff Development Council reported teacher professional learning programs outweigh principal programs by a ratio of three-to-one (Caldwell, 1986). According to the Department of Elementary and Secondary Education (DESE, 2015) educational leaders in Missouri are required to have 120 hours of professional learning during the first four years as a

principal. During years five through 10 principals must complete a minimum of a Specialist degree (EdS) or 30 hours of professional learning per year.

The Educator Equity Plan published in July 2015 (DESE, 2015) by the Missouri Department of Elementary and Secondary Education found principal development to be a key finding as well. Through the study a consistent piece of feedback received was the need for a system to develop and improve leaders. It's deemed necessary to develop and support effective school leaders in order for the leader to have the appropriate skills to support and develop teachers under their watch (DESE, 2015).

The equity study also revealed the need to work on principal retention, particularly in high-poverty, high-minority and rural schools. Consistent and effective leadership is an important part of building and maintaining a culture conducive to student learning (DESE, 2015).

Principals have key roles in developing and maintaining high functioning schools. Due to this, scholars find it difficult to specify what leader professional learning should focus on, the medium in which to deliver it, and the success criteria to evaluate the learning. According to three meta-analyses, principals' leadership does have a measurable impact on student achievement (Hallinger & Heck, 1998; Leithwood et al., 2004; and Waters, Marzano, & McNulty, 2003). School districts have utilized several designs and processes when effectively meeting the professional learning needs of educational leaders. Some of these designs and processes discussed in the next section include effective professional development, effective collaboration, educational leader's communities of practice and using virtual learning and social media as a medium, the barriers to using social media, and finally using Twitter for professional learning.

Effective Professional Development for Educational Leaders

High-quality professional development is critical to the process of improving the quality of teaching, learning, and leadership in our school systems in an effort to maintain positive learning communities (Caldwell, 1986; Sorenson, 2005). Guskey (2000), defined professional development as processes and activities designed to enhance the professional knowledge, skills and attitudes of educators [this includes educational leaders] so they might improve student learning. Additionally, Guskey (2000) shared professional development is typically intentional, ongoing, and systemic in nature, which is consistent with how the term “professional development” is used during this study regarding school principals. Leadership support and development, like leadership preparation, should combine theory and practice, provide scaffolded learning experiences under the guidance of experienced mentors, offer opportunities to actively reflect on leadership experiences, and foster peer networking (Darling-Hammond, et. al., 2007).

According to Mizell (2010) school leaders also improve with study, reflection, practice, and hard work. Their learning supports not only teachers’ learning, but students’ as well. When leaders know how to engage teachers, support staff, and students in effective learning, the school becomes the center of learning for all adults and students.

Professional development is not effective unless it causes administrators to become better school leaders (Mizell, 2010). Effective professional development enables educators to develop the knowledge and skills they need to address students’ learning challenges. To be effective, professional development requires thoughtful planning followed by careful implementation with feedback to ensure it responds to educators’

learning needs. Educators who participate in professional development then must put their new knowledge and skills to work.

Johnston, et. al. (2016) found 73 percent of principals from large districts (25,000 or more students) reported they had professional development opportunities that occurred at least monthly, compared with only 53 percent of those from midsize districts (5,000 to 25,000 students), and 32 percent of principals in small districts (5,000 or fewer students). Three percent of school leaders from large districts and no school leaders in midsize districts reported not having any available principal-specific PD, compared with almost one-quarter of respondents from small districts. School leaders in larger districts also reported more district-provided PD opportunities during the summer compared with those in smaller districts. Although 94 percent of school leaders from large districts, and 90 percent of those from midsize districts, reported being offered at least one day of PD in the summer by their district, 76 percent of school leaders from small districts reported at least one day of PD offered to them. Additionally, school leaders stated the supports they received to be valuable, particularly when these supports focused on improving teacher instruction (Johnston, et. al., 2016).

Principals who are instructional leaders often choose to participate in professional development designed primarily for teachers so they can support its outcomes. In addition, principals need professional development to address their specific roles and responsibilities. This professional development usually occurs in separate venues. Many experts believe principals do not have adequate access to professional development related to their roles as school leaders (Mizell, 2010).

Effective Collaboration for Educational Leaders

While principals prefer learning collaboratively, little is known about the degree of formality and structure needed to satisfy principal needs as well as build leadership capacity (Lieberman & Grolnick, 2005). What principals want and need are more opportunities to collaborate with fellow principals (Darling-Hammond, LaPointe, Meyerson, Orr, & Cohen, 2007; Farkas et al., 2001; Utsumi, 2008). Collaboration offers principals a place to dialogue about what happens at school, explore options they hadn't considered together, and helps refocus their efforts on the matters of schooling which count the most (Intrator & Scribner, 2008). Yet, collaboration is among the rarest forms of principal support, in part because research has yet to prove who benefits from collaborative learning amongst principals (Lieberman & Grolnick, 2005).

Fullan (1993) stated collaboration on both small and large scales is a core requisite for today's leaders. Without collaborative skills and relationships, Fullan says, it is not possible to continue to learn in order to be an agent for social improvement. Further, adults need time to learn from and with each other in meaningful ways. The professional learning must also meet their individual needs by being self-directed, on-going, job-embedded, and social (Darling-Hammond et al., 2007). When collaborative adult learning becomes a regular part of the day educators can share existing knowledge. This in turn creates a collaborative atmosphere and models lifelong learning for students (National Staff Development Council, 2008).

When principals share a vision about what effective leaders do, experience purposeful collaboration, and enjoy trusting relationships where problems are solved together; principals could develop into more confident and able leaders (Roy & Neale, 2008). By

working with networks of like-minded peers, principals can coach each other to solve problems and become 21st-century educational leaders who can meet the learning needs of all students (Cone & Neale, 2013).

Educators must be lifelong learners who reflect and grow through their own practice via collaboration with colleagues, mentors, and coaches (Fullan, Rincon-Gallardo, & Hargreaves, 2015; McNulty, 2011; National Staff Development Council, 2008). Case study findings of principals within the School Leaders Network revealed that participants learned about themselves as leaders and implemented new efforts at school when they believed the network was a safe space. Principals attributed the safety of the group to facilitator skills, group norms, and modeled risk-taking by long-time group members (Cone, 2010). The emphasis in these collaborative networks is around sharing, listening, learning, and taking steps to increase leadership capacity and student achievement. By creating a sense of community, increasing capacity, and implementing action, principal networks show strong trends of changing school cultures and improving student achievement (Intrator & Scribner, 2008).

Educational Leaders' Communities of Practice

As mentioned earlier, Vygotsky (1962) indicated we learn through social interactions and communication with peers and experts in the field. This is best accomplished through discussion, collaboration and feedback through the culture of rules, skills, and abilities. In order to create a learning environment that maximizes the learner's ability to interact with each other it must be done through discussion, collaboration, and feedback. Knowledge is then distributed through peer to peer and expert to peer exchanges on real-world problems or tasks.

According to Lave and Wenger (1991), learning is social and can occur outside of the traditional formal learning setting and the workplace. Wenger (2015) defines a community of practice as a group of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly. Based on Wenger's definition of a community of practice Twitter provides a platform for educational leaders to form a community of practice also known as a Professional Learning Network (PLN) which allows on demand learning to occur in this virtual environment. This community, or PLN, is defined by commonalities they have despite geographic location, size of schools or districts, and education standards such as Common Core and other learning practices. Learning in the context of social media has become highly self-motivated, autonomous, and informal. In the education community of practice, learning is the end product and Wenger (2015) concludes there are three dimensions in educational communities of practice: 1) internal, 2) external, 3) lifetime of the students. Internal focuses on the individual subjects, external on outside the school community, and the lifetime of the students perpetuate life-long learning. Various scholars have noted that Web 2.0 sites such as Twitter afford users numerous benefits, and Jenkins (2009) and colleagues went as far as to say the "new participatory cultures" afforded by such sites may "represent ideal learning environments" (p. 10).

Fullan (2008a) states educational leaders cannot continue to be islands. Peers with purpose or purposeful networks provide educational leaders with support and a positive pressure (Fullan 2008a). However, self-directed, differentiated, job-embedded, and social learning as an ongoing way of learning is more sustainable and effective (Darling-Hammond, LaPointe, Meyerson, Orr, & Cohen, 2007).

Tusting and Barton (2003) presented five key ideas for planning, designing, and implementing professional learning for best practice in adult learning: adults have a personal motivation for learning; adults learn best by building on existing knowledge and experience; adults prefer learning autonomy; adults have an ability to learn how to learn; and adults want to build and reflect on new experiences.

Guskey (2007) emphasized the traditional view of professional learning needs to be replaced by a broader conception that includes opportunities for educators to discuss, think about, try out, and practice new skills in an environment that values inquiry and experimentation. The National Staff Development Council (2009) stated informal, online professional learning networks meet many criteria for effective professional learning, and additional study is needed to determine its effectiveness in improving leadership, teaching, and student achievement. Virtual learning environments may just be the option to move from the traditional communities of practice.

Educational Leaders' Communities of Practice Using Virtual Learning

According to Drexler (2010), connectivism broadens the principles of social construction and communities of practice. Connectivism, a relatively new learning theory, addresses learning in complex, social, networked environments, according to Siemens (2005). Using the available technologies educators are able to learn in digital environments, however, the challenge becomes who you know and not what you know, according to Siemens (2005). Knowledge and learning is not transferred, but is shared via a person's personal learning network via conversations (Downes, 2006). Hargreaves and Shirley (2009) stated we learn best not by attending conferences and listening to speakers or reading research, but by watching, listening to, and learning from each other

in the very act of teaching itself. Educational leaders are able to participate in e-learning or online learning, through various Twitter chats and other connections formed through the social medium tool.

Seaman and Tinti-Kane (2013) found nearly 50 percent, almost 4,500 college faculty members surveyed, participated in these online virtual communities for professional learning. Mackey and Evans (2011) further argued there is merit to the overlap of multimedia learning, virtually, such as Twitter, with formal face-to-face learning. Providing leaders both formal and informal learning opportunities, according to Boerema (2011), is another key to becoming a successful leader and allowing leaders to put what they have learned to practice.

Twitter appears able to facilitate educators' professional learning in a number of ways. Through synchronous chats or asynchronous tweeting, educators contribute and discuss ideas, as well as sharing and acquiring resources by tweeting links to education-related articles, blogs, wikis, and other websites (Brown, 2012; Lu, 2011). A handful of studies suggest that Twitter can function as a professional learning tool for educators. Micro-blogging can offer educators grass-roots professional learning that boosts networking and fulfills a "bridging function" as educators use it "as a way of importing new ideas into their local communities of practice from distant peers" (Forte, Humphreys, & Park, 2012, p. 106).

Through Twitter, many leaders can take what they learn immediately back to their building or district and implement as it is just-in-time learning. These tools reduce spatial and temporal constraints on communication and allow users to collaborate around topics of interest. The "affinity spaces" facilitated by such media encourage sharing and

peer-to-peer learning that enable participants to benefit from collective intelligence (Gee, 2004).

Educational leaders can get to a point of feeling as if they are on a desolate island or in a silo, all alone with no one to rely on or confide in, leading to an overwhelmed sentiment of isolation. Twitter and professional learning networks can provide a supportive role for educational leaders. According to Boerema (2011), leaders need a network to help them ‘connect their voice’ and also provide support and guidance for one another. Junco and colleagues (2011) have argued that Twitter in particular may be the “social networking platform most amenable to ongoing, public dialogue” (p. 1). The National Education Technology Plan (2010) states educators using social networks can create life-long personal learning networks and connect to tools and resources to make their learning timely and relevant to help them continually improve their practice and build skills over time. Then in 2012, the Department of Education declared August 2012 as the first “Connected Educator Month” and devoted resources to organizations and educators. This event has continued each year since 2012.

Effective school leaders are described as people who effectively form and utilize learning communities for ongoing professional learning, according to DuFour and Marzano (2011). School leaders lack adequate ongoing professional learning opportunities and research is scarce on how Twitter can be used to support their learning needs. Social network websites, such as Twitter, may allow educational leaders to engage in meaningful professional dialogue (Dunlap & Lowenthal, 2009).

Educational Leaders Use of Social Media for Professional Learning

The use of social media enables educators and their institutions to participate in two-way dialogue and allows the mediums to be used as professional communities of practice, learning communities, and professional learning networks according to a study by Dabbagh and Kitsantas (2011). This type of learning is public for anyone on the medium to view. This public learning can be exciting for institutions and individuals as they share videos, images, or text in a conversation.

In the last decade a multitude of social mediums have been created. Some have gone to the wayside while others have grown and more are just beginning to catch on with mainstream users (Duggan, et. al., 2015). Some of these tools, such as Facebook, Pinterest, and LinkedIn are also being used by educators as a source for learning.

Facebook continues to be the leader in the online world. In the most recent study from the Pew Research Center researchers found 71 percent of online adults use Facebook and 70 percent of users engage in Facebook on a daily basis (Duggan, et. al., 2015). At the same time, 28 percent of online adults are using LinkedIn, up from 20 percent in 2012, and Pinterest, up from 15 percent in 2012. According to Facebook, more than 2.7 billion people used the social medium regularly in 2013. Business Insider reported 2.7 billion people – almost 40 percent of the world population – regularly use social media and the top 25 social media platforms worldwide share 6.3 billion accounts among them (Johnson, et. al., 2014). These are platforms growing in popularity and in which educators may already be members due to the growth in recent years. This platform also provides a community for educators to share practice and collaborate as well.

Social media, widely thought to be used by younger demographics, is now a medium that spans all ages and demographics. According to a recent study by Fast Company, the fastest growing group on Facebook and Google+ is the 45-54 year-old age group and Twitter's largest growing user group is the 55-64 demographic (Johnson, et. al., 2014). YouTube reaches more adults aged 18-34 than any of the cable networks and Reuters states the most common activity people engage in on the web is now logging in to social media sites (Johnson, et. al., 2014). Further providing the platform for educator's professional learning communities.

Social media has started to gain traction at the university level as well. According to Dabbagh and Kitsantas (2011), they found 29.4 percent of undergraduate students in a 2010 study used SNSs (social networking sites). However, the percentage increased to 49.4 percent using Social Networking Sites (SNSs) for coursework related collaboration. According to Johnson, et. al. (2014), The University of Hawaii Professional Assembly recently launched a Faculty Thought Leadership Series asking faculty from across multiple campuses to participate and asking them to re-envision the future of higher education. Through this series they shared video recordings through YouTube and then anyone could participate in real-time discussion through Twitter and a specific hashtag. This public learning allows a multitude of voices to be heard instead of the few from closed door discussions.

Seaman and Tinti-Kane (2013) have found social media use by U.S. college faculty has increased in personal, professional, and teaching each year since their initial 2011 study. In the 2013 study 7,969 faculty comprising a wide variety of disciplines from United States higher education institutions, 55 percent of those faculty report using social

media for professional use, which is up 10 percent from the 2012 study. Seaman and Tinti-Kane (2013) found more faculty report using LinkedIn for professional purposes than any other social media site. The pattern of use is different between sites; for instance, Facebook is used less frequently (23 percent) overall than LinkedIn (33 percent), but has slightly greater daily use. Professional use of blogs and wikis closely mirrors that of Facebook, while podcasts are less popular. Twitter, with just over nine percent report monthly or more frequent use, comes in at the bottom of the sites tested. These social media platforms also enable the creation of personal and social learning spaces to support more learner-centered and a “personalized” learning environment for leaders.

Barriers to Social Media Use for Educational Leaders Professional Learning

Barriers to professional learning, as stated earlier in the review of literature, are very similar for professional learning via social media. Both focus on the gathering or consuming of information, but lack in the follow through or applying of the learning. Joyce and Showers (1995) refer to this as ‘one-shot’ training. Their work confirmed the lack of application after attending or receiving these so called ‘one-shot’ professional learning opportunities.

