The Merge of Social Network Sites and Professional Development: A Case Study of Twitter Usage Among Minnesota K-12 Principals

Nathan D. Rudolph
St. Cloud State University

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The Merge of Social Network Sites and Professional Development: A Case Study of Twitter Usage Among Minnesota K-12 Principals

by

Nathan Rudolph

A Dissertation
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Dissertation Committee:
Dr. John Eller, Chairperson
Dr. Roger Worner
Dr. Nicholas Miller
Dr. Daniel Bittman
Abstract

Over past decades, the position of principal, like that of technology, has evolved and changed drastically. Today, the changing face of Internet technologies is merging with the changing face of educational professional development (United States Department of Education, 2010; Veletsianos, 2012). Due to rapid growth and change within the technology industry, there is limited research about the relationship of technology and professional development.

Although some research can be found regarding the manner in which scholars, academics, educators, and students are using [Social Network Sites] in education, there is little research that pertains specifically to usage of this tool by school principals. Further research is needed to examine principals’ use of SNS to: 1) sustain a level of expertise within their role; 2) access content that is directly related to practice; 3) provide collaboration and sharing of knowledge with other practitioners; and 4) construct personalized learning.

In order to gain a better understanding of how SNS are being used, specifically by active principals, for personalized professional development purposes, a qualitative case study methodology was implemented. Employing one-on-one interviews, data was coded and analyzed to provide specific perspectives on the manner in which five selected principals were using Twitter in dispensing their duties.

The [following] research questions were intended to provide an expanded understanding of the manner in which principals are using Twitter for effective, personal and professional development.

1. How are selected principals using Twitter to access content that directly relates to practice and constructs personalized learning?
2. How are selected principals using SNS to collaborate with other practitioners and sustain a level of role expertise?
3. What are selected principals’ perceptions of the effectiveness of using SNS for personal, professional development purposes?

Research questions were framed according to Rutherford’s (2010) review of literature, which concluded that effective professional development is practical (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Hirsh, 2004; Nord, 2004; Wei et al., 2009), participant-driven or constructivist in nature (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Wayne et al., 2008), and collaborative (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Hirsh, 2004; Nord, 2004; Warren-Little, 2006) and helps professionals sustain a level of expertise (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Wayne et al., 2008; Wei et al., 2009). Overall, principals provided ratings of “very valuable” or “extremely valuable” to ninety percent (18) of [Rutherford’s] four key elements that characterize effective professional development.

In summary, the data collected through this qualitative case study furnished high correlations between the use of Twitter for professional purposes and the key characteristics of effective professional development, as defined by Rutherford (2010). Therefore, although this study is not generalizable, the findings support the notion that principals can use SNS for effective personal, professional development purposes.
Acknowledgment

I’d like to begin by thanking God. His continued grace, guidance, and love sustain me. Thank you for “co-authoring” my dissertation, my educational journey, my professional journey, and my life.

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To my entire committee, I’m grateful to be surrounded by such amazing, caring, intelligent, and supportive mentors. You have challenged me, guided me, and supported me along the way. I would not have made it without you.

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Finally, I would like to express my gratitude for the love, support, and sacrifices made by my wife and children in order to make this journey complete. Whether it’s in my role as an administrator, coach, or doctoral student, you are often the ones that bare the burden of my professional pursuits. I am so thankful for our family and our faith and I love each of you dearly.
Dedication

Dedicated with love and gratitude to my best friend and amazing wife, Gina, and to my beautiful and inspiring children, Mason, Isabella, and Tylee. You are my everything!
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Chapter I: INTRODUCTION

Introduction

Over the past 30 years, the advancement of Internet technology (Wells & Lewis, 2006; Greenhow, Robelia & Hughes, 2009; Hilbert & Lopez, 2011) has been paralleled by educational professional development reform (Barab, MaKinster, Moore & Cunningham, 2001; Elmore, 2002; Hirsch, 2004; Hagel, Brown & Davidson, 2010). Today, the changing face of Internet technologies is merging with the changing face of educational professional development (United States Department of Education, 2010; Veletsianos, 2012). Due to rapid growth and change within the technology industry, there is limited research about the relationship of technology and professional development. The literature review revealed that a large majority of the research that is available focuses on how the merging of these movements (technology/professional development) impacts scholars, academics, educators, and students: exposing noticeable limitations in the research as it pertains to the specific job of the principal.

Over past decades, the position of principal, like that of technology, has also evolved and changed drastically. According to Dr. Duane Moore (1999), Professor of Curriculum, Instruction & Leadership at Oakland University, who conducted a study focused on administrative attrition, the position of principal in U.S. schools is one of ever-growing demands. “At times, the demands may seem overwhelming, the solutions difficult or impossible, and the methods that produce success in one situation may result in additional problems or perhaps even disaster in yet other situations” (p. 1). This was the perspective fifteen years ago. Since this time, many additional demands have been added to the principal's role. The onset of federal laws and changes in such laws include, but are not
limited to: Goals 2000 (1990s standards-based education reform and outcome-based education), No Child Left Behind (2001 standards-based education reform based on standardized assessments and local accountability), Race to the Top (2009 incentive-based educational reform movement that includes introduction of common core standards), Individuals with Disabilities Education Act (IDEA) reauthorization (2004), changes to Health Insurance Portability and Accountability Act (HIPAA 2013), changes in Title IX law, also known as the Patsy Takemoto Mink Equal Opportunity in Education Act (2002). Numerous and varied state educational laws have also resulted as a result of changes in federal statutes. At the local level, school districts are constantly changing, reforming, developing, and evaluating their practices, procedures, and policies to reflect the aforementioned mandates (Foster & Wiseman, 2014).

This case study was designed to explore how the merging of an evolving Internet technologies movement (such as social network sites) and an evolving professional development practices movement are being utilized by selected principals to help meet the evolving demands of the profession. In exploring how principals are using Social Network Sites (SNS), data was gathered qualitatively through interviews, and sub-frequently coded, analyzed, and interpreted to report findings.

**Statement of the Problem**

Although some research can be found regarding the manner in which scholars, academics, educators, and students are using SNS in education, there is little research that pertains specifically to usage of this tool by school principals. Further research is needed to examine principals’ use of SNS to: 1) sustain a level of expertise within their role; 2) access
content that is directly related to practice; 3) provide collaboration and sharing of knowledge with other practitioners; and 4) construct personalized learning.

**Purpose of the Study**

This case study gathered information about selected principals’ use of SNS to meet their needs for professional development. It specifically focused on the use of SNS to provide sustained levels of expertise, access content that is directly related to practice, provide collaboration and learning through the sharing of knowledge, and construct personalized learning. The case study was intended to add to the limited field of knowledge in this area.

**Conceptual Framework**

This study was rooted in a constructivist approach to learning (Piaget, 1967) in order to achieve an understanding of principals’ use of social media in their profession and how it supports personal, professional development. The theory of constructivism states that learners construct their own understanding and knowledge of the world through their experiences and, then, reflecting on those experiences (i.e. experiential learning). As an educator, this researcher subscribes to theories that purport that knowledge can be generated from experiences and ideas and that such knowledge can be influenced by others’ experiences and ideas.

Siemen’s (2004) theory of connectivism also served as a fundamental concept for this study. Connectivism expands on the premise that knowledge is viewed as a commodity that grows and develops through connections made with others. The theory is based on principles of chaos, network, complexity, and self-organization theories. Within this theory it is asserted that learning occurs in nebulous and constantly changing environments and is
ever growing and changing. It strongly supports the concept that individuals can (and do) learn through digital connections with others and is the foundational theory that underscores personal learning networks (PLNs) or communities of practice. Wenger (2010) supported Siemen’s theory that learning is constructed through social connections and provides the framework for examining “learning as a social phenomenon” (Elias, 2012 p. 31).

Rutherford (2010) found, through a review of literature focused on professional development, that there are four key characteristics essential to effective professional development:

1. **Sustained, on-going and intensive** (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Wayne, Yoon, Zhu, Cronen & Garet, 2008; Wei, Darling-Hammond, Andree, Richardson & Ophanos, 2009)
   a. Supported by modeling
   b. Focused on specific problems or practices

2. **Practical** (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Hirsh, 2004; Nord, 2004; Wei et al., 2009)
   a. Directly related to practice
   b. Connected to and/or derived from work

   a. Involving a sharing of knowledge with colleagues

4. **Participant driven, constructivist in nature** (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Wayne et al., 2008)
a. Grounded in participants’ questions, inquiry, experimentation

b. Grounded in profession-wide research

In summary, the conceptual framework employed in this study consisted of elements secured primarily from the two theories (Piaget, 1967; Siemens, 2004) and supported by the four key characteristics as outlined by Rutherford (2010). This conceptual framework is illustrated in Figure 1.

- **Constructivism Theory** (Piaget, 1967): People construct their own understanding and knowledge of the world through experiencing things and reflecting on those experiences. *Participant driven, constructivist in nature; Practical* (Rutherford, 2010)

- **Connectivism Theory** (Siemens, 2004): Learning occurs and/or is enhanced through the distribution of knowledge in a social network. Learning is influenced by the diversity of the network. *Sustained, on-going and intensive; Collaborative* (Rutherford, 2010)

Figure 1.1 Conceptual Framework
Research Questions

The research questions were intended to provide an expanded understanding of the manner in which principals are using Twitter for effective, personal and professional development.

1. How are selected principals using Twitter to access content that directly relates to practice and constructs personalized learning?
2. How are selected principals using SNS to collaborate with other practitioners and sustain a level of role expertise?
3. What are selected principals’ perceptions of the effectiveness of using SNS for personal, professional development purposes?

Assumptions of the Study

The following is a list of considerations that were assumed to be true in the conduct of the study:

• Participants answered interview questions truthfully.
• Twitter operations, parameters, and functions did not significantly change.
• Participating principals valued characteristics such as collaboration, personal and professional learning, and improved practice.

Delimitations

The following were delimitations of the study, or the parameters and variables of the study that were controlled by the researcher (Roberts, 2010).

• A purposeful sample (Chein, 1981; Merriam, 2009) was used to identify study participants, principals from Minnesota school districts, by securing the support of the Minnesota Association of Secondary School Principals (MASSP) followed
by a snowball method (Merriam, 2009) of participant identification and selection.

- Study participants included public school principals serving in a primary, secondary, or combined school capacity.
- Private and charter school principals were not included as participants in the study in an attempt to increase consistency of the study.
- Five public school principals were selected to be interviewed.
- Study participants were experienced in the use of Twitter.
- For the purpose of the study, the selected social network site used was Twitter.

**Definition of the Terms**

Definitions provided below are intended to provide clarity to the terms used throughout the study.

1. *Blogs or Weblogs:* Used interchangeably in the research, these are electronic spaces where individuals (or groups) can write thoughts and share ideas or information for others to consume (Martindale & Wiley, 2005).
2. *Cognitive Surplus:* The idea that, over time, people have learned to use their free time in more meaningful and creative ways (Shirky, 2010).
3. *Collaborative:* For purposes of this study, this term means involving a sharing of knowledge with colleagues (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Hirsh, 2004; Nord, 2004; Warren-Little, 2006).
4. *Collaborative Learning:* A situation in which two or more people learn or attempt to learn something together. This concept includes the sharing of knowledge toward a common goal (Dillenbourg, 1999; Jenkins, 2006).
5. *Digital Immigrants*: Describes a generation of people who have not lived their entire lives immersed in technology, therefore have had to learn to use technology (Prensky, 2001).

6. *Digital Natives*: Describes a generation of people who have lived their entire lives immersed in technology (Prensky, 2001).


8. *Friends*: This term is used in the context of SNS to identify connected online relationships (Boyd and Ellison, 2007).

9. *Unique Visitors*: People counted only once when they visit a web site, regardless of how many times they visit the site.


11. *Listening*: For the purpose of this study, the term listening refers to the consumption of information in the context of informal learning and SNS (Crawford, 2009).

12. *Lurking*: In an online community, lurking is the act of observing without actively participating (Dennen, 2008).

13. *Microblogging*: A broadcast medium that exists in the form of blogging. A microblog differs from a traditional blog in that its content is typically smaller in both actual and aggregated file size. Microblogs "allow users to exchange small elements of content such as short sentences, individual images, or video links" (Kaplan & Haenlein, 2011).
14. *Participant driven, constructivist in nature:* For purposes of this study, this group of terms is defined to include participants’ questions, inquiry, and/or experimentation and grounded in profession-wide research (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Wayne et al., 2008).

15. *Participation:* As it pertains to this study, participation is the act of engaging with others through SNS by creating information, sharing knowledge, and/or consuming information or knowledge.

16. *Periscope (app):* is a live video streaming app for iOS and Android developed by Kayvon Beykpour and Joe Bernstein (Shontell & Alyson, 2015). Personal Learning Networks (PLNs): An informal learning network that consists of the people within one's virtual professional network, consisting of people of common interests, and can be focused on a collaborative project or research. Communication and connections are made through social platforms or other Web applications with the primary intent of sharing or gathering information (Digenti, 1999; Morrison, 2013). Note: Throughout the research reviewed, the terms *virtual learning communities and communities of practice* are used interchangeably with PLN.

17. *Practical:* For purposes of this study, this term means directly related to practice and connected to, and/or derived from, work (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Hirsh, 2004; Nord, 2004; Wei et al., 2009).

18. *Professional Development:* A state of professional learning that is evolving from traditional models that included mostly workshops, courses, and conference opportunities to collaborate with others and professionally learn from others to
a model that includes the use of new technology tools such as social network sites to collaborate and professionally learn.

19. **Professional Learning:** For purposes of this study, professional learning will refer to learning that is considered under professional contexts for educators.

20. **Social Learning:** The theory that learning takes place in social contexts and that learning can occur through observation or direct instruction (Bandura, 1977).

21. **Social Capital:** Resources or benefits available to people through their social interactions (Lin, 1999).

22. **Social Network Sites (SNS):** Web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system (Boyd & Ellison, 2007).

23. **Social Scholarship:** The practice of scholarship that utilizes social tools, such as openness, conversation, collaboration, access, sharing, and transparent revision (Cohen, 2007).

24. **Sustained:** For purposes of this study, this term refers to professional development practices that are supported by modeling, focused specifically on problems or practices, and embedded (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Wayne, Yoon, Zhu, Cronen & Garet, 2008; Wei et al., 2009).

25. **Tweetdeck:** A functionality of Twitter, allowing users to access, view and manage all areas of their Twitter account, in one easy location.
26. **Twitter**: A very popular message broadcasting system that permits users to send alphanumeric text messages up to 140 characters in length to a list of followers. Launched in 2006, Twitter was designed as a social network to keep friends and colleagues informed throughout the day. It has become widely used for commercial and political purposes to keep customers, voters and fans up-to-date as well as to encourage feedback (The Computer Language Company, 2014).

27. **Voxer**: is a mobile app development company most well known for its free Walkie Talkie app for smartphones (Eldin, 2012).

28. **Web 1.0**: An era when technology was emerging and beginning to facilitate the sharing of ideas and information. The idea of knowledge was represented as a consumable (McLure, Wasko, & Faraj 2000; Cormode & Krishnamurthy 2008).

29. **Web 2.0**: An era following Web 1.0 when technology began growing significantly through advancements in interconnectivity. The idea of knowledge was represented as a shared commodity, owned and shared by all (DiNuchi, 1999; McLure, Wasko, & Faraj, 2000).

30. **Zettabyte**: A measure of data storage capacity that totals one sextillion bytes.

**Summary**

The evolution of technology has been rapid and powerful, spanning a mere three and half decades. During that time, it has virtually connected much of the world (Hilbert & Lopez, 2011). According to the review of literature, the evolution of professional development in education has followed a similar path over the past few decades. The research surrounding much of this evolution points to the use of new Internet technologies
and tools (such as the development of social networking) as important factors in supporting effective professional development in today’s schools.

It is observed that there are noticeable limitations in the research that specifically focus on how the merging of technology growth (particularly social network sites) and professional development practices have impacted principals. This case study was intended to inform the field of educational leadership and research about these emerging practices.

In order to gain a better understanding of how SNS are being used, specifically by active principals, for personalized professional development purposes, a qualitative case study methodology was implemented. Employing one-on-one interviews, data was coded and analyzed to provide specific perspectives on the manner in which five selected principals were using Twitter in dispensing their duties. It is noted that this study is not intended to be generalizable, but, rather, it is intended to explore further the impact of key characteristics of effective professional development (as outlined in the review of literature) on the roles of principals who are utilizing SNS.

Chapter two will offer a review of relevant research and literature pertaining to the development of social network sites, the changing factors in effective professional development, the merging of these movements, and their impact on principals.
Chapter II: REVIEW OF LITERATURE

Introduction

Over the past 30 years, the advancement of Internet technology has been paralleled by educational professional development reform. The research reviewed in this chapter explores how these research movements have merged and identify what, if any, implications are found. This review of literature is facilitated by three main themes that emerged in the literature:

1. *The Changing Face of Internet Technology*: This theme will explore the historical perspectives of the creation and expansion of Internet technologies, such as social network sites (SNS).

2. *The Changing Face of Professional Development*: This theme will explore the evolution of professional development practices in the U.S., identify key characteristics of effective professional development, and analyze four emerged types of professional learning.

3. *The Emerging Role of Social Network Sites (SNS) in Professional Development*: This theme will examine how the uses of SNS and professional development characteristics are merging to support each other.

Much of the research found in this review of literature focuses on how social media is being used by scholars, academics, educators, and students, but there are noticeable limitations in the research as it pertains to the specific job of the K-12 principal.

Eric Sheninger, known as a highly accomplished and decorated educational leader focused on technology integration in schools, is a senior fellow with the International Center for Leadership in Education and has authored and co-authored multiple books on
technology integration in schools (Sheninger, 2014). In a 2014 blog posting, Sheninger, also a former high school principal, outlined his transition from a 2009 critical perspective using social media in education to his more current view that is distinctly different. His writings illustrate the emerging and important role that social media played in his own transformation from a principal that operated as a “Singleton”, or independent contractor, to a linked-in, connected “Lead Learner”. Sheninger (2014) stated, “The formation of a Personal Learning Network (PLN) using free social media tools has enabled me and so many other educators [to] experience the immense benefits that are associated with connected learning” (p. 1). Sheninger’s perspective was foundational in narrowing this study’s focus to how principals are utilizing social networking sites for professional learning.

In 2010 the National Educational Technology Plan (U.S. Department of Education) emphasized that there are natural barriers in education that may be overcome through technology. According to the plan, “Time and distance barriers of the physical world are reduced by virtual connections between people; and between people and technology resources and tools” (p. 51). The reduction of these barriers through the use of technology serves as a reoccurring theme in the literature.