Darling-Hammond, et. al. (2009) noted the missing pieces for Twitter and traditional professional learning is the continuous, collaborative problem solving that also has a sustained focus on a core issue or topic. According to Darling-Hammond, et. al. research, effective professional learning shifts teacher teaching and student learning through intensity, ongoing, and it is connected to practice.

Darling-Hammonds, et. al., (2009) further stated powerful professional learning designs engage educators in continuous collaboration to prioritize a challenge, design a solution, and test and refine it together through coaching, lesson study, and observation to move the ideas to action. So, merely participating in a Twitter chat, reading blogs, articles, tweets, or engaging with educators through social media does not equal application of the learning.

A study by Seaman and Tinti-Kane (2013) found 72 percent of higher education professors worried about the integrity of work submitted by their students as the top barrier to using social media for learning in their college courses. The list of barriers also included concerns about privacy (63 percent), the need to create a separate course and personal accounts, grading and assessment, inability to measure effectiveness of the social mediums use, lack of integration with a learning management system (LMS), the amount of time it would take to learn or use, and the perceived lack of support at their respective institutions.

Of the 63 percent concerned about privacy, Tinti-Kane (2013) found 91 percent of the educators believed others outside of class should not be able to participate in class discussions. The second privacy concern was others outside of class should not be able to view class discussions (89 percent) and finally 87 percent feared risks to the personal privacy of students.

Caldwell (2015) also found student and faculty member's top barrier to be privacy and confidentiality concerns. Students also reported the concern of Social Networking Sites (SNSs) being an additional distraction to them and their work. Both groups indicated the public nature of SNSs being the biggest barrier. Having access to one another's private

information otherwise shared through these public sites were a hindrance. One respondent in Caldwell's student survey stated "I do not want my personal information [that I post] to impact the grade I receive in a course." Both students and faculty interviewed indicated they preferred a learning management system such as Blackboard to be used for educational purposes.

Another perceived barrier was the lack of professionalism viewed by using a SNS. One respondent in Caldwell's 2015 study said, "There are things on my Facebook page that I would not want my professors or classmates to see. It would lower the level of professionalism." Another student said, "Professors having access to my personal information and students having access to professors' personal information is a lack of appropriate professional boundaries." Twitter provides another medium in which educators can build a community of practice for learning purposes.

Even with these barriers to social media use educators continue to use the tools both in the classroom and as a personal learning medium. Twitter is the primary focus of this researchers study and will be further explained moving forward.

Twitter

Sauers and Richardson (2015) studied over 180,000 tweets from 115 K-12 educational leaders. After studying the tweets, Sauers and Richardson found two themes emerged from the results: 1) educational leaders were using Twitter to create a community of practice and 2) educational leaders were overwhelmingly using Twitter for educational purposes.

Twitter has been in existence since 2006 (Twitter, n.d.) and is a micro-blogging platform where users can send messages, tweets, of 140 characters or less. Users of this

medium can insert links to articles, pictures, videos, or just plain text to their followers. Their followers can then share, retweet (RT), the original message to their followers. Tweets can also include hashtags (#), for example #edchat, with a tweet to categorize the subject matter of the tweet. Through the use of hashtags other users not following the person may also find the tweet. Through this medium a tweet has the potential to reach thousands, upon thousands, of people around the country.

Masses of information are being produced and shared amongst users across the country (Reinhardt et al., 2009). Further Reinhardt et al. (2009) stated, the usage of Twitter at conferences increases reports, statements, and announcements as well as supports just in time conversation between participants of the conference and Twitter followers from other locations around the world.

By nature Twitter, or similar services, support the fast exchange of different resources (links, pictures, etc.) as well as fast and easy communication amongst more or less open communities. Java et al. (2007) defined four main user behaviors why people are using Twitter: 1) daily chats, 2) conversation, 3) sharing information, and 4) reporting news. It also allows learners to not just be considered as passive information consumers; rather, they are active co-producers of content.

We know most school principals are not accessing Twitter to establish connections for their own personal and professional development based on data from a 2012 study released by MMS Education. From their study approximately 200 principals completed an online survey and 50 percent of those participants actually had a Twitter account, but were not necessarily using it for professional purposes. According to the National Center for Educational Statistics (Keaton, 2013), it is known there are almost 101,000 public

schools in the United States during the 2011 – 2012 school year and based on the 2012 MMS Education study, it is possible that less than 1 percent of school principals in this country are using Twitter either personally or professionally, which reiterates the importance and relevance of this study. With this data an assumption can be made educators do not see the relevance of Twitter. In fact, Dunlap and Lowenthal (2009) found several guidelines for successful implementation of Twitter.

- Establish relevance and develop a clear personal, academic, and professional purpose for using the tool;
- Define clear expectations for participation;
- Model effective Twitter use as a learning medium;
- Actively participate in Twitter; and
- Connecting with a professional community of practice.

DuFour and Marzano (2011) claimed professional learning strategies must be designed to develop the capacity of educational leaders to meet the needs of themselves as well as their students and staff. Best practices need to take into account the time constraints and best practices in adult learning as well (DuFour & Marzano, 2011). The flexibility and topics found via Twitter can be tied directly as leaders can search topics or hashtags (#) to find specific topics of interest very easily at any time.

Nussbaum-Beach & Hall (2012) noted the “connected educator,” supported by Professional Learning Networks (PLNs) grounded in social learning theories, is evidenced in communities of practice. Nussbaum-Beach & Hall (2012) further suggested 21st century technologies lead to relationships once unimaginable and also lead to the potential for collaboration and collective problem solving.

Within the context of PLNs and the 21st century technologies is the use of Twitter as a powerful and relevant Web 2.0 tool for collaboration and cooperation. Cook (2014) and Whitby & Anderson (2014) lauded the efficient and widely acclaimed uses of Twitter, including connecting with individuals and organizations to share information and learn, in establishing a strong Professional Learning Network (PLN). This connection has been investigated among principals in elementary settings (Barkley, 2012; Gustafson, 2014) and across various leadership roles in public education (Elias, 2012). Barkley (2012) found that a group of principals who started as bloggers within an on-line community of practice developed a strong affinity space as a result of participation in Twitter. In addition, Barkley's study highlights that social capital defined by a network of relationships between entities, reciprocity, trust, social norms, and personal and collective efficacy arose out of their participation in an on-line social network community. Gustafson's (2014) study of eight elementary principals found a common leadership characteristic shared by the participants was connectedness manifested itself in the use of Twitter as "a catalyst for transforming professional development while ushering in innovative ideas to personalize staff learning" (p.78). In Elias' study (2012) five educational leaders noted the use of social media reinforced an extension of the theory of communities of practice to online interactions. Elias further uncovered participants identified a perceived benefit using online connections within their communities of practice to provide support and to enhance their professional development.

Twitter 101

Getting started with Twitter requires going to www.twitter.com and creating an account with a unique username and password. The username can be the person's real

name or an alias (i.e. @MrPowersCMS). By default the account will be public in nature, meaning anyone can see and access the person's tweets. However, the user can make their profile private meaning others would have to be granted permission to follow and see the tweets (Twitter.com, 2016).

Next, the user would need to create a profile or short biography. Educators should include a picture, information about who they are, role in education, and personalize as much or as little as preferred. The users' profile, or biography, is one way in which others search for followers (Twitter.com, 2016).

The next step is to begin following others on Twitter to grow your personal or professional learning network (PLN). One way to do this is to participate in chats around subjects or topics of interest. Another way is to search lists of educators provided by other Twitter users such as the list created by Jerry Blumengarten (@cybraryman1) on his website <http://www.cybraryman.com/>. Once a Twitter user begins to build and grow their network Twitter will also offer up suggestions of who to follow (Twitter.com, 2016).

Through the initial review of literature, more research is beginning to emerge regarding the use of networks, both formal and informal, to provide educational leaders the support and guidance needed to be successful practitioners. Sauers and Richardson (2015) found educational leaders were using Twitter to create a community of practice and were using Twitter for educational purposes. It is the hope of this researcher to shed more light on the professional learning possibilities Twitter could provide. Its ease of use, time saving capabilities due to the 24/7 access, and the cost savings of connecting with educational leaders and experts across the country.

Summary

Chapter two is an overview of the theorists and theories on social learning from the 1960's to present day. From the beginning, social learning has evolved from face-to-face learning to a blended model of face-to-face and virtual leading to collaboration and learning have changed as the technology tools have advanced over time. The review walks through the traditional models of learning to today's blended model with the use of technology.

The current review of literature on the subject of K-12 educational leader's use of Twitter for professional learning is very small, but growing. Through this research study the researcher hopes to add to the growing field. Twitter is a resource for educational leaders across the country as a way to connect, grow, and learn by simply using an Internet enabled device. Through the use of Twitter for professional learning cost, geographic location, and time are no longer a limiting factor as there can be just-in-time learning.

Chapter three presents the methodology used to gather the data as it relates to the topic and will begin to develop in the fall of 2016. By determining what barriers, if any, principals perceive as reasons they are not using Twitter it is the hope of the researcher to provide next steps and resources of best practices for principals and districts to eliminate these perceived barriers to ease the use of this free tool for professional learning. The best practice resource will be provided from the data and themes gathered from those Missouri principals currently using Twitter as a professional learning medium.

Chapter Three

Research Design and Methodology

Introduction

This qualitative study of current public school principals serving in prekindergarten through twelfth grade buildings in the state of Missouri is designed to find what barriers, if any, keep them from using Twitter for professional learning and provide best practices for Twitter use in professional learning from those currently using it based on data compiled from the questionnaire responses.

Currently limited data and research on the use of Twitter for educational leader's professional learning is available. As recent as January 2015, according to a Pew research study, 74 percent of adults online use social network sites (SNSs), of which 23 percent use Twitter (Duggan, et. al., 2015).

By determining what barriers, if any, principals perceive as reasons they are not using Twitter it is the hope of the researcher to provide next steps and resources for principals, districts, departments of education, and professional learning organizations to eliminate these perceived barriers to ease the use of this free tool for professional learning.

In this chapter, a description of methodology will be discussed, including selection of participants, sampling procedures, research setting, theoretical underpinnings, research design, assuring trustworthiness, instrumentation, and data analysis.

Participants

A questionnaire was emailed to all current public school principals serving in prekindergarten through twelfth grade buildings in Missouri. According to Creswell (2007), the main purpose behind qualitative research is to learn more about a problem

from participants and learn more information from them through the research. In this study the problem the researcher wanted to learn more about was what, if any, perceived barriers educational leaders have to using Twitter for professional learning and the best practices of current Twitter users of prekindergarten-twelfth grade educational leaders in the state of Missouri.

The initial questionnaire was used to gather basic demographics such as age, gender, level of education, years in education, years as a principal, grade-level in which they are a principal, and region of Missouri in which they lead. Then the researcher asked whether the respondent is a Twitter user or not. If they were not using Twitter for professional learning answers will be gathered through survey responses to see what themes, if any, develop from the responses to develop a list of perceived barriers. The other areas of focus in this study were to gather a list of perceived barriers on why principals are not using Twitter for professional learning purposes and also to develop a list of best practices for using Twitter as a professional learning tool from those currently using Twitter in this manner. The researcher also interviewed three current Twitter users and three non-users to delve deeper into the best practices and barriers of Twitter use. These six educational leaders were selected from voluntary contact information through the survey. The researcher also used snowball sampling by asking state leaders, superintendents, executive directors, principal association directors and leaders, as well as area supervisors with DESE to identify highly effective educational leaders from across the state. Snowball sampling is when the researcher asks participants to identify and recommend additional participants in the study (Gay, et. al., 2009).

This qualitative sampling allowed the researcher to dig deeper as the participants will provide reflective and thoughtful responses rather than surface answers through the questionnaire (Gay, et. al., 2009). Because of the interest in participants perspectives qualitative research requires more in-depth data collection (Gay, et. al., 2009). Merriam (1998) noted qualitative researchers want to better understand the meaning people have constructed, how they make sense of their world and their experiences.

The sampling for this study was a combination of convenience, purposeful, criterion, and snowball sampling. Some convenience sampling is typically employed based on time or location of the participants (Merriman, 1998).

In accordance with the guidelines of Southwest Baptist University regarding the protection of human participants, a request for review was submitted to the Research Review Board for approval to send a questionnaire to approximately 2,200 of Missouri's current public school principals serving in prekindergarten through twelfth grade buildings as potential participants for this study. After receiving RRB approval, participant recruitment and data collection began.

There were no known risks to participants. All participants were kept confidential and were able to remove themselves from the study at any time. Data and answers from the questionnaire and the interview questions will be kept secured on a password protected computer. Participant names will not be used in this study.

Selection/Sampling

The researcher used a purposeful sample to start as the questionnaire was sent to approximately 2,200 current public school principals serving in prekindergarten through twelfth grade buildings in Missouri. Purposeful sampling was used since the

questionnaire was sent to all Missouri prekindergarten through twelfth grade principals. The researcher wanted to better understand and gather insight from this group on the perceived barriers to not using Twitter and the best practices of Twitter use from practicing principals, and therefore selected a sample to provide the most and best insight (Creswell, 2007; Merriman, 1998). The researcher also used criterion sampling to identify both practicing and non-practicing Twitter users from the larger group of principal respondents. These six educational leaders were selected based on them providing contact information through the survey and through snowball sampling by asking state leaders, superintendents, executive directors, principal association directors and leaders, as well as area supervisors with DESE to identify highly effective educational leaders from across the state. Snowball sampling is when the researcher asks participants to identify and recommend additional participants in the study (Gay, et. al., 2009). According to Merriman (1998), the criteria set directly reflects the purpose of the study. Criterion sampling is also used to provide better quality assurance (Creswell, 2007). Finally, snowball sampling may be used if it is difficult to gather enough volunteers from the initial respondents for the individual interviews. Snowball sampling is when the researcher asks participants to identify and recommend additional participants in the study (Gay, et. al., 2009).

The preliminary criteria for potential interviewees was based on their response and willingness to participate in an in-depth interview process based on if they provide their name and contact information on the initial questionnaire. The researcher was looking for two distinct groups: (a) principals currently using Twitter for professional learning and (b) those not using Twitter for professional learning.

The researcher anticipated a return rate of approximately 10 to 15 percent. From the data collected the researcher employed a criterion sampling based on whether the respondent was a Twitter user or non-user. A question asking principals if they would be willing to participate in a follow-up interview was included and asked them to provide a contact email address. The researcher also used the snowball sampling method.

Missouri principals in prekindergarten through twelfth grade were selected in hopes of preparing a list of perceived barriers to using Twitter as a professional learning network and to build a bank of best practices gathered from those currently using Twitter for professional learning purposes. In the end, this list of best practice could be shared with state principal associations, departments of education, superintendents, and other leaders to build upon.

Research Setting

The research setting for this qualitative study was via an emailed questionnaire to approximately 2,200 prekindergarten through twelfth grade public school principals in Missouri. Some respondents were contacted to be interviewed further by phone and through the online mediums Skype and Google Hangout to elaborate on responses from the questionnaire. Most qualitative research requires work in the field and physically meeting face to face with participants in their setting (Merriam, 1998). In order to make this as convenient for the participants (Seidman, 2006) multiple options were offered and based on the participants choosing. These locations varied from public places such as libraries or restaurants to their office or through an online medium.

Theoretical Underpinnings

Through this study the researcher was looking to find what barriers, if any, keep Missouri's current public school principals serving in prekindergarten through twelfth grade buildings from using Twitter for professional learning. The research will also provide a list of best practices based on perceptions of current principals Twitter use for professional learning.