K-12 principals are expected to accomplish educational reform in the midst of difficult and challenging circumstances (Moore, 2009; Duffy, 2006; Barron, 2006; US Department of Ed., 2010, Brennan, 2013). The development of PLNs (Boyd & Ellison, 2007; Wenger, White, & Smith, 2009; Dron & Anderson, 2009; Greenhow & Robelia, 2009) and staying up-to-date with current research and best practices through the use of open source and technology assets (Hagel, Brown, & Davison, 2010) and participatory Internet
technologies such as social network sites (SNS) (Greenhow, Robelia, & Hughes 2009; Gao, Luo, & Zhang, 2012) are emerging strategies that educational leaders are utilizing to meet such demands.

Although SNS were not originally designed for the purpose of enhancing professional learning and connectivity, they are being repurposed by scholars to meet their needs (Hemmi, Bayne, & Land 2009; Veletsianos, 2010). The opportunity to collaborate with professional colleagues was cited as an emerging necessity for educational leaders of schools (Flanigan, 2011) to help meet the priorities of U.S. education reform as outlined by the Obama administration (U.S. Department of Education, 2010). This education reform is driven by two clear goals:

- “By 2020, we will raise the proportion of college graduates from where it now stands (39%) so that 60% of our population holds a two-year or four year degree” (National Center for Public Policy and Higher Education, 2008).
- “We will close the achievement gap so that all students, regardless of race, income, or neighborhood, graduate from high school to succeed in college and careers” (Office of Educational Technology: US Dept of Education 2010, p. 2).

According to DuFour, DuFour & Eaker (2008), in order for educators to meet these goals, past paradigms and traditions of education in the United States must be evaluated and evolving technology tools need to be explored. Veletsianos (2012) claimed that the ever-changing advances and developments of Internet technologies may be a key component in expanding opportunities and facilitating the transformation of education. The U.S. Dept. of Education (2010) also outlined the use of SNS in this reform process by stating:
These networks [personal learning networks] and other resources should enable educators to take online courses, tap into experts and best practices for just-in-time learning and problem solving, and provide platforms and tools for educators to design and develop resources and share them with their colleagues. (U.S. Dept. of Education, 2010, p. 50)

In a 2012 critical analysis of research that focused on microblogging in education, Gao et al. (2012) found two themes that transcended the reviewed studies: (1) micoblogging sites (such as Twitter) help to facilitate the formation of learning communities, and (2) that the use of micro-blogging tools can increase the participation and engagement of learners. Veletsianos (2012) called for the continued need for research in this field in the following statement:

Understanding scholars' use of online social networks will enable us to investigate scholars' values, the relationship between participatory technologies and scholarly practice, the implications of online social networking for scholarship and education, and the extent to which academia may or may not be changing as a result of scholars' ability to connect digitally with each other. (Veletsianos, 2012, pp. 336-337)

**The Changing Face of Internet Technology**

The creation and development of the Internet has changed human behavior throughout the world (Shirky, 2010). According to Hilbert & López who served on the United Nations Economic Commission and co-authored the *Worldwide Technological Capacity to Store, Communicate, and Compute Information Study* (2011), the evolution of the Internet which began in the 1980s, gained world-wide attention and development in the 1990s, and has grown into a fast-changing, complex, and important part of society.

According to Cisco Systems, Inc. (2015), Internet traffic will hit one *zettabyte* by 2016. By 2019, Internet traffic is projected to hit two zettabytes, based on a current, annual compounding growth rate of 23%. By 2019, Cisco has also projected there to be four billion Internet users and almost 25 billion devices used. According to Kemp (2015), there are
Currently just over 2 billion active social media accounts. He found that this is a 12% (222 million) increase from 2014 to 2015 and points to the growth in social media use globally.

**History of the Internet: Web 1.0 to Web 2.0**

The advancements in human interactions on the Internet have changed rapidly over the past decades. The Internet’s growth increased from 1% of information flow through telecommunication networks in 1993 to 51% in 2000, and more than 97% of the telecommunication information by 2007 (Hilbert & López, 2011). According to Greenhow, Robelia & Hughes (2009), this growth was also noticeable in educational institutions throughout the United States. “Web access, the nature of the Web, and contexts for learning have been transformed, along with the emergence of desired technological competencies for learners, teachers, and administrators” (p. 246).

Wells & Lewis (2006) stated the percentage of public schools connected to the Internet has significantly increased from 35% to 100% since the mid-1990s. Internet access in public school classrooms grew from 14% to 94% in a decade, and the ratio of students per Internet-connected instructional computer decreased from 12:1 to 3.8:1.

The term Web 1.0 is referred to in technology research as the time when technology was emerging and beginning to facilitate the sharing of ideas and information. At this time, Internet mostly involved hierarchically arranged websites with content mostly controlled by isolated providers. Most consumers found information on a website by entering through a common access point (Cormode & Krishnamurthy, 2008). Greenhow et al. (2009) described it further, “Web 1.0 accommodated only modest individual knowledge creation and sharing, mostly through primary text-based online forums and archived listservs” (p. 247). Following the explosion in interconnectivity and accessibility in the late 1990s and
beginning of the 21st century, a notable shift in the way that people create and share knowledge happened with the coining of the term Web 2.0. (DiNuchi, 1999).

According to DiNuchi (1999), Web 2.0 captures a fundamental change in how people understand, connect, create, and share experiences and knowledge. Lankshear & Knobel (2006) concurred by outlining that it facilitated “participatory,” “collaborative,” and “distributed” methods of engagement with information (p. 38). The idea of Web 2.0 shifted the understanding of knowledge being a consumable product that was created by a fixed entity, to knowledge becoming a shared commodity that was owned and shared by all (McLure et al., 2000). Dedi (2008) endorsed this idea stating, “The Web 2.0 definition of ‘knowledge’ is collective agreement about a description that may combine facts with other dimensions of human experience, such as opinions, values, and spiritual beliefs” (p. 80). Greenhow et al. (2009) stated, “In other words, knowledge is decentralized, accessible, and co-constructed by and among a broad base of users” (p. 247). Veletsianos (2012) summarized Greenhow et al. (2009) findings by stating:

The web has undergone drastic changes in the last 10 years as it transitioned from a location that users would visit to retrieve information posted by a small group of content experts (Web 1.0), to a 'read-and-write' platform (Web 2.0) that enables content contribution/sharing/remixing and participatory practices. (p. 337)

According to Bull et al. (2008), the idea of learning by creating, presenting, and consuming content on the Web is changing the way people make cognitive connections with content. Although print technologies can facilitate sustained singular attention, Internet technologies contribute to a more “…distributed and plastic form of thinking. This shift is more than merely a change in the way we read or a change in our behavior” (p. 101).
The Web 2.0 shift led to the establishment of open source websites (such as Wikis), blogs (contraction of the words web and log), social network sites (such as Facebook and Twitter), content hosting sites (such as YouTube and Flickr), and podcasts (Thomson, 2008). Through this evolution, a new generation of information consumers and technology users has developed. Prensky (2001) coined this generation as digital natives. In 2008, Bull et al. referenced this idea that was forged by Prensky (2001):

The current generation of students entering college, sometimes termed Generation Y (Gen-Y), is the first to have lived their entire lives immersed in digital technologies...Prensky (2001) coined the term ‘digital natives’ to describe the generation of students who are all ‘native speakers’ of the digital language of computers, video games and the Internet. (Bull et al., 2008, p. 104).

In the workforce, digital natives must work with and connect with those who are ‘digital immigrants’ born outside of the age of technology (Prensky, 2001, p. 2). It is also noted by Prensky that the term digital native not only refers to people who have always known technology, but also have mostly known only Web 2.0 technology. Other researchers agreed (Lankshear & Knobel, 2006; Warschauer, 2007) and have pointed to the disparity between the digital native and digital immigrant generations as a “generational divide” (Herring, 2007, p. 1;).

In contrast to the digital native versus digital immigrant research, Guo, Dobson, & Petrina (2008) stated that after studying the level of Information and Communication Technology (ICT) competencies in pre-service educators that represented different age groups, the generational divide is not statistically significant and may be misleading. It was noted that more research was needed to better understand how individuals of all ages learn and process digital information and systems.
History of Blogging

In the early 1990s (Web 1.0 era) people connected using a computer conferencing system called “Whole Earth ‘Lectronic Link or (W.E.L.L.)” (Chen, 2010, p. 756). W.E.L.L. allowed its members to form relationships and share information. Although this system was limited, it was the infancy of interconnectivity. Social Network Sites were eventually developed from this early concept as computer interactivity became more sophisticated in the Web 2.0 era (Chen, 2010).

The idea of a “blog” or “weblog” eventually emerged (Barger, 1999). Blogs are places where individuals (or groups) can write thoughts and share ideas or information for others to consume. Martindale & Wiley (2005) described the definition and history behind the idea of blogs.