Previous research on professional learning for educational leaders found theorists ideas on social learning theory dating back to the 1960's with Lev Vygotsky and then the 1980's and Roland Barth. About a decade later learning organization theory came about with Peter Senge's work, *The Fifth Discipline: The Art and Practice of the Learning Organization* (1990, 2006).

In the early 1990's Lave and Wenger, and in the early 2000's Wenger, shared insight on communities of practice and expanded on Vygotsky's theory of social learning and more recently learning has started to shift to a virtual community with the help of social media such as Twitter. Siemens (2005) refers to this as Connectivism and Downes (2006) said knowledge and learning is not transferred, but is shared via a person's personal learning network via conversations.

Effective school leaders are described as people who effectively form and utilize learning communities for ongoing professional learning, according to DuFour and Marzano (2011). School leaders lack adequate ongoing professional learning opportunities and research is scarce on how Twitter can be used to support their learning needs. Social network websites, such as Twitter, may allow educational leaders to engage in meaningful professional dialogue (Dunlap & Lowenthal, 2009). Twitter's

brevity, immediacy, and openness can empower educators and students to interact with a variety of people in new ways. Given Twitter's popularity, adaptability, and capacity to create unique opportunities for communication, it seems worthwhile to examine its role in education (Carpenter & Krutka, 2014).

The researcher hopes to build upon these early theorists ideas of social learning with the virtual technology and medium of Twitter. Through Twitter, educational principals and leaders are able to share, learn, and grow without the additional cost, geographical challenges, or time constraints that often prohibit one from attending a conference or workshop. Via Twitter the 'experts' in the field of education are one tweet away for free at any time and from any place.

Research Design

The researcher used a qualitative study and a causal-comparative analysis. The main objective of this study was to determine what barriers, if any, inhibit Missouri's public school principals serving in prekindergarten through twelfth grade buildings from using Twitter for professional learning and what the best practices for managing those barriers are based on participant responses.

A questionnaire was selected to be used in the initial questioning in order to collect more data in a quicker manner and was relatively inexpensive to administer (Gay et al., 2009). Another advantage to using a questionnaire was due to the large nature of potential respondents and the size of the geographic area, Missouri, covered by this study (Gay et al., 2009). The questionnaire was sent to approximately 2,200 prekindergarten through twelfth grade building principals to gather basic demographics such as age, gender, level of education, years in education, years as a principal, grade-level in which

they are a principal, and region of Missouri in which they lead. Then the researcher asked whether the respondent is a Twitter user or not. If they are not using Twitter for professional learning answers were gathered to see what themes, if any, developed from the responses to develop a list of perceived barriers. The other areas of focus in this study were to gather a list of perceived barriers on why principals are not using Twitter for professional learning purposes and also to develop a list of best practices for using Twitter as a professional learning tool from those currently using Twitter in this manner. The researcher also interviewed a smaller group of three current Twitter users and three non-users to delve deeper into the best practices and barriers of Twitter use for professional learning.

Qualitative studies are conducted in education and are common in order to seek to discover and understand a phenomenon, a process, or the perspectives of the people involved (Merriman, 1998). Creswell (2009) noted researchers use qualitative studies to delve deeper into a more complex, detailed issue to garner a better understanding by talking directly with people.

A causal-comparative study was utilized because of the nature of the group being researched. The causal-comparative design involves selecting two groups that differ on some variable of interest and comparing them on some dependent variable (Gay, et. al., 2009). In the case of this study the dependent variables were principals in the state of Missouri. The differing variable was whether or not they use Twitter for professional learning purposes. The preliminary criteria for potential interviewees was based on their response and willingness to participate in an in-depth interview process based on if they provide their name and contact information on the initial questionnaire. The researcher

was looking for two distinct groups (a) principals currently using Twitter for professional learning and (b) those not using Twitter for professional learning.

To better determine the user and non-user perspective on Twitter use for professional learning a smaller group of three users and three non-users were interviewed to dig deeper in to the perceived barriers for non-use and the best practices for those using Twitter. According to Merriam (1998), interviewing is a common method to gather data in qualitative studies.

The following steps were taken to conduct the interviews: (a) Identify the interviewees based on the criterion sampling procedure and the principals self-identifying and agreeing to participate in further questioning, (b) use adequate recording procedures when conducting the one-on-one interviews, (c) design and use an interview protocol, (d) determine the location for conducting the interviews whether in person or virtually, (e) obtain consent from the interviewee to participate in the study, and (f) during the interview, remain on task to the questions and complete the interview within the time limit set forth, be respectful and courteous, and offer few to no questions and advice (Creswell, 2007).

The researcher contacted each potential participant via email for the initial questionnaire and the same was done for the smaller interviewing participants. The email contained a letter (Appendix C) explaining the purpose of the study, the selection of participants, and the interview structure and process. An informed consent form (Appendix D) and the interview questions (Appendix B) were also provided to each participant.

Interviews were conducted as soon as possible after the initial questionnaire was sent out and data was collected. The interviews were audio recorded and responses were transcribed and analyzed. Responses collected from the interviews were used to answer the research questions and were part of the triangulation of all data collected.

Validity and Reliability

The researcher and this study attempted to provide valid and reliable information and it was obtained in an ethical manner. According to Creswell (2007) and Merriam (1998), the researcher must pay close attention to the design of the study, the researcher's interactions with individual participants, collection of the data, how the data is analyzed, and ultimately how the data is presented. Finally, the researcher must maintain a high level of ethics to ensure the validity and reliability in a qualitative study while conducting research (Creswell, 2007; Merriam, 1998).

Researchers can contribute to the trustworthiness of their research by addressing descriptive validity, interpretive validity, theoretical validity, generalizability, and evaluative validity (Maxwell, 1992). According to Maxwell (1992), (a) descriptive validity is the factual accuracy of what is observed, heard, or through inferences; (b) interpretive validity refers to the participant's perspective being interpreted accurately; (c) theoretical validity notes how well the actual research relates to the phenomenon being studied broader theory; and (d) evaluative validity relates to whether the researcher used objectivity, being unbiased, when reporting the data, without judgement.

The researcher addressed descriptive validity by recording and transcribing the interviews. The transcripts were shared with the interviewee to ensure accuracy. Interpretive validity came from the researcher asking follow up and clarifying questions

as necessary during the interview. The theoretical validity was analyzed and compared to the theories shared in the literature review in Chapter two. Finally, the evaluative validity was addressed by having the interviewees review the transcripts of their responses, through the researcher maintaining and using a high level of integrity and character, and through triangulation of the data.

Triangulation is the process of using multiple methods, data collection strategies, and data sources to obtain a complete picture of what the researcher is studying and to cross-check information (Gay, 2009). The first phase of triangulation occurred when the researcher collected data from the initial questionnaire sent to all prekindergarten through twelfth grade principals in Missouri. The second step occurred when the field of overall responses was narrowed down to a smaller group of non-Twitter users and Twitter users to conduct one-on-one interviews to delve deeper in the research. The interview responses were then compared to the overall data responses. Finally, the overall data was used to confirm the emerging findings and compare those with the relevant literature.

Through the individual interviews the interviewer provided an in-depth view of both Twitter users and non-users. Due to this in-depth nature it will cause surface considerations with a compelling insight to the study. Through rich, thick description from the participants it will allow the readers to determine how closely their experiences related with the study and how the findings are applicable to them (Creswell, 2007; Merriam, 1998).

Reliability in qualitative research refers to whether the data would be collected consistently, or replicated, if the same techniques were utilized time and time again (Gay, 2009; Merriam, 1998). The reliability of this study was enhanced through the

triangulation of the data collected from the larger groups' questionnaire responses and the smaller groups' individual interviews and then comparing it to the theories and relevant literature. Finally, an audit trail was created by the researcher by describing how the data was collected and how categories and themes were determined (Merriam, 1998).

Instrumentation

The main instrument for this study was a questionnaire and interview questions. Questions are at the heart of interviewing and the researcher must ask relevant questions in order to collect meaningful data (Merriam, 1998).

The questionnaire and interview questions for this research were from the work of Carpenter & Krutka (2014) who studied how and why educators were using Twitter. Permission to use their questionnaire was received by the researcher and from the authors via a direct message on Twitter on September 27, 2015.

The first part of the questionnaire was intended to gather demographic data from each of the respondents. These eight demographic questions were used to see if any themes, patterns, or phenomenon develop based on the participant's responses. The demographics cover gender, age, level of completed education, current role in education, current school setting, years in education and years in administration, and finally geographic location in Missouri.

Following the demographic section were questions specific to Twitter. The researcher wanted to determine who uses Twitter for professional learning and who does not, the frequency of use, specific professional uses, and concerns the participants have with using Twitter. The researcher was looking for two distinct groups (a) principals currently

using Twitter for professional learning and (b) those not using Twitter for professional learning.

Open-ended questions allowed the participants to provide specifics and give practitioners a voice to how they use Twitter professional for learning purposes and also what perceived barriers have kept them from using the social medium.

In order to delve below the surface one-on-one interviews took place after the initial questionnaire responses were received. From the pool of responses a smaller group of three users and three non-users were identified. These interviews investigated best practice and barriers to using Twitter for professional learning.

The responses from the questionnaire and interview instrument provided rich, narrative data the researcher analyzed, coded, and matched with the research questions.

Data Analysis

Qualitative data analysis is difficult, time-consuming, and challenging (Gay, 2009) and is also the most important part of the research process as the researcher tries to make meaning of the answers provided by participants (Gay, 2009).

Data analysis requires the researcher to summarize in a dependable and accurate manner (Gay, 2009). Qualitative data analysis requires the researcher to be patient and reflective while making meaning (Gay, 2009) of the responses from the questionnaire and one-on-one interviews.

After collecting all data over the period of four weeks the researcher began to break down the data to identify themes. The qualitative data for survey questions were analyzed using the Bogdan-Biklen Constant Comparative Analysis (Simon, 2011). This type of analysis was used to organize data into recurring themes and patterns to allow for

interpretation. Themes and relevant statements and quotes to the themes were color coded in the transcripts. Possible themes could also be broken down by demographics collected to see if users are from a specific region of the state, if a certain age group or gender uses more than another, or if themes are consistent across all groups.

Descriptive data was collected for this study from interviews and a questionnaire. The data was organized and prepared for analysis, then themes were identified as they emerged through coding, and then presented in tables and discussion. The qualitative data were analyzed using Bogdan-Biklen Constant Comparative Analysis to look for recurring themes and patterns. Themes were discovered after reviewing and comparing open-ended raw answers from the six individual principal interviews and the 539 participants to the electronic survey. After reviewing the open-ended answers, the researcher grouped answers by themes and looked for patterns. The data was categorized in order to make sense of the essential meanings as the researcher began to identify themes. The real learning comes from the researcher analyzing the responses (Creswell, 2007; Merriam, 1998). Analysis began with the big picture and the researcher looked for patterns to emerge as they answered the research questions. This was key events, key phrases, or questionnaire responses that keep repeating themselves. After identifying the emerging themes they were coded. Coding is the process of categorically marking or referencing the text by assigning a short description to the data and allowed the researcher to reduce the data to a manageable form (Gay, 2009). The researcher used identifying notes for each interview and data set so it could be easily accessed and presented.

Narrative data from the one-on-one interviews was collected utilizing an audio-video recorder called Rev on the researcher's iPhone and was transcribed verbatim by the Rev app. The transcripts were shared with the participants to ensure accuracy of transcription.

Summary

Chapter three presented the methodology the researcher used to gather the data as it related to the topic and administered in the fall of 2016. The survey was sent via email with a link using QuestionPro to 2,200 current public school principals serving in prekindergarten through twelfth grade buildings in Missouri. Of the 2,200 possible respondents 539 completed the survey for a return rate of 24.5%. The researcher also completed six one-on-one interviews with three users and three non-users of Twitter after the electronic survey was administered. They were three elementary and three high school principals. These interviews were completed through Skype, Google Hangout, and phone interviews. The researcher used the iPhone app Rev to record and transcribe the interviews.

The instrument was piloted and validated prior to being sent and determined to be valid. The survey used gathered basic demographics such as age, gender, level of education, years as a principal, grade-level in which they are a principal, and region of Missouri in which they lead. Then the researcher asked whether the respondent was a Twitter user or not, and why they were not using Twitter for professional learning will be gathered to see what themes, if any, develop from the research data. Other areas of focus were to gather a list of perceived barriers on why they were not using Twitter for professional learning purposes and a list of best practices for using Twitter as a professional learning tool.

By determining what barriers principals perceive as reasons they are not using Twitter it was the hope of the researcher to provide next steps and resources for principals and districts to eliminate the perceived barriers to ease the use of this free tool for professional learning.

Chapter four presented the analysis of findings and results of the researchers study through possible themes found in the demographics and answers to the research questions. Through the data analysis the researcher highlighted and emphasized the most important findings based on results through themes found while analyzing results using a Bogdan-Biklen Constant Comparative Analysis to look for recurring themes. Chapter five will include the conclusions, recommendations, and educational implications of the study. The researcher will share key findings and recommendations for future study on the topic and implications for educational use moving forward.

Chapter Four

Findings

Introduction

The purpose of this study was to find what barriers, if any, pre-kindergarten through twelfth grade Missouri principals have regarding the use of Twitter for professional learning. The second purpose was to determine what they consider their best practice for using Twitter as a professional learning tool.

This chapter presents the results from the survey (Appendix A) distributed to approximately 2,200 pre-kindergarten through twelfth grade Missouri principals and the in-depth, one-on-one interviews with six Missouri school principals. Of those six principals, three use Twitter for professional learning and three do not use Twitter for professional learning. The researcher followed the strategies outlined in the previous chapter to select the participants, to ensure trustworthiness, and to analyze and interpret the descriptive data. Themes were identified for the barriers and best practices of Twitter use, or non-use, for professional learning. This chapter includes a description of the participants and the findings related to each research question.

From the 2,200 electronic surveys sent, 539 individuals responded. Of those 539 respondents, 524 answered the question “Do you have a Twitter account?” Of those 524 answers, 82 percent responded yes to having a Twitter account. For the question “For what professional purposes do you use Twitter?” only 12 percent of the respondents noted they do not use Twitter for professional purposes indicating 88 percent do currently use Twitter as a professional learning tool. This data contradicts findings from two studies referenced in Chapter two. A 2015 study by Pew found of the 74 percent of

adults using social media only 23 percent used Twitter (Duggan, et. al., 2015). In a study conducted by MMS Education (MMS Education et al., 2012) studied 694 educator responses noting 82 percent of the educators reported being members of a social networking site, but only 39 percent of the respondents reported having a Twitter account. Of the 694 educators who responded to the survey, approximately 20 percent were school principals and 52 percent of those principals shared they had a Twitter account.

Participants

The researcher sent the survey to 2,200 current public school principals serving in pre-kindergarten through twelfth grade buildings in Missouri and received responses from 539 principals for a response rate of 24.5 percent.

Of the 539 respondents, 52 percent were male and 48 percent were female.

Table 1
Twitter Use by Gender

	Male	Female
No Twitter Account	20.6%	14.5%
Does Not Use Twitter for Learning	15.9%	19.3%
Uses Twitter for Professional Learning	63.5%	66.2%

As shown in Table 1, of the male respondents, 20.6 percent indicated they do not have a Twitter account and 15.9 percent reported they do not use Twitter for professional learning. This equates to 63.5 percent of the male respondents who do use Twitter as a professional learning tool. On the other hand, of the 48 percent of female respondents 14.5 percent reported they do not have a Twitter account and 19.3 percent stated they do not use Twitter for professional learning. Meaning 66.2 percent of female respondents do use Twitter for professional learning.