Defining a weblog (also known as a 'blog') is somewhat of a challenge. The genre began to emerge around 1997, when a number of websites appeared that were akin to travelogues, pointing users to new and interesting locations on the Internet. At that time the Internet was still largely non-commercial, and could be characterized as an uncharted frontier. These new travelogue websites consisted of links to and commentary on websites their authors found interesting. (Martindale & Wiley, p. 55)

Weblogs operated as websites that directed people to access information, articles, and links found in other places on the Internet. This was feasible due to the syndication of content. The feature allowed content to be dispersed widely through subscriptions to the blog through Really Simple Syndication/Rich Site Summary (RSS) (Pilgrim, 2002). At the onset, blogs typically had themes that drew certain following and audiences with like interests (Martindale & Wiley 2005). “From 2003 to 2005, the number of blogs on the web has increased at a very rapid rate, as commercial services like Blogger.com have made
creating a weblog both free and simple” (p. 56). Blogs continued to evolve, not only becoming more accessible, but people began to use blogs in new and important ways:

A key event in the brief history of blogs occurred during the war in Iraq in 2003. At the height of the initial conflict, a blog written by an Iraqi citizen (later dubbed the "Bagdad Blogger" by the national news media) received tremendous publicity as the world sought war-related news. This unknown blogger published personal stories about the conditions in Baghdad during the bombing campaign, and solicited help in finding his missing friend. The personal and compelling nature of the account coupled with the timeliness of the content resulted in the blog being mentioned by the major U.S. television network news shows, which in turn introduced blogs for the first time to a large segment of the American public. In 2004, blogs were again prominently featured in the popular national press as a presidential candidate, Howard Dean, employed a blog to communicate with his supporters. (Martindale & Wiley, 2005 p. 56).

History of Social Network Sites

As blogging became more accessible and relevant, the need for people to have a more interactive relationship emerged (Boyd & Ellison, 2007). Some blogs began to evolve into what is today coined as Social Network Sites (SNS). Today's widely used definition for SNS was developed by Boyd & Ellison (2007), and outlined three essential elements:

We define social network sites as web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. (Boyd & Ellison, 2007, p. 211)

According to Shirky (2003), SNS have aggressively grown and changed over time as well (Shirky, 2003). Greenhow & Robelia (2009) outlined the departure from blogs to the new concept of SNS. “What distinguishes SNSs from other forms of virtual communities is that they allow users to articulate and make visible their social connections, similar to allowing others to view your Rolodex and interact with it online” (p. 1132). This interconnection to other individuals with like interests or common relationships is the foundation for the growth of SNS (Boyd & Ellison, 2007).
According to Boyd & Ellison (2007), the first recognizable SNS began in 1997 and was named SixDegrees. It allowed individuals to create profiles and make lists of Friends. From 1997 to 2001 AsianAvenue, BlackPlanet, and MiGente were introduced as a way to connect people who had a commonality by combining a created profile with Friend lists that were shared publically without any approval from individuals included in the lists. In 2001, Ryze.com was launched with a focus on connecting people in the business world to developing networks. Since 2003, a boom of SNS was launched. This is the era that MySpace and Facebook were created. Facebook began as a Harvard-only SNS, but quickly evolved to include high schoolers, then professional networks, and eventually, everyone. Boyd & Ellison (2007) noted that their SNS list is not all-inclusive, but does capture an essence of how SNS began to evolve.

A SNS named Twitter began in 2006 with the concept of limiting participant posts to 140 characters at a time, known as Micro-blogging (Farhi, 2009). Its intent was to allow people to share their day-to-day experiences in short snippets by answering the question, “What are you doing right now?” (Chen, 2010). It quickly grew in popularity. In 2008, Twitter had 1 million unique visitors and by 2009, that number was at 21 million (Nielson Wire, 2009). Despite its quick growth, there were some who questioned the relevance and appropriateness of such a site (Ariens, 2009; Popkin, 2007). Others argued that Twitter was not only relevant, but becoming an essential way to connect individuals throughout the world (Sarno, 2009; Thompson, 2008). Johnson & Yang (2009), found that people used the SNS Twitter, to advise others, gather information, share experiences, and meet people. Java, Finin, Song, & Tseng (2007) found that people used Twitter to engage in a variety of topics from daily life events to linking news stories and articles. Sarno (2009) stated that Twitter
had evolved from its simplistic roots to a “new economy of info-sharing and connectivity” (as posted on Twitter, March 11, 2009).

According to Gao et al.’s (2012) review of literature and studies, some challenges of using micro-blogging still exist. Unfamiliarity with the use of these sites, the chance for information overload (not able to keep up with the number of people following or followers), small percent of active participants (globally), and a 140 character limit may inhibit deeper level of reflection. It is also noted that some studies in Gao et al.’s review noted the 140 characters as a positive attribute.

The Changing Face of Professional Development

The Merge of Technology and Development

In The Power of Pull, Hagel, Brown & Davidson (2010) described radical transformation regarding the ways that people and organizations access information and resources via technology. They stated that information now is very accessible and people need to learn how to utilize it effectively to keep up with ever-changing demands.

According to Hirsch (2004), “School districts can no longer afford staff development efforts that are predominately adult pull-out programs” (p. 13). Traditionally, formal professional development efforts that include workshops, courses, and conferences alone have limited success (Hirsch, 2004; Barab, MaKinster, Moore & Cunningham, 2001). These experiences typically include an “expert” disseminating information to less proficient educators, and are fleeting in duration and narrow in focus (Barab et al., 2001; Rutherford, 2010). Likewise, in a 2002 account, Elmore stated that there were few effective systems of professional development in place that allow educators to improve practices and receive the support that they need.
In 2010, the U.S. Department of Education identified a need for a shift in educational professional development in the National Education Technology Plan called Transforming American Education: Learning Powered by Technology. “Episodic and ineffective professional development is replaced by professional learning that is collaborative, cohort, and continuous and that blends more effective in-person courses and workshops with the expanded opportunities, immediacy and convenience enabled by online learning” (p. 40).

In like fashion, Rutherford (2010) completed a review of literature focused on professional development and found four common characteristics that are keys to effective PD:

1. **Sustained, on-going and intensive** (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Wayne, Yoon, Zhu, Cronen & Garet, 2008; Wei, Darling-Hammond, Andree, Richardson & Ophanos, 2009)
   a. Supported by modeling
   b. Focused on specific problems or practices
   c. Embedded

2. **Practical** (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Hirsch, 2004; Nord, 2004; Wei et al., 2009)
   a. Directly related to practice
   b. Connected to and/or derived from work

   a. Involving a sharing of knowledge with colleagues

4. **Participant driven, constructivist in nature** (Borko, 2004; Darling-Hammond &
Mclaughlin, 1995; Wayne et al., 2008)

a. Grounded in participants’ questions, inquiry, experimentation

b. Grounded in profession-wide research

Furthermore, Rutherford (2010) stated, “To overcome the pitfalls of traditional professional development efforts, contemporary PD should seek to include these four requirements” (p. 62).

Quattrocchi (2014) explored ways to begin to look at professional development differently in education. In a 2014 survey of over 400 educators (mostly teachers) followed by in-depth interviews with 50 participants, Quattrocchi found that educators were beginning to use new technological tools and ideas in approaching personalized professional development. Quattrocchi (2014) stated in her final finding that, informal learning needs to play an important role in today's professional development evolution. Teachers stated they greatly valued informal learning opportunities such as EdCamps and Twitter chats.

According to Sheninger (2014), principals are beginning to leverage some of the same tools and informal learning opportunities to embrace their own professional development as educational leaders.

**Types of Professional Learning**

Many researchers (Rutherford, 2010; Bull et al., 2008; Quattrocchi, 2014; Brennan, 2013; Greenhow et al., 2009; Lin, 1999; Putnam, 2000; Ellison et al., 2007; Cohen, 2007; Barron, 2006; U.S. Dept. of Education, 2010; Falk, 2001; Dierking, Ellenbogen & Falk, 2004) acknowledge that professional learning is changing due to the evolution of new technological tools.
Throughout the research about changing professional development and learning, four common types of professional learning emerged (Rutherford, 2010; Bull et al., 2008; Quattrocchi, 2014; Brennan, 2013; Greenhow et al., 2009; Lin, 1999; Putnam, 2000; Ellison, Steinfield & Lampe, 2007; Cohen, 2007; Barron, 2006; U.S. Dept. of Education, 2010; Falk, 2001; Dierking, Ellenbogen & Falk, 2004; Organisation for Economic Co-operation and Development (OECD), 2010):

a) Formal Learning,

b) Informal Learning,

c) Social Learning, and

**Formal Learning.** According to the OECD (2010), the definition of formal learning is consensual throughout the research.

Formal learning is always organised and structured, and has learning objectives. From the learner’s standpoint, it is always intentional: i.e. the learner’s explicit objective is to gain knowledge, skills and/or competences. Typical examples are learning that takes place within the initial education and training system or workplace training arranged by the employer (OECD, 2010, pg. 1).

Additionally, Rutherford (2010) stated, “Formal learning is typically institutionally sponsored <and> highly structured” (p. 62).

**Informal Learning.** Bull et al. (2008) described informal learning as a viable option for educators, and defined it as outlined by the National Science Foundation:

The National Science Foundation (NSF) employs the term "informal learning" to describe learning and engagement that occurs outside formal school settings. Informal learning happens throughout people’s lives in a highly personalized manner based on their particular needs, interests, and past experiences. This type of multi-faceted learning is voluntary, self-directed, and often mediated within a social context (Falk, 2001; Dierking, Ellenbogen, & Falk, 2004); it provides an experiential base and motivation for further activity and subsequent learning (NSF, 2006, Section I, Introduction). (Bull et al., 2008, pp. 102-103).
According to the U.S. Department of Education: Office of Educational Technology, life-long learning happens mostly outside of formal learning environments, such as: school, workshops, and meetings.

As illustrated in Figure 2.1, technology is producing a vital bridge to current professional challenges in education, and offers educators the ability for formal and/or non-formal learning to happen through access to resources, knowledge, and ideas across settings (Barron, 2006).

Figure 2.1. Formal and Informal Learning Environments

(National Educational Technology Plan, 2010, p. 17)

**Social Learning.** In 1977, Psychologist Albert Bandura introduced *Social Learning Theory*. Social Learning Theory stated that learning takes place in social contexts and that learning can occur through observation or direct instruction. Cognitive factors, environmental factors, and behavioral factors all play important roles in how learning occurs.
Cohen (2007) found that social tools or characteristics such as, “openness, conversation, collaboration, access, sharing, and transparent revision...” (para. 1) fosters a greater sense of social scholarship in academia. Cohen defined social scholarship as, “the practice of scholarship in which the use of social tools is an integral part of the research and publishing process” (Ibid).

Greenhow et al. (2009) summarized and supported the idea of social scholarship by stating, “It connects traditional formal scholarship practices (such as creating a peer-reviewed, print-based journal article) with more informal, social Internet-based practices (such as hosting an online video or audio conference discussion)” (p. 253). Greenhow et al. (2009) further explained that Web 2.0 tools might allow academics to harness the power of social scholarship to reflect and reimagine professional possibilities. “Such tools might positively effect – even transform – research, teaching, and service responsibilities” (p. 253).

Ellison, Steinfield, & Lampe (2007) found that a sense of increased social connection is affiliated with an increase of social capital. Social capital (Lin, 1999) is the accumulation of resources through social interactions. The result of increased social capital often results in increased feelings of trust, social cohesion, and reciprocity (Putnam, 2000).

Earlier research by Brown, Collins, & Duguid (1989) found similarly that learning takes place often through contexts (situated learning) and relationships (cognitive apprenticeship), rather than independently in the minds of individuals.

**Collaborative Learning.** According to Dillenbourg (1999), the definition of collaborative learning in its broadest sense is, “...a situation in which two or more people learn or attempt to learn something together.” Jenkins (2006) defined the term collective
intelligence as “...the ability to pool knowledge and compare notes with others toward a common goal” (p. 4). Veletsianos (2012) identified new technological tools such as SNS (specifically Twitter) as emerging and evolving tools that allow for scholars to create, refine, perform, share, discuss, and negotiate common work and practices.

The National Education Technology Plan (2010) pointed to SNS as tools that allow for collaborative learning to take place.

A transformative idea in the preparation and professional learning of educators and education leaders is to leverage technology to create career-long personal learning networks within and across schools, pre-service preparation and in-service educational institutions, and professional organizations. The goal of these career-long personal learning networks would be to make professional learning timely and relevant as well as an ongoing activity that continually improves practices. (p. 46)

The Emerging Role of Social Network Sites (SNS) in Professional Development

Greenhow et al. (2009) called for the need to invest in establishing and growing online relationships that connect individuals to the work of their peers, students, and the world in order to transform professional practices. Gao et al. (2012) stated that technology (particularly micro-blogging sites) enhance efficiency, learning outcomes, convenience for the learner, and/or motivation of the learner.

In 2007, Ellison, Steinfield, & Lampe surveyed 286 college undergraduates and found that the use of Facebook.com was associated with learners’ sense of increased social connection and belonging. In a 2009 study that explored SNS and student learning, Greenhow & Robelia found that:

SNS facilitated emotional support, helped maintain relationships, and provided a platform for self-presentation. Second, students used their online social network to fulfill essential social learning functions. Third, within their SNS, students engaged in a complex array of communicative and creative endeavors. (p. 1130)
Later, in 2011, Greenhow outlined results of a study that highlighted two key findings related to student learning and the use of SNS:

Social network sites can serve as direct and indirect supports for learning, such as providing an emotional outlet for school related stress, validation of creative work, peer-alumni support for school-life transitions, and help with school-related tasks; and online social networking can stimulate social and civic benefits, online and offline, which has implication for education. (Greenhow, 2011, pp. 4-5).

According to a study by Veletsianos (2012), scholars’ participation in SNS is described as a “complex and multifaceted human activity where personal and professional identities blend, and where participatory digital practices meet individual reflections, fragmented updates, and social interactions” (p. 345). He further stated, “While a number of practices, such as resource sharing, are prevalent, scholars’ participation on Twitter varies to accommodate multiple intended audiences, goals, and motivations” (p. 345).

**Participation.** Greenhow et al. (2009) reported that participatory Internet technologies (such as SNS) had the potential to change the ways that academics work in their field. However, Greenhow et al. (2009) proclaimed that a lack of quality modeling was one reason SNS was not more relevant in 2009. “Such opportunities might promote potentially richer opportunities to make learning more personally meaningful, collaborative, and socially relevant” (Greenhow et al., 2009, p. 249).

Jenkins (2006), defined a participatory culture in a learning environment as:

A participatory culture is a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one’s creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices. A participatory culture is also one in which members believe their contributions matter, and feel some degree of social connection with one another (at the least they care what other people think about what they have created. (p. 3)
Both Greenhow et al. (2009) and Jenkins’ (2006) conclusions support the finding that effective professional development is participant driven, includes collaborative structures, and remains practical and sustainable (Rutherford, 2010).

In addition to the concept of participation, Crawford (2009) stated that the idea of using SNS for listening, or consuming information, is redefining the “boundaries of human attention and subjectivity” (p. 533) and playing a critical role in informal learning.

Crawford (2009) stated,

The concept of listening ... invokes the more dynamic process of online attention, and suggests that it is an embedded part of networked engagement - a necessary corollary to having a ‘voice.’ ...Moreover, as a metaphor for attending to discussions and debates online, listening more usefully captures the experience that many Internet users have. It reflects the fact that everyone moves between the states of listening and disclosing online; both are necessary and both are forms of participation. (p. 527)

Lee, Chen, & Jiang (2006) stated that lurking plays a positive role in SNS participation.

Lurkers actively and continuously track the contributions of others and contribute a mode of receptiveness that plays a part in encouraging those who are creating and disclosing information. According to Crawford (2009), this also directly relates to the development of online communities that many SNS foster.

Both lurking and listening play an important part in participation and consumption of knowledge, this supports the finding that professional development should be collaborative, participant driven and constructive in nature (Rutherford, 2010).

Shirky (2010) stated that a participatory culture provided new opportunities in the realm of cognitive surplus. Cognitive surplus is the idea that, over time, people have learned to use their free time in more meaningful and creative ways. Shirky stated that with the advent of the Internet (in particular Web 2.0 tools and SNS), there have been new
opportunities for creativity and participation in learning. This has facilitated a shift from passive activities such as watching television (a consumable practice), to more active, participatory, and creative pursuits, which results in this idea of cognitive surplus. The concept of cognitive surplus supports the finding that professional development has become more collaborative, constructive, sustainable, and participant driven over time (Rutherford, 2010).

**Networking.** It is noted that throughout this research, personal learning networks, professional learning networks, virtual learning communities, and collaborative communities of practice are used interchangeably to represent groups of people who exchange ideas, knowledge and thought through online connectivity. Lin (1999) stated, “Investment in social networks may benefit individuals through greater access to and use of information, influence, social credentials, and reinforcement of identity and recognition” (p. 31). This conclusion supports the finding that effective professional development includes collaborative structures (Rutherford, 2010).

In 2000, McLure & Faraj found that when people feel that they are a part of a like community of practice, they are more willing to share knowledge, and see knowledge as a public commodity that should be shared due to moral and ethical duty. Online formats for learning communities offered a positive climate for collaboration and the sharing of such knowledge. This conclusion also supports the finding that effective professional development includes collaborative structures (Rutherford, 2010).

According to Boyd & Ellison (2007), and Dron & Anderson (2009), personal learning networks are fluid entities that are comprised of loose and strong connections where memberships are unrestricted (in most situations), and where members’ relationships vary
greatly in their knowledge of each other. Participants often develop and maintain their own individual/unique networks of like interest where learning occurs. These conclusions support the findings that effective professional development is participant driven, includes collaborative structures, and remains practical (Rutherford, 2010).

Wenger et al. (2009), asserted communities of practice to be vital components for educators to use in their ongoing professional growth. They offer engagement from a broad range of colleagues, peers, and professionals. This conclusion supports the finding that effective professional development is collaborative and practical (Rutherford, 2010).

Chen (2010) identified that people have a need to connect with each other socially, and found evidence to support the idea that when people spent time on SNS, it helped to meet the need to be connected (even when done virtually). Likewise, Veletsianos (2012) and Conole (2011) found that the development of collaborative communities, such as online personal learning networks (PLN), played an important role in professional learning.

According to a study that focused on how PLN were being used in 2011, Conole found scholars used PLN to maintain connections with colleagues throughout the world, post created works, and invite PLN members to critique work. These conclusions support the finding that effective professional development is participant driven, includes collaborative structures, and remains practical and sustainable (Rutherford, 2010).

Summary

Over the last 30 years, the advancements in Internet technologies and changes in educational professional development have paralleled each other. The advent of SNS has created a platform for technology and professional learning to merge and open new
opportunities for people to create and consume knowledge and information as well as
connect with others throughout the world.