In Table 2, of the 539 respondents, 82.2 percent were from age group 35 – 54, while only 7.6 percent were in age group 18 – 34, and 10.2 percent were 55 and older.

Table 2
Age

18 to 34	7.6%
35 – 54	82.2%
55 and up	10.2%

In Table 3, of the respondents, 47.6 percent have attained a Specialist degree, 30 percent have earned a Doctorate, and the final 22.4 percent own a Master’s degree.

Table 3
Highest degree attained

Master’s degree	22.4%
Specialist	47.6%
Doctorate	30%

As shown in Table 4, 41.1 percent of the respondents work in elementary schools, 23.8 percent in high schools, 15.4 percent in middle schools, 1.9 percent in junior high schools, and 17.8 percent in another configuration.

Table 4
Current school setting

Elementary school	41.1%
Middle school	15.4%
Junior High school	1.9%
High school	23.8%
Other (K-8, K-12, 7-12, PK-8, etc.)	17.8%

As shown in Table 5, 29.1 percent of the respondents have 16 – 20 years in education, while 26.9 percent have 21 – 25 years, 19.4 percent have 11 – 15 years, 14 percent have 26 – 30 years, 5.8 percent have 6 – 10 years, and 4.8 percent have 31 or more years in educations.

Table 5
Years in Education

1 – 5 years	0.0%
6 – 10 years	5.8%
11 – 15 years	19.4%
16 – 20 years	29.1%
21 – 25 years	26.9%
26 – 30 years	14%
31+ years	4.8%

As shown in Table 6, 29.65 percent of the respondents have been in administration for 6 – 10 years, 26.65 percent for 1 – 5 years, 24.25 percent for 11 – 15 years, 14 percent for 16 – 20 years, 4.5 percent for 21 – 25 years, 0.75 percent for 26 – 30 years, and 0.20 percent for 31 or more years.

Table 6
Years in Administration

1 – 5 years	26.65%
6 – 10 years	29.65%
11 – 15 years	24.25%
16 – 20 years	14%
21 – 25 years	4.5%
26 – 30 years	0.75%
31+ years	0.20%

As is shown in Table 7, Twitter users as related to the years as an administrator indicate well over half of all are using Twitter for professional learning purposes.

Table 7
Years in Administration and Using Twitter for Professional Learning

1 – 5 years	63.60%
6 – 10 years	68.15%
11 – 15 years	68.75%
16 – 20 years	59.70%
21 – 25 years	47.80%
26+ years	50.00%

Twitter use by gender reveals that 63.5 percent of males and 66.2 percent of females surveyed use Twitter for professional learning. Research reveals administrator’s experience of using Twitter for professional learning was ranked from highest to lowest: 11 - 15 years, 6 - 10 years, and 1 - 5 years. The highest percentage of Twitter use for respondents was weekly. Research also revealed how long individuals had used Twitter for Professional Learning was 1 - 2 years followed closely by 3 - 4 years. This snapshot reveals that over 65 percent of administrators with 11 - 15 years of experience use Twitter weekly and they have used it within the last 1 - 2 years.

As shown in Table 8, 33.9 percent of the respondents are administrators in the Southwest region of Missouri, 13.3 percent in Greater Kansas City, 13.1 percent in St. Louis, 12 percent in Central, 9 percent in South Central, 7.3 percent in Southeast, 5.8 percent in Northeast, and 5.6 percent in Northwest.

Table 8
Region of Missouri Respondents are Currently Administrators

Central	12%
Greater Kansas City	13.3%
Northeast	5.8%
Northwest	5.6%
St. Louis	13.1%
South Central	9%
Southeast	7.3%
Southwest	33.9%

One-on-one interviews were conducted with three principals using Twitter for professional learning purposes and three principals that do not use Twitter for professional learning purposes. One-on-one interviews were designed to delve deeper into the best practices and barriers of Twitter use. The six educational leaders were selected using snowball sampling by asking state leaders, superintendents, executive

directors, principal association directors, and area supervisors with DESE to identify highly effective educational leaders from across the state. Snowball sampling is when the researcher asks participants to identify and recommend additional participants in the study (Gay, et. al., 2009). The researcher surveyed approximately 100 educational leaders from across the state of Missouri. From this request, 29 pre-kindergarten through twelfth grade principals were nominated with 11 of the 29 recommended twice or more. From the recommended list, the researcher narrowed the 11 nominations to six based on the number of nominations, use or non-use of Twitter, and willingness to be interviewed. Table 9 notes the number of times each of the six selected principals were nominated.

Table 9
Principals Recommended as Highly Effective from Educational Leaders in Missouri

Principals	P1	P2	P3	P4	P5	P6
Times recommended as Highly Effective	5	2	3	2	3	3

All six of the principals were Caucasian, four were male and two were female, with their highest degree of education obtained ranging from a Master’s Degree in Educational Leadership to a Specialist Degree in Educational Administration to Doctorate Degrees in Educational Administration. Three of the principals lead elementary schools and three lead high schools. They represent the Southwest, Southeast, Central and Northwest regions of Missouri. These school leaders’ years of experience as a principal ranged from two to 16 years. For the intentions of this study, and to preserve confidentiality, the six principals were identified as P1, P2, P3, P4, P5, and P6.

Principal One

Principal One (P1) leads a high school in Southwest Missouri with approximately 900 students. He earned his doctorate degree and has 20 total years in education, with 11 of those years serving as a school principal. Principal One has been using Twitter for professional learning for approximately six years and was recommended for this study by five different state educational leaders.

Principal Two

Principal Two (P2) leads a high school in Central Missouri with approximately 700 students. He earned his doctorate degree and has 20 total years in education, with 11 of those years serving as a school principal. Principal Two does not use Twitter for professional learning, but does have an account mainly used as a public relations tool for his school for the last three years. He was nominated for this study twice by state educational leaders.

Principal Three

Principal Three (P3) leads a high school in Northwest Missouri with approximately 800 students. He earned his doctorate degree and has 23 total years in education, with 13 of those years serving as a school administrator. Principal Three has been using Twitter for professional learning for approximately six years and was nominated for the study three times by state educational leaders.

Principal Four

Principal Four (P4) leads an elementary school in Southeast Missouri with approximately 425 students. She earned her doctorate degree and has 34 total years in education, with 16 of those years serving as a school administrator. Principal Four does

not use Twitter for professional learning, but has had a Twitter account for three years. She was nominated for this study by state educational leaders twice.

Principal Five

Principal Five (P5) leads an elementary school in Southeast Missouri with approximately 275 students. He earned his Master's degree and has 14 total years in education, with two of those years serving as a school principal. Principal Five has been using Twitter for professional learning purposes for approximately five years. He was nominated by state educational leaders three times for this study.

Principal Six

Principal Six (P6) leads an elementary school in Southwest Missouri with approximately 300 students. She earned her Specialist degree and has 11 total years in education, with four of those years serving as a school administrator. Principal Six does not use Twitter for professional learning, but has used Twitter for five years. She was nominated by state educational leaders three times to be part of this study.

Validity and Reliability

The researcher and this study attempt to provide valid and reliable information and it was obtained in an ethical manner. According to Creswell (2007) and Merriam (1998), the researcher must pay close attention to the design of the study, the researcher's interactions with individual participants, collection of the data, how the data is analyzed, and ultimately how the data is presented. Finally, the researcher must maintain a high level of ethics to ensure the validity and reliability in a qualitative study while conducting research (Creswell, 2007; Merriam, 1998).

Researchers can contribute to the trustworthiness of their research by addressing descriptive validity, interpretive validity, theoretical validity, generalizability, and evaluative validity (Maxwell, 1992). According to Maxwell (1992), (a) descriptive validity is the factual accuracy of what is observed, heard, or through inferences; (b) interpretive validity refers to the participant's perspective being interpreted accurately; (c) theoretical validity notes how well the actual research relates to the phenomenon being studied broader theory; and (d) evaluative validity relates to whether the researcher used objectivity, being unbiased, when reporting the data, without judgement.

The researcher addressed descriptive validity by recording and transcribing the interviews. The transcripts were shared with the interviewee to ensure accuracy. Interpretive validity came from the researcher asking follow up and clarifying questions as necessary during the interview. The theoretical validity was analyzed and compared to the theories shared in the literature review in Chapter two. Finally, the evaluative validity was addressed by having the interviewees review the transcripts of their responses, through the researcher maintaining and using a high level of integrity and character, and through triangulation of the data.

Triangulation is the process of using multiple methods, data collection strategies, and data sources to obtain a complete picture of what the researcher is studying and to cross-check information (Gay, 2009). The first phase of triangulation occurred when the researcher collected data from the initial questionnaire sent to all prekindergarten through twelfth grade principals in Missouri. The second step occurred when the field of overall responses was narrowed down to a smaller group of three non-Twitter users and three Twitter users to conduct one-on-one interviews to delve deeper in the research. The

interview responses were then compared to the overall data responses. Finally, the overall data was used to confirm the emerging findings and compare those with the relevant literature.

Through the individual interviews the interviewer provided an in-depth view of both Twitter users and non-users. Due to this in-depth nature it will cause surface considerations with a compelling insight to the study. Through rich, thick description from the participants it will allow the readers to determine how closely their experiences relate with the study and how the findings are applicable to them (Creswell, 2007; Merriam, 1998).

Reliability in qualitative research refers to whether the data would be collected consistently, or replicated, if the same techniques were utilized time and time again (Gay, 2009; Merriam, 1998). The reliability of this study was enhanced through the triangulation of the data collected from the larger groups' questionnaire responses and the smaller groups' individual interviews and then comparing it to the theories and relevant literature. Finally, an audit trail was created by the researcher by describing how the data was collected and how categories and themes were determined (Merriam, 1998). The results of the qualitative data were analyzed using a Bogdan-Biklen Constant Comparative Analysis to look for recurring themes.

Data Analysis

Qualitative data analysis is difficult, time-consuming, and challenging (Gay, 2009) and is also the most important part of the research process as the researcher tries to make meaning of the answers provided by participants (Gay, 2009).

Data analysis requires the researcher to summarize in a dependable and accurate manner (Gay, 2009). Qualitative data analysis requires the researcher to be patient and reflective while making meaning (Gay, 2009) of the responses from the questionnaire and one-on-one interviews.

After collecting data over four weeks, the researcher analyzed the results of the qualitative data using Bogdan-Biklen Constant Comparative Analysis to look for recurring themes. The themes, relevant statements, and quotes corresponding to the themes were color coded in the transcripts.

Descriptive data were collected for this study from interviews and a questionnaire. The data were organized and prepared for analysis, then themes were identified as they emerged through coding and presented in tables and discussion. Both the questionnaire (Appendix A) sent to 2,200 pre-kindergarten through twelfth grade principals and the interview questions for the six one-on-one interviews (Appendix B) asked specifically the barriers the respondents found to using Twitter for professional learning purposes and their best practices for using Twitter as a professional learning tool. The researcher examined the responses to those questions and the transcripts from the one-on-one interviews four times. After examining the questionnaire responses, the researcher tallied the frequency of key phrases and responses. Subsequently three barriers and three best practices emerged in the data.

The three barriers to using Twitter as a professional learning tool were identified as time, overwhelming and confusing, and the limited number of characters available in Twitter. Time was mentioned a total of 56 times in the responses and five of six principals noted time was a barrier. Overwhelming and confusing was listed as a barrier

49 times by respondents as well as four of the six principals. Finally, limited characters was listed 33 times by respondents as well as three of the six principals.

The three best practices for using Twitter as a professional learning tool that emerged from the data were resource acquiring and sharing; collaboration, networking, and chats; and using Twitter as a public relations tool. Resource sharing and acquiring emerged as the top best practice with 64 mentions as well as all six principals. Collaboration, networking, and chats was listed 60 times and all six principals also mentioned chats. Finally, using Twitter as a public relations tool was found in the data 48 times and four of the six principals stated it as well.

The data were categorized in order to make sense of the essential meanings as the researcher begins to identify themes. The real learning comes from the researcher analyzing the responses (Creswell, 2007; Merriam, 1998). Analysis began with the big picture and look for patterns that emerged as they answer the research questions. This was through key events, key phrases, or questionnaire responses that keep repeating themselves. The qualitative data for survey questions were analyzed using the Bogdan-Biklen Constant Comparative Analysis (Simon, 2011). After identifying the emerging themes they were coded. Coding is the process of categorically marking or referencing the text by assigning a short description to the data and allows the researcher to reduce the data to a manageable form (Gay, 2009). The researcher used identifying notes for each interview and data set so it could be easily accessed and presented.

Narrative data from the one-on-one interviews were collected utilizing an audio-video recorder app called Rev on the researcher's iPhone and were transcribed verbatim. The transcripts were shared with the participants to ensure accuracy of transcription.

During the analysis of data and throughout the entire study, great care was taken by the researcher to ensure the confidentiality of the participants. Recordings of the interviews and transcriptions of the data were kept secure by the researcher. Only the participants, the transcription company, and the researcher had access to the raw data. During the analysis and presentation of the data, each participant was designated as Principal One, Two, Three, Four, Five, or Six to ensure confidentiality. When using quotes from the participants, careful attention was given to ensure no identifying characteristics were included.

Research Question One

Research question one asked “What are the barriers keeping Missouri’s current public school principals serving in prekindergarten through twelfth grade buildings from using Twitter for professional learning?” The researcher asked open-ended questions regarding barriers to using Twitter for professional learning on both the electronic survey (Appendix A) and the one-on-one interviews with six principals (Appendix B). The themes that emerged from the responses on the electronic survey and aligned with the responses of the six principal interviews are outlined in Table 10.

Table 10
Principals Supporting each Theme for Barriers to Using Twitter for Professional Learning

Identified Themes	P1	P2	P3	P4	P5	P6
Time		X	X	X	X	X
Confusing/Overwhelming	X	X		X	X	
Limited Characters	X		X	X		

Time

According to participants, time was the most frequent mentioned barrier to using Twitter as a professional learning tool. From the results of the electronic survey (Appendix A) time was listed as a barrier 53 times in the open ended question concerning barriers and five of the six principals interviewed (Appendix B) specified time to be a barrier to them and their use of Twitter for professional learning purposes. Respondents to the electronic survey also noted on question 11 (Appendix A) that time was their biggest concern. Of the 967 responses 286 respondents, almost 30 percent, selected time as their top concern.

Principal Three indicated he had a difficult time finding the value in Twitter during its infancy. “I felt like it was going to be one more constraint on my time and I didn’t feel like I had the additional time to give up at that point. I just thought it was one more thing on the plate. I was skeptical and hesitant at the beginning,” (P3).

In Table 11, 25.5 percent of the survey respondents indicated they do not currently use Twitter. Of those who said they use Twitter, 12.3 percent reported use monthly and 27.4 percent reported use weekly indicating time was a barrier for over a third of the pre-kindergarten through twelfth grade administrators responding to the research.

Table 11
How often respondents used Twitter for Professional Learning

Do not currently use	25.5%
Multiple times per day	13.1%
Daily	21.7%
Weekly	27.4%
Monthly	12.3%

Table 12

How long respondents had used Twitter for Professional Learning

6 months or less	5.2%
7 – 11 months	3.8%
1 – 2 years	24.9%
3 – 4 years	23.5%
5 – 6 years	6.8%
7+ years	0.6%
Do not have Twitter	18%
Not using Twitter for professional learning	17.2%

The amount of time respondents had been using Twitter could also be attributed to this theme. Table 12 noted 35.2 percent of respondents either did not have Twitter or were not using it for professional learning purposes. In addition 33.9 percent had only been using Twitter for two years or less.

Principal Two stated he preferred learning from a colleague on how to use Twitter rather than learning on his own. “It’s easier to have somebody who already knows how to do it show you,” (P2). Principal Two went on to note he prefers spending time with people face-to-face rather than via technology and Twitter. “That (learning Twitter) takes time away from what you need to do with people,” (P2).

Principals Four and Five both said time was an issue when they first started using Twitter, but now they understand it better and use Twitter more frequently it is no longer a barrier for them.

Respondents to the electronic survey indicated time was a barrier to their lack of Twitter use for several reasons. One respondent said, “I find time to be the biggest hindrance. I do not make it a priority with all the other responsibilities I have, so I do not use Twitter much.” While another said, “It goes so fast. If I miss a couple of days on Twitter, I feel I miss a tremendous amount of resources. I feel that I do not have enough

time in the day to keep up with email let alone a resource like Twitter.” Another survey participant indicated, “Time to focus on sifting through the content you do not need or are not interested in to get to the content you are interested in is very time consuming.”

A survey respondent said “I find it hard to make it a priority. I see the value in Twitter, but have not figured out how to make it a routine.” Another participant summarized time being a barrier due to needing balance in life. “Time is huge! As a principal, husband, and parent of three active children finding a balance can be very difficult.”

Principal Six, however, elaborated the most on time being a barrier for her. “For me it was time. I was using Facebook and it was more time I didn’t want to devote to something else. I was already using Facebook and a blog. Sometimes when we try to do too much. . . I just felt like it was taking away from my family. I just didn’t want to add something else to my plate,” (P6).

Overwhelming or confusing

Four of the six principals noted during their interviews (Appendix B) that Twitter was either confusing or overwhelming to them in their professional learning use and Survey respondents (Appendix A) listed this as a barrier a total of 49 times.

Principals Three and Six never mentioned Twitter being overwhelming to them. However, the other four principals brought it up as a barrier to professional learning use.

“I know I’ve had people tell me it’s hard to use. It’s difficult to figure out,” Principal One said. Principal Two added he prefers to have someone already using Twitter to show him as it is faster to learn and less overwhelming. “I usually learn things on my own, but it takes longer,” (P2). One respondent to Appendix A said, “It is never ending and too

much. I always feel behind. Sometimes there seems to be information overload. Sifting through too much information and the massive amounts of information can sometimes be very overwhelming.”

Principal Four noted Twitter was not user friendly for her which contributed to the overwhelming factor in using Twitter for professional learning. “Out of all the ways that we tend to communicate, which include email, Facebook, LinkedIn, it (Twitter) has been the least user-friendly to me,” (P4). She went on to elaborate about her Twitter history, “It took me a while to learn. Twitter wasn’t intuitive to me. It was difficult to learn how to sign up, how to follow. I think I probably have four or five different accounts under various names. Once I learned it, and people started tweeting me, then I became more comfortable,” (P4).

Another participant of the online survey said, “It is just too much information. I cannot keep up with it so I quit using Twitter frequently.” Principal Five said he created a Twitter account soon after it debuted, but didn’t start using it regularly until about five years ago. “Twitter is overwhelming. There’s a lot of information and millions of users.” He went on to note the abundance of information available via Twitter. “How do you narrow down the information to find what you’re looking for? How do you follow the streams of information?” (P5). Another respondent said “too much information both good and bad and you have to filter through all the information.”

Limited Characters

Three of the six principals listed Twitter’s 140 character limit as a barrier for their professional learning, while survey respondents (Appendix A) listed it as a barrier 33

times. Principals Two, Five, and Six did not mention the character limit as being a barrier for their use of Twitter as a professional learning tool.

“140 characters!!!” one respondent to the online survey said. “Brevity can lead to greater misinterpretation and it is not always easy to know what someone means in 140 characters.”

“I remember when Twitter first launched and I was like ‘Why would anybody want to be limited to 140 characters?’ (P1). He also noted the character limitation makes it difficult to elaborate on topics. “Definitely the character limitation. There’s not enough” (P4). “I’m sometimes stifled by the 140 characters. The limited characters make for interesting taglines, but content is often lacking,” another online survey respondent noted.

Principal Three saw both sides of the 140 character limit. “The limit almost makes you reflect a little bit more about what you want to say. Maybe it actually makes you to be a more refined thinker and really get to the point a little better. It goes back to the time thing, that’s something we all as professionals can work on a little bit” (P3).

Research Question Two

Research question two asked “What are best practices for managing barriers to using Twitter as a professional learning tool?” The researcher asked open-ended questions regarding barriers to using Twitter for professional learning on both the electronic survey (Appendix A) and the one-on-one interviews with six principals (Appendix B). The themes that emerged from the responses on the electronic survey and aligned with the responses of the six principal interviews are outlined in Table 13.

Table 13
Principals Supporting each Theme for Best Practices Using Twitter for Professional Learning

Identified Themes	P1	P2	P3	P4	P5	P6
Resource Acquiring/Sharing	X	X	X	X	X	X
Collaboration/Networking/Chats	X	X	X	X	X	X
Public Relations Tool	X	X	X		X	

Resource Acquiring and Sharing

All six principals noted a best practice of using Twitter for professional learning was the ability to acquire and share resources and was mentioned 64 times in the electronic survey for open-ended question regarding best practices. On the multiple choice question of Appendix A “For what professional purposes do you use Twitter?” 313, or nearly 28 percent, selected resource acquiring and sharing as their choice.

Principal One said, “I don’t know exactly how it happened, but I developed kind of a desire to want to create content for Twitter and my blog. That feeling of contributing, I think, has helped me to have more professional self-efficacy,” (P1). He went on to note how he uses Twitter’s advanced search option more than Google when looking for topic and resources for his staff. “I was wanting to find some examples of how high schools were using a digital portfolio tool because some of my teachers were getting pumped up about using it,” (P1). Principal One also said because of this he was able to collect several tweets with information on the tool and then share it out with his whole staff.

Several respondents to the electronic survey noted a plethora of resources gathered for personal use and to share with staff and district personnel had been a tremendous benefit from Twitter. One respondent noted, “I have found many great educational resources and information on Twitter that is either beneficial to our district or sometimes inspirational

for our teachers.” Another reported, “I like the access to professional articles. I used Twitter to develop a list of resources for teachers to use in a personalized PD day. I also use Twitter to find resources for my doctorate classes.”

Principal Two also uses the search option for topics of interest. He also indicated he shares articles with his staff. “Sometimes I get links to something current in education,” (P2). Principal Three also uses the search feature to acquire information. “Edchat is one I search quite a bit. Sometimes, I will go back and search #IAedchat (Iowa Edchat). I will sometimes go back and read and follow the hashtag to see the learning being shared. I find that pretty valuable sometimes,” (P3).

Principal Four indicated most of the time she uses Twitter to read journal articles on topics such as Professional Learning Communities or Kagan Cooperative Learning. Principal Six uses Twitter in a similar fashion. “I think, for me it’s been when I’ve gone to a conference or Edcamp and then going back to read the tweets and if there was something that I missed that was really good, I can go back and look at that,” (P6). One principal said on the online survey response, “I really like the ease of access to articles and tips that people tweet links to. I also use inspirational messages and quotes to use in my weekly memos to staff.”

Creating lists for quicker access is the strategy Principal Five uses for acquiring information. “It allows for quick access to a variety of strategies and resources provided from all over the world. It’s a global communication system for educators to get together and share ideas and share strategies. I think one of the most powerful features is that you can quickly set up communication streams through hashtags and find information targeted for what you’re specifically looking to grow in, or to learn more about,” (P5).

He went on to add, “Creating a list of power users that target specific information I’m looking for, and being able to quickly access those lists to have a brief snippet of information. It’s faster than browsing the newspaper, because you can scroll through and quickly see information that you want to jump on and find more about, and then dive into it by going into their links. Using lists to really categorize the information you’re looking for in Twitter is one of the things that I use the most,” (P5).

Collaboration, Networking, and Chats

Again, all six principals interviewed mentioned a best practice for using Twitter for professional learning was the collaboration, networking, or chats. This was mentioned by 60 respondents on the electronic survey open ended question regarding best practices. On the question, “For what professional purposes do you use Twitter?” 462 responses, nearly 41 percent, were related to collaboration, networking, and chats.

“Twitter allows you to have a very wide view of education and educators, instead of maybe the normal people, the smaller group of people that you might normally collaborate with or bounce ideas off,” (P1). “Twitter opens that up to, really, the whole world. I’ve made connections not only in Missouri, but across the country and even across the world. It allows every school, or anyone who chooses to go out and look at it, to have insights into what are some of the best ideas that other people are using. Just to have conversations with them. There are things I’ve changed my mind about, or at least it’s really pushed my thinking on some things, because of the conversations on Twitter,” (P1). One principal noted on the online survey, “Connecting with other educators from around the globe means you do not have to reinvent the wheel. When you connect with others who are doing what you are going to do, i.e. 1 to 1 tech, standards based grading,

personalized learning; you are able to glean insight from what went well and what they would do differently.”

Principal One also noted his involvement with chats was an effective best practice for learning. “When I got really going on Twitter I got into #TLAP (Teach Like a Pirate) chat and also started doing #MOedchat (Missouri education chat) a bit. The Saturday morning chats I really like, whether it’s #Satchat, Satchat West Coast (#satchatwc), or #LeadUpChat, all of those are really good,” (P1).

Participating in Twitter chats or searching hashtags (#) for information was prevalent in the Appendix A responses. Principals noted 63 different hashtags were searched, used, or connected with on a regular basis.

The most mentioned hashtag, #edchat, was listed 57 times and is a general education topic. The second most popular hashtag, mentioned 41 times, were various hashtags used to promote or share ideas for schools or school districts such as #SPSlearning or #bulldogpride recognizing a specific building or district. The third most popular hashtag was #MOedchat and was mentioned 31 times. #MOedchat is Missouri’s weekly education chat and involves educators from across the state of Missouri and United States. The final four hashtags to receive double-digit mentions were #TLAP (Teach like a Pirate), #LeadLAP (Lead like a Pirate) both from the educational book by the same name, and #edtech and #LeadUpchat.

Overall 22 moderated chat hashtags were mentioned in the online survey. Table 14 noted the four chat hashtags mentioned 10 or more times as being chats pre-kindergarten through twelfth grade administrators in Missouri participate in on a regular basis.

Table 14

Moderated Chats Missouri Pre-k – 12th grade Administrators Participate

Chat name	Times mentioned
#MOedchat	23
#Edchat	16
#Satchat and #Satchatwc	11
#Leadupchat	10

Principal Three responded similarly saying, “I think participating in some of the chats has been very helpful. It allows me to not only reflect about my own learning, but also to get perspectives that I maybe would not get in a circle of friends or colleagues that are nearby. It just lets me connect with people on a larger scale and a bigger audience. I think the multiple perspectives that I’m able to get during a chat has been very valuable to me along with the networking,” (P3). One principal noted in a response in Appendix A “I enjoy participating in Twitter chats. Hearing from those who share in common experiences and their ideas. To me it makes me feel more like I am ‘in it’ with all these other schools and educators.” Another said, “Twitter chats are the most valuable for me because those chats have grown deeper connections. Also, using hashtags to organize a thread of conversations.”

Principal Two, Four, Five, and Six all noted they follow conference chats and hashtags to follow the learning while they are in attendance at the conferences. “I’ll monitor if I go to a Missouri Association of Secondary Schools principal conference or a Google conference or something like that,” (P2). Principal Four stated, “Most any professional development that I would go to and the speaker has a hashtag, I’ll sign up for their email feeds and then follow the Twitter feeds, so if they come across something, or they post something I’ll get it,” (P4). One survey respondent said, “Several high

quality leaders put out their ideas and information for free, rather than paying the expense of travel and conference fees. Especially DESE information of topics from workshops and organizations.” Another expanded this further, “I find the presentation slides and notes people share from conferences to be the most valuable.”

Principal Six said her district uses Twitter chats to collaborate. “Our administrative team uses chats occasionally. I also use it when I go to conferences or Edcamps to follow the hashtag,” (P6). Principal Five added, “I love, when I go to a conference, to follow the hashtags for the conference to get information. It’s amazing anymore. You don’t have to sit in as many sessions as possible. You sit in your session and you can find out what happened at every other session through the hashtags. It’s just a great way to pick up information and communicate,” (P5).

Public Relations Tool

Four of the six Principals stated a best practice for them was using Twitter as a public relations tool to tell the story of their schools and to connect with students and families. The respondents noted in the electronic survey public relations a total of 48 times as a best practice.

“We have our school Twitter account, and two or three of us run it. It really just connects with our community and tells the story of our school,” (P1). Principal Two concurred with that sentiment. “I think it’s a better public relations tool. I try to give a viewpoint for parents that they don’t generally see. They get to see things that happen during the school day, or they get to see things that happen at an event. Maybe they didn’t get to attend and make the invisible visible to the rest of the world,” (P2). He continued “I’ve tried to use it to bridge the gap with parents. Showing them all the good

things that we are doing in school because a community can invariably beat up on your school and say you know, you're not doing anything good or might focus on the negative all the time. This allows me to actively shoot things out that are very positive about the school that would be completely missed," (P2).

In the 48 notations for this theme in the online survey most respondents indicated a best practice for Twitter was to "spread the positive about our school and students" or "showcase to our community what is happening at our school and in our classrooms." Another administrator noted, "I typically use it to showcase what is going on in the building and to highlight our student and staff achievements."

Using a school or district hashtag (#) was mentioned 41 times in the responses as one that is regularly used, searched, or connected. Continuing with the theme of telling the story of a school, Principal Three said, "We're really using the school hashtag on Twitter to market ourselves and to share information and to get the good things that are going on in our district and our school out there. I've been more focused about using it to market our school this year because I don't think our school really had much of a social media presence before. I found that to be really valuable this year, finding that people are realizing that where we're sharing a lot of information. People are realizing how timely it is. People like to see things about their kids out there. They like to see the good stuff that's going on in their district. I feel like I've been very intentional about the message of what's going on in our school and we have something to celebrate," (P3).

Principal Five agreed Twitter can be a public relations tool for schools and districts. "It's a very powerful PR tool," (P5). "We have one (Twitter account) for our school. It's a great way for us to communicate to friends and families from our school and let them

know what we're doing, what's going on, the things we're proud of, the information we want to share," (P5).

Summary

The purpose of this qualitative study was to find what barriers, if any, pre-kindergarten through twelfth grade Missouri principals have regarding the use of Twitter for professional learning. The second purpose was to determine what they considered their best practice for using Twitter as a professional learning tool.

The researcher will present conclusions drawn from the data and statistical analysis of the data in Chapter Five. Recommendations will also be provided from the researcher for a future study of Twitter for professional learning and the educational implications for educators to use now to address perceived barriers and to implement best practice.

Chapter Five

Conclusion and Recommendations

Introduction

The purpose of this qualitative study was to find what barriers, if any, pre-kindergarten through twelfth grade Missouri principals have regarding the use of Twitter for professional learning and to determine what they consider their best practice for using Twitter as a professional learning tool.

Summary of Methods

The researcher sent an electronic survey (see Appendix A) via email to 2,200 current public school principals serving in prekindergarten through twelfth grade buildings in Missouri. Of the 2,200 possible respondents, 539 principals completed the survey for a return rate of 24.5 percent. From the pool of respondents, the researcher also completed six one-on-one interviews with principals, three used Twitter for professional learning and three did not use Twitter for professional learning. The six one-on-one interviews were conducted with three elementary principals and three high school principals after the electronic survey was administered. These interviews were completed using Skype, Google Hangout, and by telephone. The researcher contracted with an iPhone application, Rev, to record and transcribe the interviews.

The research instrument was piloted and validated prior to being sent and determined to be valid. The survey gathered basic demographics from participants, such as age, gender, level of education, years as a principal, grade-level in which they are a principal, and region of Missouri in which they lead. The survey also collected whether the respondent was a Twitter user and whether Twitter was used for professional learning. From the one-on-one interviews, answers were grouped in recurring themes. Perceived

barriers to using Twitter for professional learning and best practices for using Twitter for professional learning were other areas of focus throughout the interview process.