Veletsianos (2012) synthesized the idea that the use of SNS is changing how
professionals and scholars are learning and leading:

Even though social networking technologies in general were developed for purposes
unrelated to education, they have been co-opted and repurposed by scholars, in
part, to satisfy educational and scholarly pursuits. Thus, scholars have capitalized on
the ease with which they can connect with others, traverse networks and
communities of interest, and engage in conversations, in order to further their work.
Nevertheless, tools such as Twitter are not neutral. In fact, they have intended uses,
purposes, and practices, which, as a result of their adoption in scholars’ life,
influence the way academics engage in educational practices through these tools.
For instance, the ease with which individuals can follow and remain updated on
activities, thoughts, resources, and work of individuals from disciplines outside of
their own, enables increased awareness of others’ work, possibly aiding
multidisciplinary thinking or introduction to ideas outside of their own domain. (p.
346)

The U.S. Department of Education (2010) stated, “Over the past 40 years, we have seen
unprecedented advances in computing and communications that have led to powerful
technology resources and tools for learning” (p. 52). The report highlights that these
advancements, “…facilitate access to information and multimedia learning content,
communication and collaboration. They also provide the ability to participate in online
learning communities that cross disciplines, organizations, international boundaries, and
cultures” (p. 52).

Throughout this review of literature, there is a noticeable gap in the research.
Although there seems to be emerging and increasing numbers of studies focused on how
scholars, learners, educators, teachers, and other professionals are using SNS for learning
and professional development, there is little research found on how principals are using
SNS for learning and professional development. Chapter three will outline the methodology
used in the qualitative case study focused on examining how principals are using SNS for professional development.
Chapter III: METHODOLOGY

Introduction

The review of literature indicated that the development and growth of technology over the past few decades has merged with the constant evolution in educational professional development. Literature also revealed a noticeable gap in educational research between technology and professional development. Although there seems to be emerging and increasing numbers of studies focused on how scholars, learners, educators, teachers, and other professionals use Social Networking Sites (SNS) for learning and personal, professional development, little research was found on principals’ use of SNS for learning and personal, professional development.

The purpose of this case study was to gather information about how selected principals were using SNS to meet their personal, professional development needs. It also examined selected principals’ perspectives on the effectiveness of using SNS for personal, professional development. The researcher intended to specifically explore the use of SNS by selected principals to provide sustained, on-going and intensive learning; provide practical engagement and learning that is directly related to practice; provide collaboration and learning through shared knowledge; and provide participant driven/constructive learning (Rutherford 2010). The study was designed to add to the limited field of knowledge.

This chapter presents an overview of the study’s research questions, design, participant selection and data collection process. It will also review the procedural timeline of the study.
Research Questions

The case study addressed the following research questions:

1. How are selected principals using Twitter to access content that directly relates to practice and construct personalized learning?

2. How are selected principals using SNS to collaborate with other practitioners and sustain a level of expertise?

3. What are selected principals’ perceptions of the effectiveness of using SNS for personal, professional development purposes?

Research Design

The study was a qualitative case study that focused on examining active lead principals’ current use of SNS for professional development. As in all qualitative research, “the researcher [is] the primary instrument of data collection and analysis, [resulting in] the end product being richly descriptive” (Merriam, 2009, p. 39). A case study, as defined by Yin (2008), “is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (p. 18). The qualitative case study design was selected to allow an in-depth examination of principals’ use of the social phenomenon of electronic social networking in the context of professional development. The qualitative case study was designed to yield specific, detailed, and enriched information to the researcher (Creswell, 2007), which made it ideal for this research.

Participant Selection

This case study considered the perspectives of active, lead principals who serve in public school settings and are self-described, “experienced Twitter users.” A purposeful (or
purposive) sample was used to select participating Minnesota principals by securing the support of the Minnesota Association of Secondary School Principals (MASSP), followed by a snowball sampling method (Patton, 2002). Purposeful sampling methods included identifying specific criteria or skills that were most relevant to the case, therefore offered the opportunity for the researcher to maximize learning about the case study (Chein, 1981; Merriam, 2009).

The snowball sample method included locating two key participant(s) to interview. At the completion of the interview, the researcher asked for other potential participants who may meet the criteria for the study. These leads were followed until the desired number of participants was secured (Merriam, 2009).

The criteria for selecting participating principals included the following:

1. The selected principals were active, practicing head principals. This was important to the study because of the focus on sustained and practical professional development.

2. The selected principals serve in public school settings only. This was important to the study because it allowed for greater consistency between job duties and expectations.

3. The selected principals were experienced Twitter users. This was important to the study because Twitter was selected as the social network site utilized in the study. It was important to select principals who were using Twitter largely for professional purposes.

4. The selected principals included public school principals serving in an elementary, middle school, high school, or combined school capacity. This was
important to the study because it took into account all of the varied types of
principal positions and allowed for flexibility in the selection process.

The researcher purposefully kept the sample size to five, select, interview
participants. According to Kormuta and Germaine (2006),

Interviews in qualitative research are likely to produce large amounts of data, and
therefore the number of participants should be limited to keep the study
manageable. For this reason, few qualitative studies conducted by individual
researchers have more than six participants. (p. 49)

According to Patton (2002), it was also important to specify a minimum sample size when
purposing a study.

**Human Subject Approval - Institutional Review Board (IRB).** Informed consent
was documented through the use of a written consent form that was approved by the IRB
and signed by all subjects. A copy of the consent form was provided to each study
participant. Signed informed consent forms will be retained for three years in accordance
with statute 45 CFR 46.116. The informed consent process included the following steps:

1. Presentation of information that enabled the individual
to knowledgeably and voluntarily decide whether or not to participate as a
research subject;
2. Documentation of consent with a written form signed by the subject;
3. Responses to the subject’s questions/concerns were offered during the
research, and the researcher was prepared for any new findings that may
affect the subject’s willingness to continue participating to be addressed (this
was not necessary).

**Data Collection and Instrumentation**

The following instrumentation and research design was adapted from a qualitative
case study conducted by Johnson (2015). This study used qualitative interviews to gather evidence of and learn more about principals’ perspectives of using SNS for personal, professional development purposes.

In order to provide validity to the case study, a single social network site was selected. Twitter was selected as the social network site tool used in the study. Twitter was the SNS most generally used in educational settings. According to ebizmba.com, in December of 2014, Twitter was the SNS most frequently used - second only to Facebook - and had an estimated 310,000,000 monthly users. It was also recognized that Twitter was the tool used at many educational conferences by educational associations (MESPA, MASSP, PBIS, MDE) as a backchannel discussion board for professionals to share ideas and comments, network with each other, and post new learning.

Data was collected using a semi-structured format and interview questions. Due to the lack of research specifically focused on principals, the review of literature did not reveal any instruments that could be replicated. Therefore, the interview questions have been developed by the researcher based on findings from related literature and recommendations for further study from Elias (2012) and Sinanis (2014).

According to Merriam (2009), it is important to develop several types of questions when designing instruments that gather qualitative feedback. The validity of the instrument improves when questions are open-ended, clear, avoid technical jargon, and are not biased or leading.

The qualitative design focused on two stages of interviews. The first set of questions is categorized as “background/demographic” (Merriam, 2009 p. 96). These questions were relevant because they provided a deeper understanding of the participants (Merriam,
As follows, the first set of questions were collected by paper and pencil format prior to the interview:

1. Number of total years as head principal
2. Current principal position most resembles: primary, intermediate, secondary, combination of primary and intermediate, combination of secondary and intermediate, K-12
3. Current principal position setting most resembles: rural, urban, suburban
4. Number of years using social networking sites professionally
5. How often participant uses Twitter professionally

The second set of interview questions were categorized as “experience and behavior; opinion and values; and knowledge” (Merriam, 2009, p. 96), and were outlined in the interview protocol document (Appendix A).

Merriam (2009) stated that piloting interview questions was a “crucial” (p. 95) step in the process of developing valid qualitative measures. Therefore, a pilot study was conducted on the interview questions to increase instrument validity. An educational administration and leadership doctoral cohort reviewed the interview questions for clarity and offered specific feedback. This helped to ensure that the questions were relevant and understandable to participants (Merriam, 2009). Feedback was used to improve the content of the interview instrument.

The interview protocol (Appendix A) outlines the procedures that guided the researcher through the interview process (Bowen, 2005; Creswell, 2009). This interview protocol ensured consistency with each participant during the interview. Important components of the interview protocol as outlined by Creswell (2009) included:
• Pre-interview: date, place, interviewee, welcome, and information pertaining to the interview

• Interview: questions
  ▪ Stage 1: background/demographic information (Merriam, 2009)
  ▪ Stage 2: experience and behavior; opinion and values; and knowledge (Merriam, 2009)

• Post-Interview: opportunity for additional questions and final thank-you

A semi-structured interview format was used. The researcher responded to clarification questions and provided follow-up questions (probes) to gather deeper understandings when necessary. This was an important and valuable aspect of qualitative research according to Merriam (2009).

As previously noted, the pre-interview data and stage one interview data was collected by pencil-paper means. Interviews took place in the setting chosen by the participant and at a time convenient for the participant. An iPhone and iPad, using the app Supernote, were used to audio-record the interviews. Audio files were saved and transcribed into text files that were later coded and analyzed. Interviews required approximately one hour to complete.

**Overview of Procedural Timeline**

The researcher’s presentation of the preliminary proposal of study was August 27, 2015. The researcher then identified study participants during the fall of 2015. To do so, a purposeful sampling (Chein, 1981; Merriam, 2009) of participating principals was selected using the criteria outlined in the Participant Selection section of this chapter.

Once participants were selected and participant involvement was confirmed,
interview times and places were arranged between the researcher and participants. The interview process outlined in the Data Collection section of this chapter was followed. Participant interviews and data collection took place from November through December of 2015.

Study data was transcribed, coded, categorized, and analyzed in January of 2016. Transcribed responses were organized and analyzed by theme. Themes were examined and participant responses were sorted accordingly to ascertain findings and formulate answers to the research questions of the study. A matrix of research questions and interview questions (Appendix B) was used to facilitate the process. The matrix design was created by Johnson (2015).