Determining perceived barriers to using Twitter for professional learning could provide principals and superintendents with ideas, steps, and avenues that might encourage leaders to access free professional learning using Twitter.

Conclusions

The use of Twitter for educational leader's professional learning is a resource many are unaware of at this time based on research from Pew. According to Pew, only 23 percent of all adults currently using social media are on Twitter (Duggan et al., 2015) and according to MMS Education (MMS Education et al., 2012), 52 percent of principals shared they had a Twitter account. Proponents for Twitter listed a number of educational benefits, such as enhanced communication, collaboration, and engagement (Lu, 2011).

However, the research indicates 65 percent of the respondents of this research currently used Twitter for professional learning purposes, contradicting the research discovered by Pew (Duggan et al., 2015) and MMS Education (MMS Education et al., 2012). According to research, the unprecedented growth, power, engagement, and popularity of Twitter lie in its endless networking opportunities, and needs to be explored as a venue for professional growth and learning (Gerstein, 2011).

The research indicates through data analysis of 539 respondents and six principals participating in the one-on-one interviews that the main barriers to using Twitter for professional learning were 1) time; 2) overwhelming to use and learn; and 3) limited characters (140 characters per tweet) to share.

Based on the results of the survey the researcher has the following conclusions for the three barriers found from this study.

1. Time was listed as the top overall barrier to using Twitter for professional learning. According to participants, time was the most frequent mentioned barrier to using Twitter as a professional learning tool. From the results of the electronic survey (Appendix A) time was listed as a barrier 53 times in the open ended question concerning barriers and five of the six principals interviewed (Appendix B) specified time to be a barrier to them and their use of Twitter for professional learning purposes. Respondents to the electronic survey also noted on question 11 (Appendix A) that time was their biggest concern. From 967 responses, 286 or almost 30 percent, selected time as their concern.

Just over a quarter, 25.5 percent, of the survey respondents indicated they do not currently use Twitter. Of those who said they do use Twitter 12.3 percent said it is only monthly and 27.4 percent use it weekly further indicating time is a barrier for over a third of the pre-kindergarten through twelfth grade administrators responding to this research.

The National Staff Development Council said adults need time to learn from and with each other in meaningful ways. When collaborative adult learning becomes a regular part of the day educators can share existing knowledge. This in turn creates a collaborative atmosphere and models lifelong learning for students (National Staff Development Council, 2008). Professional learning can be costly and very time consuming for educational leaders. Due to tightening budgets, increased accountability measures, and

the need to be more innovative in and out of the classroom, in addition to the many other demands placed on building leaders, the use of Twitter is a just-in-time learning opportunity based on research from *How People Learn* (NRC, 2000).

The researcher concluded time is an important factor for any new learning. It takes time to investigate the value of a new tool, implement the new learning in a meaningful way, and then reflect on the value of the learning from the tool. Once the tool is put in place it then takes time to use it. Time constraints in investigating, implementing, and reflecting on how to effectively use Twitter emerged as the second barrier in the findings.

2. The second barrier to emerge from the findings was Twitter is overwhelming to use and learn. Four of the six principals noted during their interviews (Appendix B) that Twitter was either confusing or overwhelming to them in their professional learning use and Survey respondents (Appendix A) listed this as a barrier a total of 49 times.

A study by Seaman and Tinti-Kane (2013) found several barriers to using Twitter for professional learning in the college classroom. Among those barriers the amount of time it would take to learn or use and the perceived lack of support at their respective institutions was listed several times by students and faculty. Over 20 years ago, Lave and Wenger (1991), and Wenger shared insight on communities of practice and expanded on Vygotsky's theory of social learning when a group has a common interest and doesn't happen in traditional manners.

Time and feeling overwhelmed are understandable barriers. Typically, dedicating time to learning new tools decreases the overwhelmed feeling when using and

implementing the new tool. The more time spent on learning the strategy, the easier it becomes.

3. The third barrier to emerge from the findings was the limited amount of characters, 140 per tweet, was considered a barrier. Three of the six principals listed Twitter's 140 character limit as a barrier for their professional learning, while survey respondents (Appendix A) listed it as a barrier 33 times.

Twitter's limit to 140 characters was regarded as a barrier and a positive. Those noting the character limit as a barrier appeared to lack knowledge of Twitter's use. Some respondents noted they could embed links to blog posts or articles in the tweets which allows more content to be shared than just the 140 characters in the actual tweet. When the researcher mentioned this to the three individual principals who noted this to be a barrier none were fully aware this could be done or knew how. Twitter's brevity, immediacy, and openness can empower educators and students to interact with a variety of people in new ways. Given Twitter's popularity, adaptability, and capacity to create unique opportunities for communication, it seems worthwhile to examine its role in education (Carpenter & Krutka, 2014).

The researcher noticed the connection between all three of these barriers based on the findings. Without taking, or making, the time to learn how to use Twitter the barriers can make Twitter overwhelming. Without important useful directions on Twitter, individuals would not realize the 140 character limit could be expanded by embedding links to articles or blog posts.

DuFour and Marzano (2011) described effective school leaders as people who effectively form and utilize learning communities for ongoing professional learning.

School leaders often lack adequate ongoing professional learning opportunities and may not understand how Twitter could be used to support their learning needs. Social network websites, such as Twitter, could allow educational leaders to engage in meaningful professional dialogue (Dunlap & Lowenthal, 2009).

The research indicates through data analysis of 539 respondents and six principals participating in the one-on-one interviews that the best practices for using Twitter for professional learning purposes were 1) acquiring and sharing of resources; 2) networking, collaboration, and chats; and 3) using Twitter as a public relations tool.

Based on the results of the survey the researcher has the following conclusions for the three best practices found from this study.

1. All six principals noted a best practice of using Twitter for professional learning was the ability to acquire and share resources. Acquiring and sharing resource was also mentioned 64 times in the electronic survey for open-ended question regarding best practices. On the multiple choice question of the electronic survey asking what professional purposes respondents used Twitter, 313, or nearly 28 percent, selected resource acquiring and sharing as their choice.

“The ability to collaborate—on both a small and large scale—is becoming one of the core requisites of postmodern society. . . . In short, without collaborative skills and relationships, it is not possible to learn and to continue to learn as much as you need in order to be an agent for social improvement” (Fullan, 1993, pp. 17–18).

2. Again, all six principals interviewed mentioned a best practice for using Twitter for professional learning was collaboration, networking, or chats. This best practice was mentioned by 60 respondents on an open ended question on the

electronic survey regarding best practices. On the question, “For what professional purposes do you use Twitter?” 462 responses, nearly 41 percent, were related to collaboration, networking, and chats.

Guskey (2003) found four key elements of effective professional learning: (a) enhancement of content and pedagogical knowledge; (b) sufficient time and resources; (c) collaboration that is structured and purposeful; and (d) the promotion of collegially and collaborative exchanges.

With the advent of the Internet and social media sites, such as Twitter, it is now easier than ever to connect, collaborate, and learn with educators in the same district, city, state, United States, or countries abroad. Depending on whom you follow and who follows you, Twitter connects people with like interests all over the world and creates a professional networking well beyond the immediate workplace. Twitter users can communicate in real-time and exchange information and ideas immediately (Dunlap & Lowenthal, 2009). Micro-blogging can offer educators grass-roots professional learning that boosts networking and fulfills a “bridging function” as educators use it “as a way of importing new ideas into their local communities of practice from distant peers” (Forte, Humphreys, & Park, 2012, p. 106).

3. Four of the six Principals stated a best practice for them was using Twitter as a public relations tool to tell the story of their schools and to connect with students and families. The electronic survey (Appendix A) had this listed a total of 48 times.

The researcher has noticed a recent push for schools, teachers and leaders, to share their stories via Twitter. Sharing via Twitter allows for one-way and two-way

communication with a communities stakeholders. Fullan (2008a) said school leaders cannot continue to be islands and Darling-Hammond et al. (2007) said learning should be self-directed and ongoing.

Most recently learning has started to shift to a virtual community with the help of social media such as Twitter. Siemens (2005) refers to this as Connectivism, and Downes (2006) noted knowledge and learning is not transferred, but is shared via a person's personal learning network via conversations.

Several principals reported they used Twitter to share updates, announcements, and news. Respondents also noted it is a way to allow families and community members to see inside the school and witness all the great things schools were doing. The same principal noted school has changed for students and educators and Twitter allowed educators an opportunity to share learning without being in person. Another principal observed schools must tell their story because others may not share an accurate story for the building or district.

Educational Implications

According to Lu (2011) and Sauers and Richardson (2015), Twitter has numerous educational implications. In order for more educators to benefit from the resources offered with Twitter, the barriers identified in this study must be addressed.

Time, limited characters to use per tweet, and the overwhelming nature of learning and using Twitter are legitimate concerns raised by non-users or those early in the process of using Twitter for professional learning purposes. Initially the researcher suggested administrators must make time to learn how Twitter works. Much like a foreign language student begins with the basics, new to Twitter learners should learn the

language of Twitter, how hashtags work, who to follow, and how to tweet as beginning steps. The researcher suggested this learning occur by devoting five to 10 minutes each day to scroll Twitter to read and retweet articles of interest and using this time to investigate what other educators are tweeting. This allows individuals to compile resources by building up the number of people followed.

Further, adults need time to learn from and with each other in meaningful ways. When collaborative adult learning becomes a regular part of the day educators can share existing knowledge. This in turn creates a collaborative atmosphere and models lifelong learning for students (National Staff Development Council, 2008). The researcher also recommends finding time to attend a professional learning session on Twitter, connecting with someone they know who uses Twitter for questions, and taking time to learn more about Twitter functionality. Ultimately, time is what we make of it and we make time for those things we find important to us. Most leaders understand this already about learning.

The researcher also suggests school districts, university educational leadership programs, and departments of education embed and provide specific training on the use of social media and Twitter as a tool for both professional learning and for public relations benefits. DuFour & Marzano (2011) suggested that professional learning is a vital component in the support of the school leader's self-efficacy and ability for schools to improve, which leads to improved student outcomes. The professional learning must also meet their individual needs by being self-directed, on-going, job-embedded, and social (Darling-Hammond et al., 2007). Guskey (2003) found four key elements of effective professional learning: (a) enhancement of content and pedagogical knowledge;

(b) sufficient time and resources; (c) collaboration that is structured and purposeful; and (d) the promotion of collegially and collaborative exchanges.

The changing landscape of media, students, and stakeholders is for access to instant information. Twitter provides access at any time and any place. By embedding this practice into coursework, conferences, trainings, and sharing these best practices, modeling its use and bringing in leaders who effectively use Twitter it could further benefit the profession and our schools and districts. By connecting leaders from across the state and nation to share best and next practice we could grow our networks to learn, grow, and connect through an electronic medium such as Twitter.

According to Boerema (2011), leaders need a network to help them ‘connect their voice’ and also provide support and guidance for one another. Junco and colleagues (2011) have argued that Twitter in particular may be the “social networking platform most amenable to ongoing, public dialogue” (p. 1). The National Education Technology Plan (2010) states educators using social networks can create life-long personal learning networks and connect to tools and resources to make their learning timely and relevant to help them continually improve their practice and build skills over time.

The researcher further suggests the building principal begin implementing the best practice found in this research. Twitter is an effective tool to eliminate the isolation for being a building leader by connecting with other educators across the globe. The practice of educators working in isolation is a long outdated practice. Induction programs and professional development in the 21st century School is no longer about improving as an individual, but should be a collaborative effort. Collectively, then shared through

networks, allows an idea and knowledge to enhance the group (Fulton, Yoon, & Lee, 2005, p. 4).

Hattie (2015) emphasized collaboration among educators to improve practice and he stated communities within the school can help educators identify areas for improvement, planning next steps and interventions, and in turn evaluate the interventions success. Collaboration for educational leaders provides a space to dialogue about day-to-day happenings, brainstorm ideas for common issues, and reaffirms what's going well in their schools (Intrator & Scribner, 2008).

Twitter also allows users to share and acquire resources on educational topics, and finally can be used as a tool to share the story of a school or district to further connect the public to the school. Twitter allows learning, acquiring and sharing of resources, and collaborating to occur any time and any place.

Twitter allows educational leaders to tweet pictures and learning happening in their classrooms, schools, and districts as it is happening. Sharing photos from assemblies, science labs, service learning, and the everyday workings of school allow the outside community to see inside at what our teachers and students are doing.

Participating in Twitter chats is another best practice identified in this research. Learning about and how to participate in a Twitter chat ties back to the barriers found in this study. However, by taking time to learn, as suggested previously, chats are considered a best practice for learning via Twitter. Chats allow educators from across the country to come together to discuss current educational topics. This creates a collaboration opportunity no conference or professional development can ever provide. Chats lead to resource sharing and acquiring and learning best and next practice from

experts in the field as well as those currently implementing best practices. Nussbaum-Beach & Hall (2012) noted the “connected educator,” supported by Professional Learning Networks (PLNs) grounded in social learning theories, is evidenced in communities of practice. Nussbaum-Beach & Hall (2012) further suggested 21st century technologies lead to relationships once unimaginable and also lead to the potential for collaboration and collective problem solving.

“The ability to collaborate—on both a small and large scale—is becoming one of the core requisites of postmodern society. . . . In short, without collaborative skills and relationships, it is not possible to learn and to continue to learn as much as you need in order to be an agent for social improvement” (Fullan, 1993, pp. 17–18).

The researcher believes the best way to learn how to use Twitter is to try it out. As with most social media, most individuals did not attend any trainings, professional development, or conferences to learn and instead learned by observing, asking questions, and eventually ‘jumping in’ to learn the ins and outs. The same is true for Twitter. Professional learning for educational leaders is a key to school success (Barth, 1986) as principals are considered the lead learners of their organizations. Educational leader’s professional learning has also been described as a “wasteland” and traditional professional learning is viewed as something done to you in a one size fits all approach (Barth, 1986) with no differentiation. Most professional learning for today’s educational leaders still resembles traditional methods with leaders attending conferences, workshops, and listening to educational consultants in one day or one time only seminars. Guskey (2007) explained most educators see professional learning as mandated events occurring a few days throughout the school year to keep up licensure and meet state

education board demands. Professional learning must be something educational leaders do for their individual and site needs in order to grow and lead schools and districts through high-stakes accountability. The professional learning also must meet their individual needs by being self-directed, on-going, job-embedded, and social (Darling-Hammond et al., 2007).

According to Lave and Wenger (1991), learning is social and can occur outside of the traditional formal learning setting and the workplace. Wenger (2015) defines a community of practice as a group of people who share a concern or a passion and improve as they interact regularly. Based on Wenger's definition of a community of practice, Twitter provides a platform for educational leaders to form a community of practice, commonly known in Twitter as a Professional Learning Network (PLN). PLN allows on demand learning to occur in a virtual environment. This community, or PLN, is defined by commonalities and passions Twitter users have despite geographic location, size of schools, or size of districts. Learning in the context of social media has become highly self-motivated, autonomous, and informal. All of which Twitter can provide educational leaders in today's educational landscape.

Recommendations

The researcher recommends this qualitative study could be replicated as is, as a mixed design, or strictly as a quantitative study using the same research questions. As noted throughout the study this topic has limited research at this time, but it is a growing field. Based on the percentage of Missouri principals indicating they use Twitter, this study could be replicated.

Taking this study and focusing on only one area, either the barriers or best practice, would be another option for replication. The researcher choose to address both topics in this study, but could have easily focused on just one.

Other recommendations would be to study the use of Twitter for professional learning, collaboration, and networking among Superintendents in the state of Missouri. This could be either a qualitative or quantitative study.

Further study of the barriers to using Twitter for professional learning would also be recommended. Previous studies the research indicates and the results of this study did not match.

A final suggestion would be to investigate the use of Twitter as a public relations tool for principals and/or superintendents. This was one of the themes to emerge from both the electronic survey and one-on-one interviews with the principals and was not found in any of the literature the researcher read for this study.

As shown in this qualitative study the use of Twitter is growing among educators when compared to research in overall adult use of the social medium and further study is recommended.

Summary

The purpose of this qualitative study was to find what barriers, if any, pre-kindergarten through twelfth grade Missouri principals have regarding the use of Twitter for professional learning and to determine what they considered their best practice for using Twitter as a professional learning tool.

In the results of the study, 539 pre-kindergarten through twelfth grade Missouri principals responded to an emailed questionnaire and six individual principals were

interviewed one-on-one. From the findings three barriers and three best practice emerged from the respondents themes. The three barriers were 1) time; 2) overwhelming to use and learn; and 3) limited characters (140 characters per tweet) to share. The best practice themes to emerge were 1) acquiring and sharing of resources; 2) networking, collaboration, and chats; and 3) using Twitter as a public relations tool.

While this study focused on pre-kindergarten through twelfth grade Missouri principals it could provide much needed insight to the needs and concerns of the lead learners for Missouri and the United States as a whole. The researcher believes it is worth further investigation at this level and the superintendent level as well.

References

- Alsbury, T. L., & Hackmann, D. G. (2006). Learning from experience: Initial findings of a mentoring/induction program for novice principals and superintendents. *Planning and Changing*, 37, 169-189.
- Archambault, L., Wetzel, K., Foulger, T., & Williams, M. (2010). Professional development 2.0: Transforming teacher education pedagogy with 21st century tools. *Journal of Digital Learning in Teacher Education*, 27(1), 4-11.
- Barkley, C. K. A. (2012). School leader use of social media for professional discourse (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database (Order No. 3523861).
- Barth, R. S. (1986). Principal centered professional development. *Theory Into Practice*, 25 156-160.
- Beglau, M., Craig Hare, J., Foltos, L., Gann, K., James, J., Jobe, H., Smith, B. (2011). Technology, coaching, and community: Power partners for improved professional development in primary and secondary education [White paper]. Retrieved from ISTE: <https://www.iste.org/>
- Boerema, A. J. (2011). Challenging and supporting new leader development. *Educational Management Administration & Leadership*, 39(5), 554-567.
- Boyer, K. (1999). A qualitative analysis of the impact of mentorships on new special educators' decision to remain in the field of special education. Unpublished doctoral dissertation, George Mason University, Fairfax, VA.
- Brown, E. (2012, January 22). Teachers take to Twitter to improve craft and commiserate. *Washington Post*. Retrieved from

http://articles.washingtonpost.com/2012-01-21/local/35439858_1_twitter-chat-three-teachers-lesson-plans

Brown, Kathleen M., Vincent A. Anfara, Kimberly J. Hartman, Robert J. Mahar, and

Rebecca Mills (2002). "Professional Development of Middle Level Principals:

Pushing the Reform Forward." *Leadership and Policy in Schools* 1 (2): 107–43.

Caldwell, S. D. (1986). Effective practices for principals' inservice. *Theory Into Practice*,

25(3), 174-178.

Caldwell, Janethia Michelle, "Going where students are: comparing faculty and student

uses and perceptions of social networking in higher education" (2015). *Masters Theses*

and Doctoral Dissertations. <http://scholar.utc.edu/theses/158>

Carpenter, J. P., & Krutka, D. G. (2014). How and why educators use Twitter: A survey

of the field. *Journal of research on technology in education*, 46(4), 414-434.

Cone, M. (2010). Developing principal instructional leadership through collaborative

Networking (Doctoral dissertation). UCLA, 2010.

Cone, M. & Neale, E. (2013). Strong principal networks influence school culture. *The*

Learning Principal. Spring 2013 Vol. 8, No. 3

Cook, S. (2014). Connected leadership: It's just a click away. *Corwin Connected*

Educator Series. Thousand Oaks, CA: Corwin.

Costa, A. L., & Garmston, B. (2016). *Cognitive Coaching developing self-directed*

leaders and learners. Lanham, MD. Rowman & Littlefield.

Crane, T. G. (2007). *The Heart of Coaching: Using transformational coaching to create a*

high-performance coaching culture. San Diego, CA. FTA Press.

Creswell, J.W. (2007). *Qualitative inquiry and research design*. Thousand Oaks, CA:

Sage.

Dabbagh, N. & Kitsantas, A. (2011). Personal Learning Environments, social media, and self-regulated learning: A natural formula for connecting formal and informal learning. *Internet and Higher Education*.

Danielson, C. (1999). Mentoring beginning teachers: The case for mentoring. *Teaching and Change*, 6(3), 251–257.

Darling-Hammond, L., LaPointe, M., Meyerson, D., Orr, M. T., & Cohen, C. (2007). Preparing school leaders for a changing world: lessons from exemplary leadership development programs. Stanford, CA: Stanford University, Stanford Educational Leadership Institute.

Darling-Hammond, L., Wei, R. C., Andree, A., Richardson, N., and Orphanos, S. (2009). Professional Learning in the Learning Profession: A Status Report on Teacher Development in the United States and Abroad. Dallas, TX.: National Staff Development Council.

Downes, S. (2006). Learning networks and connective knowledge. *Instructional Technology Forum*, 28. Retrieved from <http://it.coe.uga.edu/itforum/paper92/paper92.html>.

Drexler, W. (2010). The networked student model for construction of personal learning environments: Balancing teacher control and student autonomy. *Australian Journal of Educational Technology*, 26(3), 369-385.

DuFour, R. P., & Marzano, R. J. (2011). Leaders of learning: How district, school, and classroom leaders improve student achievement. Bloomington, IN: Solution Tree Press.

- Duggan, M., Ellison, Nicole B., Lampe, Cliff, Lenhart, Amanda, Madden, Mary. (2015, January 9). Demographics of Key Social Networking Platforms. Retrieved March 10, 2015 from Pew Research: <http://www.pewinternet.org/2015/01/09/demographics-of-key-social-networking-platforms-2/>
- Dunlap, J. C., & Lowenthal, P. R. (2009). Tweeting the night away: using twitter to Enhance social presence. *Journal of Information Systems Education*, 20(2).
- Dyer, M. A. (2010). First year campus administrators' perception of the Texas state mandated mentoring program (Doctoral dissertation). Available from ProQuest UMI Dissertations Publishing. (UMI No. 3421564)
- Elias, S. (2012). Implications of online social network sites on the personal and Professional learning of educational leaders (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (Order No. 3523641).
- Evertson, C., & Smithey, M. (2000). Mentoring effects on protégés' classroom practice: An experimental field study. *Journal of Educational Research*, 93(5), 294–304.
- Farkas, S., Johnson, J., Duffett, A., & Foleno, T. (2001). Trying to stay ahead of the game superintendents and principals talk about school leadership: A report from Public Agenda. New York, NY: Public Agenda.
- Flores, M. (2005). How do teachers learn in the workplace? Findings from an empirical study carried out in Portugal. *Journal of In-service Education*, 31(3), 485-508.
- Forte, A., Humphreys, M., & Park, T. (2012). Grassroots professional development: How teachers use Twitter. Proceedings of the 6th International AAAI Conference on Weblogs and Social Media, Dublin, Ireland (pp. 106–113). Retrieved from <http://www.aaai.org/ocs/index.php/ICWSM/ICWSM12/paper/view/4585/4973>

- Fucoloro, D. J. (2012). Educators' perceptions and reported behaviors associated with participation in informal, online professional development networks. (Order No. 3553069, Saint Louis University). ProQuest Dissertations and Theses, 244. Retrieved from <http://search.proquest.com/docview/1314417648?accountid=14196>. (1314417648).
- Fullan, M. (1993). *Change forces: Probing the depths of educational reform*. London: Falmer Press.
- Fullan, M. (2008a). *The six secrets of change*. San Francisco: Jossey-Bass.
- Fullan, M., Rincon-Gallardo, S., & Hargreaves, A. (2015). Professional capital as accountability. *Education Policy Analysis Archives*, 23(14-17), 1-18.
Doi:10.14507/epaa.v23.1998
- Fulton, K., Yoon, I., & Lee, C. (2005). *Induction into learning communities*. Retrieved from http://nctaf.org/wp-content/uploads/NCTAF_Induction_Paper_2005.pdf
- Gay, L.R., Mills, G.E., Airasian, P. (2009). *Educational research: Competencies for analysis and applications*. Upper Saddle River, New Jersey: Pearson Education, Inc.
- Gee, J. P. (2004). *Situated language and learning: A critique of traditional schooling*. New York, NY: Routledge.
- Gerstein, J. (2011). The use of Twitter for professional growth and development. *International Journal of E-Learning*, 10(3), 273-276.
- Gold, Y. (1999). Beginning teacher support. In J. Sikula, T. Buttery, & E. Guyton (Eds.), *Handbook of research in teacher education* (2nd ed.) (pp. 548–594). New York: Macmillan.
- Goldring, R., and Taie, S. (2014). *Principal Attrition and Mobility: Results From the*

- 2012–13 Principal Follow-up Survey (NCES 2014-064rev). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved July 7, 2016 from <http://nces.ed.gov/pubs2014/2014064rev.pdf>.
- Grissom, J. A., & Harrington, J. R. (2010). Investing in administrator efficacy: an examination of professional development as a tool for enhancing principal effectiveness. *American Journal of Education*, 116(4), 583-612.
- Guskey, T.R. (1995). Professional development in education: In search of the optimal mix. In T. Guskey and M. Huberman (Eds.), *Professional Development in Education: New Paradigms and Practices* (pp. 114-131) New York: Teachers College Press.
- Guskey, T. R. (2000). *Evaluating professional development*. Corwin Press.
- Guskey, T. R. (2002). Professional development and teacher change. *Teachers and teaching: Theory and practice*, 16(8), 380-391
- Guskey, T. R. (2003). What makes professional development effective? *Phi Delta Kappan*, 48(10). 748-750.
- Guskey, T.R. (2007). *Evaluating professional development*. Thousand Oaks, CA: Corwin Press.
- Gustafson, B. R. (2014). A phenomenological study of professional development in the digital age: Elementary principals' lived experiences (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (Order No. 3648959).
- Hallinger, P., & Heck, R. (1998). Exploring the principal's contribution to school effectiveness: 1980-1995. *School Effectiveness and School Improvement*, 9(2), 157-191.
- Hargreaves, A. & Fullan, M. (2000). *Mentoring in the new millennium. Theory into*

Practice, 39, (1), 50-56

Hargreaves, A., & Shirley, D. (2009). *The fourth way: The Inspiring Future for Educational Change*. Thousands Oak, CA: Corwin Press.

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to student achievement*. New York: Routledge.

Hattie, J. (2015, June). *What works best in education: The politics of collaborative expertise*. Accessed at

https://www.pearson.com/content/dam/corporate/global/pearson-dot-com/files/hattie/150526_ExpertiseWEB_V1.pdf on January 31, 2016.

Ingersoll, R. (2003). *Is there really a teacher shortage?* Consortium for Policy Research in Education, University of Pennsylvania. Available online at

<http://depts.washington.edu/ctpmail/PDFs/Shortage-RI-09-2003.pdf>

Interstate School Leaders Licensure Consortium (ISLLC) *Standards for School Leaders* (2008). Retrieved (March 13, 2015) from http://www.ccsso.org/Documents/2008/Educational_Leadership_Policy_Standards_2008.pdf

International Society for Technology in Education (ISTE) *Standards – Administrators*. Retrieved (March 13, 2015) from

http://www.iste.org/docs/pdfs/2014_ISTE_Standards-A_PDF.pdf

Intrator, S. & Scribner, M. (2008). *NSLN network evaluation report: Executive summary*. Department of Education and Child Study. Northampton, MA: Smith College.

Java A., Song X., Finin T. and Tseng B. (2007), *Why we twitter: understanding microblogging usage and communities*. In *Proceedings of the 9th WebKDD and 1st SNA- KDD 2007 workshop on Web mining and social network analysis*, ACM, pp.

56-65.

- Jenkins, H., Purushotma, R., Weigel, M., Clinton, K., & Robison, A.J. (2009). *Confronting the challenges of participatory culture: Media education for the 21st century*. Cambridge, MA: MIT Press.
- Johnson, L., Adams Becker, S., Estrada, V., Freeman, A. (2014). *NMC Horizon Report: 2014 Higher Education Edition*. Austin, Texas: The New Media Consortium.
- Johnston, W., Kaufman, J., and Thompson, L. (2016). *Support for Instructional Leadership: Supervision, Mentoring, and Professional Development for U.S. School Leaders: Findings from the American School Leader Panel*. Santa Monica, CA: RAND Corporation. http://www.rand.org/pubs/research_reports/RR1580.html.
- Joyce, B., and Showers, B. (1995). *Student Achievement through Staff Development: Fundamentals of School Renewal*. 2nd ed. White Plains, NY: Longman.
- Joyce, B., and Showers, B. (2002). *Student achievement through staff development*. Alexandria, VA: ASCD.
- Junco, R., Heiberger, G., & Loken, E. (2011). The effect of Twitter on college student engagement and grades. *Journal of Computer Assisted Learning*, 27(2), 119–132.
- Kanuka, H. (2005). Does mentoring new faculty make a difference? Retrieved February 7, 2016, from <https://www.lehigh.edu/~inprv/pdfs/DoesMentoringNewFacultyMakeaDifference.pdf>
- Kear, K. (2011). *Online and social networking communities: A best practice guide for educators*. New York, NY: Routledge.
- Keaton, P. (2013). *Selected Statistics From the Common Core of Data: School Year 2011–12 (NCES 2013-441)*. U.S. Department of Education. Washington, DC:

- National Center for Education Statistics.
- Killion, J. (2012). Meet the promise of content standards: Professional learning required. Oxford, OH: Learning Forward.
- Knight, J. (2007). Instructional coaching: A partnership approach to improving instruction. Thousand Oaks, CA: Corwin Press.
- Kyle, D., Moore, G., & Sanders, J. (1999). The role of the mentor teacher: Insights, challenges, and implications. *Peabody Journal of Education*, 74(3–4), 109–122.
- Lalonde, C. (2011). The twitter experience: The role of twitter in the formation and maintenance of personal learning networks. (MR75998, Royal Roads University (Canada). ProQuest Dissertations and Theses, 139. Retrieved from <http://search.proquest.com/docview/902962782?accountid=14196>. (902962782).
- Lambert, M., Wallach, C. & Ramsey, B. (2007). The other three Rs: Small schools project examines instructional change through relationships, relevance, and rigor. *Journal of Staff Development*, 28(4), 36-38.
- Lave, J. & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. New York, NY: Cambridge University Press.
- Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2004). Executive summary: How leadership influences student learning. New York: Wallace Foundation.
- Levine, A. (2005). *Educating school leaders*. Washington, DC: The Education Schools Project.
- Lieberman, A., & Grolnick, M. (2005). Educational reform networks: Changes in the forms of reform. In M. Fullan (Ed.), *Fundamental change* (pp. 40-59). Netherlands: Springer.