**Summary**

This chapter outlined the research methodology for the proposed qualitative case study focused on principals’ perceptions of using SNS for personal, professional development. Design elements, methods, and criteria were outlined for the participant selection process. Instrumentation and process for data collection were described by the researcher. The research design was presented and timelines for the study were outlined.

Chapter four will present the findings and synthesis of the participants’ responses and data collected. The chapter outline is organized by the three research questions presented in this chapter.
Chapter IV: RESULTS

Study Overview

The review of literature indicated that the development and growth of technology over the past few decades has merged with the constant evolution in educational professional development. Literature also revealed a noticeable gap in educational research between technology and professional development. Although there seems to be emerging and increasing numbers of studies focused on how scholars, learners, educators, teachers, and other professionals use Social Networking Sites (SNS) for learning and personal, professional development, little research was found on principals’ use of SNS for learning and personal, professional development.

Study Purpose

The purpose of this case was to gather information about how selected principals used SNS to meet their personal, professional development needs, with specific emphasis given to Twitter. This study also examined selected principals’ perspectives on the effectiveness of using SNS for personal, professional development. The researcher intended to specifically explore the use of SNS by selected principals to provide sustained, on-going and intensive learning; provide practical engagement and learning that is directly related to practice; provide collaboration and learning through sharing knowledge; and provide participant driven/constructive learning (Rutherford 2010). The study was designed to add to the limited field of knowledge.

Research Questions

In implementing this study, three general research questions guided the study. The research questions were:
1. How are selected principals using Twitter to access content that directly relates to practice and construct personalized learning?

2. How are selected principals using SNS to collaborate with other practitioners and sustain a level of expertise?

3. What are selected principals’ perceptions of the effectiveness of using SNS for personal, professional development purposes?

Research questions were framed according to Rutherford’s (2010) review of literature, which concluded that effective professional development is practical (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Hirsh, 2004; Nord, 2004; Wei et al., 2009), participant-driven or constructivist in nature (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Wayne et al., 2008), and collaborative (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Hirsh, 2004; Nord, 2004; Warren-Little, 2006) and helps professionals sustain a level of expertise (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Wayne et al., 2008; Wei et al., 2009).

**Study Participants**

This case study considered the perspectives of active, lead principals who serve in public school settings and are self-described, “experienced Twitter users.” A purposeful (or purposive) sample was used to select participating Minnesota principals by securing the support of the Minnesota Association of Secondary School Principals (MASSP), followed by a snowball sampling method (Patton, 2002). Purposeful sampling methods included identifying specific criteria or skills that were most relevant to the case and therefore offered the opportunity for the researcher to maximize learning about the case study (Chein, 1981; Merriam, 2009).
To increase validity of the study, specific criteria were established. The criteria for selecting participating principals included the following:

1. The selected principals were active, practicing head principals. This was important to the study because of the focus on sustained and practical professional development (Rutherford, 2010).

2. The selected principals serve in public school settings only. This was important to the study because it allowed for greater consistency between job duties and expectations.

3. The selected principals were experienced Twitter users. This was important to the study because Twitter was selected as the social network site utilized in the study. It was important to select principals who were using Twitter largely for professional purposes.

4. The selected principals included public school principals serving in an elementary, middle school, high school, or combined school capacity. This was important to the study because it took into account all of the varied types of head principal positions and allowed for flexibility in the selection process.

According to Kormuta and Germaine (2006),

Interviews in qualitative research are likely to produce large amounts of data, and therefore the number of participants should be limited to keep the study manageable. For this reason, few qualitative studies conducted by individual researchers have more than six participants. (p. 49)

Patton (2002) agreed that it is important to specify a minimum sample size when purposing a study. Due to this, the researcher selected five total participants for the study.

Research Design

The following instrumentation and research design was adapted from a qualitative
case study conducted by Johnson (2015). This study used qualitative interviews to gather evidence of and learn more about principals’ perspectives of using SNS for personal, professional development purposes.

In order to provide validity to the case study, a single social network site was selected. Twitter was selected as the social network site tool used in the study. Twitter was the SNS most generally used in educational settings. According to ebizmba.com, in December of 2014, Twitter was the SNS most frequently used—second only to Facebook—and had an estimated 310,000,000 monthly users. It was also recognized that Twitter was the tool used at many educational conferences by educational associations (MESPA, MASSP, PBIS, MDE) as a backchannel discussion board for professionals to share ideas and comments, network with each other, and post new learning.

Data was collected using a semi-structured format and interview questions. Due to the lack of research specifically focused on head principals, the review of literature did not reveal any instruments that could be replicated. Therefore, the interview questions have been developed by the researcher based on findings from related literature and recommendations for further study from Elias (2012) and Sinanis (2014).

According to Merriam (2009), it is important to develop several types of questions when designing instruments that gather qualitative feedback. The validity of the instrument improves when questions are open-ended, clear, avoid technical jargon, and are not biased or leading.

The qualitative design focused on two stages of interviews. The first set of questions were categorized as “background/demographic” (Merriam, 2009 p. 96). These questions were relevant because they provided a deeper understanding of the participants and the
case study (Merriam, 2009). As follows, the first set of questions were collected by paper and pencil format prior to the interview:

1. Number of total years as head principal
2. Current principal position most resembles: primary, intermediate, secondary, combination of primary and intermediate, combination of secondary and intermediate, K-12
3. Current principal position setting most resembles: rural, urban, suburban
4. Number of years using social networking sites professionally
5. How often participant uses Twitter professionally

The second set of interview questions were categorized as “experience and behavior; opinion and values; and knowledge” (Merriam, 2009, p. 96), and were outlined in the interview protocol document (Appendix A).

Merriam (2009) stated that piloting interview questions was a “crucial” (p. 95) step in the process of developing valid qualitative measures. Therefore, a pilot study was conducted on the interview questions to increase instrument validity. An educational administration and leadership doctoral cohort reviewed the interview questions for clarity and offered specific feedback. This helped to ensure that the questions were relevant and understandable to participants (Merriam, 2009). Feedback was used to improve the content of the interview instrument.

The interview protocol (Appendix A) outlines the procedures that guided the researcher through the interview process (Bowen, 2005; Creswell, 2009). This interview protocol ensured consistency with each participant during the interview. Important components of the interview protocol as outlined by Creswell (2009) included:
• Pre-interview: date, place, interviewee, welcome, and information pertaining to the interview

• Interview: questions
  ▪ Stage 1: background/demographic information (Merriam, 2009)
  ▪ Stage 2: experience and behavior; opinion and values; and knowledge (Merriam, 2009)

• Post-Interview: opportunity for additional questions and final thank-you

A semi-structured interview format was used. The researcher responded to clarification questions and provided follow-up questions (probes) to gather deeper understandings when necessary. This was an important and valuable aspect of qualitative research according to Merriam (2009).

As previously noted, the pre-interview data and stage one interview data was collected by pencil-paper means. Interviews took place in the setting chosen by the participant and at a time that is convenient for the participant. An iPhone and iPad, using the app Supernote, were used to audio-record the interviews. Audio files were saved and transcribed into a text files that were later coded and analyzed. Interviews required approximately one hour to complete.

The findings of this study are reported according to the general research questions. This chapter presents the findings of the study by examining each research question independently and analyzing the results of information provided by selected principals. The findings are then synthesized accordingly.
Participant Demographics

Stage one of the interview process revealed background and demographic information about the participants and provided a deeper understanding of the case study (Merriam, 2009, p. 96). Five active head principals participated in the study. Participant confidentiality was maintained throughout the study in accordance with Institutional Review Board (IRB) standards.

Participating principals’ positional status and experience by varying classifications are reflected in Table 4.1.

<table>
<thead>
<tr>
<th>Principal</th>
<th>Level</th>
<th>Demographic Setting</th>
<th>Total Years of Experience as Lead Principal</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Primary</td>
<td>Suburban</td>
<td>18</td>
</tr>
<tr>
<td>B</td>
<td>Secondary</td>
<td>Suburban</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>Secondary</td>
<td>Suburban</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>Primary/Intermediate</td>
<td>Suburban</td>
<td>11</td>
</tr>
<tr>
<td>E</td>
<td>Secondary/Intermediate</td>
<td>Urban</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 4.1 illustrates the various positional statuses and years of experience of the participants. Respondents represented a moderate range of varied positions and years of experience.

Research Question One: Emerged Themes

How are selected principals using Twitter to access content that directly relates to practice and construct personalized learning?
The first research question addressed two of the identified key characteristics to effective professional development (Rutherford, 2010): practical (directly relates to practice) and participant-driven or constructivist in nature. The researcher examined principals’ perceptions of practicality when using Twitter, for personal and professional development. Table 4.2 reveals the participating principals’ years of experience using Twitter for professional and, or personal development.

**Table 4.2 Principals’ Years of Experience and Frequency of SNS**

<table>
<thead>
<tr>
<th>Principal</th>
<th>Total Years of Experience using SNS</th>
<th>Frequency of Twitter Use for Professional Purposes – per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3</td>
<td>20+</td>
</tr>
<tr>
<td>B</td>
<td>4</td>
<td>20+</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
<td>11-15</td>
</tr>
<tr>
<td>D</td>
<td>5</td>
<td>20+</td>
</tr>
<tr>
<td>E</td>
<td>3</td>
<td>20+</td>
</tr>
</tbody>
</table>

Table 4.2 illustrates demographic information about participants’ use of SNS for professional purposes. It was reported that all of the respondents had multiple years of experience using SNS for professional purposes and all but one of them currently use Twitter more than twenty times per week for professional purposes.