- Lieberman, A. & Pointer Mace, D. (2008). Teacher learning: the key to education reform. *Journal of Teacher Education*, 59(3), 226-234.
- Lu, A. (2011, July 13). Twitter seen evolving into professional development tool. *Education Week*, 30(36), 20.
- Mackey, J., & Evans, T. (2011). Interconnecting networks of practice for professional learning. *The International Review of Research in Open and Distance Learning*, Special Issue—Connectivism: Design and Delivery of Social Networked Learning, 12(3), 1–18.
- Marzano, R., Waters, T., & McNulty, B. (2005). *School leadership that works: From research to results*. Alexandria, Virginia: Association for Supervision and Curriculum Development.
- Maxwell, J.A. (1992). Understanding and Validity in Qualitative Research. *Harvard Educational Review*, 62(3), pp. 279-300.
- McNulty, B. (2011). Leaders developing learning systems. In E. Allison, et al. (Eds.), *Activate: A leader's guide to people, practices, processes* (pp. 171-199). Englewood, Colorado: Lead and Learn Press.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass.
- Missouri Department of Elementary and Secondary Education (2015). *Ensure Equitable Access to Excellent Educators*. Retrieved from <https://dese.mo.gov/sites/default/files/Educator-Equity-Plan-Missouri.pdf>
- Missouri professional learning guidelines for student success [Professional Development Manual]. (2013). Jefferson City, MO: Missouri Department of Elementary and

Secondary Education.

Mizell, H. (2010). *Why Professional Development Matters*. Oxford, Ohio: Learning Forward.

MMS Education, edWeb.net, & MCH Strategic Data. (2012). 2012 survey of K-12 educators on social networking, online communities, and web 2.0 tools. Retrieved from <http://www.edweb.net/fimages/op/reports/Educators-and-Social-Media-2012-web.pdf>

National Association of State Boards of Education. (1998). *The numbers game*. Alexandria, VA: Author.

National Policy Board for Educational Administration (2015). *Professional Standards for Educational Leaders 2015*. Reston, VA: Author.

National Research Council (2000). *How People Learn: Brain, Mind, Experience and School*, Bransford, J.D., Brown, A.L., and Cocking, R.R., eds. Washington, D.C.: National Academy Press.

National Staff Development Council (2008). *Powerful designs for professional learning*. Oxford, OH: National Staff Development Council.

National Staff Development Council (2009). *Ensure great teaching for every student*. NSDC Policy Points: Information for policy makers about professional development that improves student results, 1(2), 1-4.

Nettles, S. M, & Herrington, C. (2007). Revisiting the importance of the direct effects of school leadership on student achievement: The implication for school improvement policy. *Peabody Journal of Education*, 82, 724-736.

Nussbaum-Beach, S., & Hall, L. R. (2012). *The connected educator: Learning and*

- leading in a digital age. Bloomington, IN: Solution Tree Press.
- Quick, H., Holtzman, D. & Chaney, K. (2009). Professional development and instructional practice: Conceptions and evidence of effectiveness. *Journal of Education for Students Placed at Risk (JESPAR)*, 14(1), 45-71.
- Reeves, D. (2009). *Leading change in your school: How to conquer myths, build commitment, and get results*. Alexandria, Virginia: Association for Supervision and Curriculum Development.
- Reinhardt, W., Ebner, W., Benham, G., & Costa, C. (2009). How people are using twitter during conferences. *Creativity and Innovation Competencies on the Web*. In (Ed.), *Proceedings of Fifth Edumedia Conference*. Edumedia (pp. 145-156). Slazburg, Austria.
- Required professional development hours. (2015). Retrieved from <http://dese.mo.gov/educator-/certification/required-professional-development-hours>
- Robbins, P. (1999). Mentoring. *Journal of Staff Development*, 20(3), 40-42.
- Rutherford, C. (2010). Facebook as a Source of Informal Teacher Professional Development. *In Education*, 16(1). Retrieved from <http://ineducation.ca/ineducation/article/view/76>
- Sauers N.J., Richardson J.W. (2015). Leading by Following: An Analysis of How K-12 School Leaders Use Twitter. *NASSP Bulletin*, 99(2), pp. 127-146.
- Seaman, J., & Tinti-Kane, H. (2013). *Social media for teaching and learning*. Babson Survey and Research Group & Pearson Learning Solutions and Higher Education. Retrieved October 18, 2015 from <http://www.pearsonlearningsolutions.com/assets/downloads/reports/social->

media-for-teaching-and-learning-2013-report.pdf#view=FitH,0

- Senge, P. (1990). *The fifth discipline: The art and practice of the learning organization*. New York, NY: Currency Doubleday.
- Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., Dutton, J., & Kleiner, A. (2000). Orientation. In P. Senge, N. Cambron-McCabe, T. Lucas, B. Smith, J. Dutton, and A. Kleiner (Eds.) *Schools that Learn* (pp. 3-58). New York: Doubleday.
- Senge, P. M. (2001). The learning organization. In W. E. Natenmeyer & J. T. McMahon (Eds.), *Classics of organizational behavior* (3rd ed.; pp. 468-472). Prospect Heights, IL: Waveland Press.
- Senge, P. (2006). *The fifth discipline: The art and practice of the learning organization*. New York, NY: Currency Doubleday.
- Serpell, Z. & Bozeman, L. (1999). *Beginning teacher induction: A report on beginning teacher effectiveness and retention*. Washington, DC: National Partnership for Excellence and Accountability in Teaching.
- Siemens, G. (2005). Connectivism: a learning theory for the digital age. *International Journal of Instructional Technology & Distance Learning*, 2(1), n.p. Retrieved Dec. 1, 2013 from http://www.itdl.org/journal/jan_05/article01.htm
- Simon, M. (2011). Excerpt from *Dissertation and scholarly research: Recipes for success*. Seattle, Washington: Dissertation Success, LLC.
- Sledge, C. (2013). *Looked after or left behind: The effectiveness of principal preparation programs as perceived by generation y principals*. (3566032 Ed.D.), Loyola University: Chicago, IL. Retrieved from ProQuest Dissertations & Theses Full Text database.

- Sorenson, R. (2005). Helping new principals succeed. *American School Board Journal*, 192(4), 61-63.
- Stevens, K. (2014, April 30). Twitter Exec Reports that Educators Dominate the Twittersphere [Blog post]. Retrieved from <https://www.edsurge.com/n/2014-04-30-twitter-exec-reports-thateducators-dominate-the-twitter-sphere>
- Strong, M., Fletcher, S., & Villar, A. (2004). An investigation of the effects of teacher experience and teacher preparedness on the performance of Latino students in California. Santa Cruz, CA: New Teacher Center.
- Tate, M. L. (2009). Workshops: Extend learning beyond your presentation with these brain friendly strategies. *Journal of Staff Development*, 30(1), 44-46.
- Toll, C.A. (2005). *The literacy coach's survival guide: Essential questions and practical answers*. Newark, DE: International Reading Association.
- Tusting, K. & Barton, D. (2003, December). Models of adult learning: A literature review. Retrieved from Lancaster University, National Research and Development Centre for Adult Literacy and Numeracy: <http://www.nrdc.org.uk/>
- Twitter.com. Retrieved on June 5, 2016 <https://about.twitter.com/company>
- U. S. Department of Education Office of Educational Technology (2010). *National Education Technology Plan. Transforming American Education Learning Powered by Technology*.
- Utsumi, L. (2008). *AALA survey: Administrative professional development AALA*.
- Vygotsky, L.S. (1962). *Thought and Language*. Cambridge, MA: MIT Press. (Original work published in 1934).
- Waters, T., Marzano, R. J., & McNulty, B. (2003). *Balanced leadership: What 30 years of*

research tells us about the effect of leadership on student achievement. Aurora, CO: Mid-continent Research for Education and Learning (McREL). Retrieved November 15, 2014, from [http://www.ctc.ca.gov/educator-prep/ASC/5031RR_Balanced Leadership.pdf](http://www.ctc.ca.gov/educator-prep/ASC/5031RR_Balanced_Leadership.pdf)

Wenger, E. (2015). Communities of practice: A brief introduction. Retrieved March 6, 2016 from [http://wenger-trayner.com/wp-content/uploads/2015/04/07-Brief introduction-to-communities-of-practice.pdf](http://wenger-trayner.com/wp-content/uploads/2015/04/07-Brief-introduction-to-communities-of-practice.pdf)

Wesely, P. M. (2013). Investigating the community of practice of world language educators on Twitter. *Journal of Teacher Education*, 64(4), 305–318.

Whitby, T. & Anderson, S. (2014) *The relevant educator: How connectedness empowers learning*. Corwin Connected Educator Series. Thousand Oaks, CA: Corwin.

Appendix A

Demographic Information

1. Gender: Male _____ Female _____
2. Age: 18 to 34 _____ 35 to 54 _____ 55+ _____
3. Level of completed education: Master's _____ Master's +30 _____
Specialist _____ Doctorate _____
4. Current role in education: Assistant principal _____ Principal _____
Assistant Superintendent _____ Superintendent _____ Other (please list) _____
5. Current school setting: Elementary _____ Middle School/Junior High _____
High School _____
6. Total years in education: 1-5 _____ 6-10 _____ 11-15 _____ 16-20 _____ 20-
25 _____ 26-30 _____ 31+ _____
7. Total years as an administrator: 1-5 _____ 6-10 _____ 11-15 _____ 16-20 _____
20-25 _____ 26-30 _____ 31+ _____
8. Geographic location in Missouri: Central _____ Greater Kansas City _____
Northeast _____ Northwest _____ St. Louis _____ South Central _____
Southeast _____ Southwest _____

The questions below are from Carpenter & Krutka (2014) Permission to use this survey has been received from the authors via a direct message on Twitter on September 27, 2015.

Twitter Usage Information

1. Do you have a Twitter account: Yes _____ No _____
2. How long have you been using Twitter for professional learning:
_____ I don't have a Twitter account
_____ I have a Twitter account, but don't currently use it professionally
_____ Six months or less
_____ Seven months to one year
_____ 1 - 2 years
_____ 2 - 3 years
_____ 3 - 5 years
_____ 5 or more years
3. Typically, how frequently do you use Twitter: (Choose one)
_____ I don't use Twitter
_____ Multiple times per day
_____ Daily
_____ Weekly
_____ Monthly

4. For what professional purposes do you use Twitter? *Check all reasons that apply.

I don't use Twitter
 Resource sharing/acquiring
 Collaboration with other educators
 Networking
 Emotional support
 Communication with students
 Communication with parents
 Communication with teachers
 Participate in Twitter Chats
 Back channeling
 Other (Please list):

5. Aside from Twitter, what other social media services do you use? * Check all that apply.

I don't use any other social media
 Facebook
 Pinterest
 LinkedIn
 Google+
 Other (Please list):

Why and how you use Twitter?

6. Please explain what aspects of Twitter you find most valuable for professional learning and why?
7. What barriers have kept you from creating a Twitter account?
8. What aspects of Twitter do you find to be barriers to professional learning?
9. Please list all the hashtags (e.g. #edchat) you regularly use, or search, to connect with other educators.
10. Please list all the hashtags (e.g. #edchat) for any moderated weekly/monthly chats in which you regularly participate.
11. What concerns do you have regarding using Twitter. Check all reasons that apply.
- My personal privacy
 Busy/not enough time
 Already get to many emails and online communications
 My school/district does not allow me to access Twitter
 I am concerned about mixing personal and professional information and

relationships
____ I am concerned my membership in a social network might lead to an incident that might jeopardize my job
____ I don't receive any job or career credit for participating in online communities
____ I don't know how to use Twitter
____ Other – please list:

12. Please list what you consider to be your best practices for using Twitter as a professional learning tool.
13. Please include your First and Last name and email address if you are willing to participate in an individual or group follow-up interview regarding educators' use or non-use of Twitter for professional learning.
14. Please list the name(s) of other Missouri prekindergarten – twelfth grade principals you believe are highly effective leaders and I should contact for potential follow-up interviews regarding the use or non-use of Twitter for professional learning.

Appendix B

1. Please explain what aspects of Twitter you find most valuable for professional learning and why?
2. What barriers have kept you from creating a Twitter account?
3. What aspects of Twitter do you find to be barriers to professional learning?
4. Please list all the hashtags (e.g. #edchat) you regularly use, or search, to connect with other educators.
5. Please list all the hashtags (e.g. #edchat) for any moderated weekly/monthly chats in which you regularly participate.
6. What concerns do you have regarding using Twitter. Check all reasons that apply.
 - My personal privacy
 - Busy/not enough time
 - Already get to many emails and online communications
 - My school/district does not allow me to access Twitter
 - I am concerned about mixing personal and professional information and relationships
 - I am concerned my membership in a social network might lead to an incident that might jeopardize my job
 - I don't receive any job or career credit for participating in online communities
 - I don't know how to use Twitter
 - Other – please list:
7. Please list what you consider to be your best practices for using Twitter as a professional learning tool: _____

Appendix C

Request for Participation

October 1, 2016
Participant Name

Dear Participant,

I am a doctoral student at Southwest Baptist University, and I am working on my doctoral dissertation. It will be a qualitative study focusing on Missouri pre-k – twelfth grade principals' perceptions of barriers and best practices of Twitter use for professional learning, and I would like to ask you to participate. You have been purposefully selected as a potential participant in this study, because you meet the following specific criteria established by the researcher: 1) your willingness to participate, and 2) you were identified by state leaders, superintendents, assistant superintendents, executive directors, principal association directors and leaders, as well as area supervisors with DESE as a highly effective principal in the state of Missouri.

The study will help identify both barriers and best practices of Twitter use or non-use for professional learning.

Your involvement will require setting aside time for an interview in which you are asked to elaborate on barriers or best practices to Twitter use for professional learning. You will be provided a transcript of our interview and will have the opportunity to change any statements that you feel are not clear or are inaccurate. There may also be follow up contacts by me in the event that I need to clarify any information that I have obtained as a result of our interview.

If you can participate, we will set up an interview at a time and place that is convenient for you, and I will provide interview questions in advance. Please contact me at one of the phone numbers or the e-mail below to let me know if you can participate.

Thank you for your consideration.

Bill Powers
Cherokee Middle School Principal
Doctoral Student, Southwest Baptist University
417 523-xxxx (work)
417 988-xxxx (cell)
wtpowers@spsmail.org

Appendix D

Informed Consent Form

Dear Colleague,

My name is Bill Powers and I am the Principal at Cherokee Middle School in Springfield, MO. I am a doctoral student at Southwest Baptist University and I am conducting a research study to gather information about Missouri pre-k – twelfth grade principals' perceptions of barriers and best practices of Twitter use for professional learning.

I realize that you are very busy; the interview should take about 15 minutes of your time to complete. During the interview, I will ask you for demographic information and your experience with how your use or non-use of Twitter for professional learning. I will follow the included researcher developed Interview Guide which contains seven questions pertaining to barriers to the use of Twitter for professional learning and best practices of using Twitter for professional learning.

Your privacy is important; information reported will not indicate individual participants or school districts. Each participant will be given a fictitious name and no identifying characteristics will be acknowledged. There is no penalty should you choose not to participate or answer all of the questions. Your response to this letter will indicate your consent to participate and permission to use the information that you have provided in my study.

Before you make a final decision about participation, please read the following statements about how your responses will be used and how your rights as a participant will be protected:

Participation in the study is completely voluntary. You may stop participating at any point without penalty.

- You need not answer all of the questions.
- Your answers will be kept confidential. Results will be presented to others in summary form only, without names or other identifying information.
- Your participation will take approximately 15 minutes. During this time you will answer questions about how you carry out effective, research-based leadership practices.

This project has been reviewed and approved by the RRB Committee at Southwest Baptist University (326-1659). The committee believes that the research procedures adequately safeguard the subject's privacy, welfare, civil liberties and rights.

You may contact me at 417-988-xxxx if you have questions or concerns about your participation. If you would like a copy of the results of this study, you may contact me via email at wtpowers@spsmail.org. Thank you for your time and consideration.

Sincerely,

Bill Powers
Cherokee Middle School