From the interview questions, emerged common themes among the participants about their specific use of Twitter for practical purposes within their profession. These common themes are reflected in Table 4.3.
Table 4.3 Emerged Themes Related to the Practicality of Using Twitter for Personal and Professional Development

<table>
<thead>
<tr>
<th>Emerged Themes</th>
<th>Summary of Positive Feedback</th>
<th>Summary of Challenges or Cautionary Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared ideas and/or practices from others</td>
<td>Each principal reported using Twitter to learn about ideas and practices that other professionals shared as a practical application of professional development.</td>
<td></td>
</tr>
<tr>
<td>Easy Accessibility to information</td>
<td>Each principal reported using Twitter to efficiently seek and access information related to their job as a practical application of professional development.</td>
<td></td>
</tr>
<tr>
<td>Implementation of practices learned</td>
<td>Principals A, C, and E reported examples of specific practices that have been implemented as a result of Twitter use.</td>
<td>Principal E cautioned about the importance of being intentional with Twitter to ensure that it remains practical and time is not wasted.</td>
</tr>
<tr>
<td>Connectivity to others</td>
<td>Principals A and E reported using Twitter to connect to other professionals and leaders in the educational field as a practical application of professional development.</td>
<td></td>
</tr>
</tbody>
</table>

Sample excerpts of participant responses, used in forming the themes of Table 4.3, were categorized and provided in the following sections.

**Shared Ideas and Practices from Others.** Principal A stated, “I can tell you that learning and reading and listening and connection through the Spring and Summer has changed my practices for the current school year.” He also noted that he is evaluating “…staff observations and protocols this year because of what I hear and learn from other principals.”
Principal C stated, “And then there’s some new stuff out there (on) the staff development and professional development side of things. How is it being used with teachers and your staff to help grow or create conversations…”

Principal D referenced blog posts that people share ideas in. “…it’s gonna be somebody's practice that they've implemented, reflected on, and shared.”

Principal E reported:

Practical content that I have pulled from Twitter is found in, often times, in chats, specifically, Saturday morning, six thirty in the morning, SATCHAT. Saturday chat with the hashtag SATCHAT. There have been things in there that have been very practical because they're shared by other people in the chats.

**Accessibility to Information.** Principal A stated, “I don’t have to wait anymore. I can look things up. I can lurk in Twitter chats...It’s just so immediate.”

Principal B concurred, “If you go and look, it’s there, and you don’t generally have to look very hard.” He reported that he used Twitter to, “find out what’s happening in other schools, not just in Minnesota, but across the country.” He specifically looks for, “What are things that are working in terms of teacher development? What are things that are working to help kids find greater success academically?” He went on to state, “I look for a lot of motivational type things for kids. I like to post things, and search for things that kind of hit kids in the heart, where they feel it.”

Principal C stated: “It’s a very easy, simplistic way to get information from various sources. It’s easily accessible. And you can...start breaking it down, whatever it is, by hashtag, and then start honing in on that. So it’s very powerful in that sense.”

Principal D shared:

Well, I think that’s where I’m going more than anywhere else, other than Google, to help find information.” He went on to state, “I don’t have to go too deeply to get it (information), like we used to. We used to have to go searching specifically for
things, and it now sometimes falls in your lap a little bit. One thing that I like about it, because of the style of leader I am, relates to efficiency.

Principal E stated, “Well, it's real time, real world. It’s right now and it’s right at my fingertips, twenty-four-seven. So if there’s something I’m looking for, I can find it, something, immediately.” She went on to caution, “There’s a lot of good stuff out there. You just need to know where to go. You could spend hours wasting your time too.”

Implementation of Practices Learned. Principal A reported:

One practice change is, there was a principal colleague in Arkansas who talked about that she uses the program S’more to create a weekly bulletin. Well, we had a bulletin here. It still exists, it was just a word document, but I wanted to enhance communication, so I started [Principal A’s] Monday Morning Memo S’more Newsletter in which I enhance communication to staff. So, I’m creating next Monday's this week. I edit it and finalize it on Friday. I delay delivery until Monday morning, so everyone gets it at seven (o’clock) AM Monday morning.

Principal A also reported that he started a blog because of the influence of the people that he follows on Twitter, and credited engagement with Twitter and other online social connections to helping formulate 21st century school initiatives in his school, such as: Makers Space Activities, Genius Hour Activities, Mystery Skyping, Robotics, Coding, and Periscoping.

Principal D reported about an idea that he had implemented based on his Twitter use:

I see that practical application piece. I’ve done some video of our staff meeting. I’ve been using Touchcast to do that. In a matter of five minutes, I go through my nuts and bolts and it’s pretty raw at times and has some mistakes in it. They don’t care. I’ve gotten more polished as I’ve gotten used to being in front of the camera and using the software, or the app that is.

Principal E spoke of the importance of intentionality when putting new learning into practice:
There was a recent comment on Twitter that really made me think. Saying, ‘Are Twitter chats just the latest buzzword or are people actually doing something because they participated in a Twitter chat?’ Every Twitter chat, I (am) thinking of that now. Every time I go into a Twitter chat, I’m thinking, ‘I’m not going to spend this hour here, unless I’m gonna take something out of it. And what is it, when I get done, that I’m gonna take out and take to the next step? Yea! You sit in those for a good hour, but then, it’s like students, (if) you don’t put a summary on something, what meaning does it have? Where are you going with it?

**Connectivity to Others.** Principal A reported:

There is so much that I have gained from Twitter. One of the connections is creating a PLN, Professional Learning Network, of other connected educators. I connected with a group in the Spring that uses the hashtag #leadupchat. So, I started to join in on Saturday morning on this leadupchat. That has moved, for me into a Voxer group. So, I actually learn as much on Voxer as I do on Twitter, but it started with Twitter.

Principal E also spoke of connecting with others for practical learning through chats:

There might be anywhere from fifty people to two hundred people on Saturday morning in that chat (#SATCHAT). And they are people that have growth mindsets, similar to mine, that share things they've done or things they've tried, or things they’re going to be trying. So for me, it’s been practical stuff that I’ve latched onto and I’ve either tweaked, or tried, or brought back to share with others.

Principal E went on to state, “And there’s some key people that are good to follow that have very practical, real-life things that they’ve also done, and experienced, and reflected on that have made sense to me.”

Within research question one, the researcher also examined principals' perceptions of constructivism when using Twitter for personal, professional development. In other words, do principals report that the use of SNS for personal, professional development is (or can be) participant driven and if so, how? Table 4.4 reflects the following themes emerged from the interviews around this concept.
Table 4.4 Emerged Themes Regarding Principals’ Perceptions of Participant Driven Learning (or Constructivism) and Twitter

<table>
<thead>
<tr>
<th>Themes re: Participant Driven Learning and Twitter</th>
<th>Summary of Positive Feedback</th>
<th>Summary of Challenges or Cautionary Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice - whom to follow or un-follow</td>
<td>Each principal reported that choosing users to specifically follow when building a PLN allowed the tool to be participant driven.</td>
<td>Principal D &amp; E reported that it was important to be selective when choosing whom to follow to maximize effectiveness.</td>
</tr>
<tr>
<td>Choice - the level of engagement and when to engage</td>
<td>Principals A, C, and D reported that choosing to active or passively engage with Twitter based on the moment and time allocations allowed the tool to be participant driven.</td>
<td></td>
</tr>
<tr>
<td>Use of other social networking tools to enhance Twitter effectiveness</td>
<td>Principals A and D reported the use of Tweetdeck to monitor Twitter information, and Principals A and E reported the use of Voxer to enhance learning.</td>
<td></td>
</tr>
<tr>
<td>Choice - information consumption based on needs</td>
<td>Principals C and E reported that choosing specific information based on a need or inquiry by the participant allowed the tool to be participant driven.</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.4 illustrates the common themes that emerged from the participants’ responses to questions about the use of Twitter as a tool that can be driven by participants. All principals reported that Twitter was a tool that was participant driven because of various choices and tools that the users can utilize to tailor use. Sample excerpts of participant responses, that comprised Table 4.4, were categorized and provided in the following sections.

Choosing Whom to Follow or Un-follow. Each of the principals indicated that choosing whom to follow (or un-follow) added efficiency and effectiveness to the use of Twitter for personal, professional purposes. Principal D stated, “I can choose who I want to
follow. I can tailor it according to those people that I believe offer something for me, and I can follow who they follow. And there are people and things that I have un-followed.”

When asked whom participants choose to follow, the answers included:

• People or groups that Tweet out current event/happenings to stay current
• People or groups who inspire
• People who the principal has met before or he/she has a professional relationship with
• People or groups that the principal disagrees with
• People or groups with similar values
• People or groups that put out valuable professional ideas
• Principals
• Leaders
• People engaged in a valued chat discussion
• Teacher leaders
• Superintendents

Principals D and E spoke of the importance of being selective with whom to follow and reported that at times un-following people is appropriate.

**Choosing the Level of Engagement and When to Engage.** Principal A stated:

The way it’s personalized for me is when I’m engaged in the Twitter chat... in that hour, there sometimes are topics and questions that hit home so much for me that I contribute, and I ask questions. And sometimes the topic isn’t that interesting to me, so that’s when I have Tweetdeck up running and I’m walking around the house doing other things.

Principal A went on to state that the use of the social network tool named Voxer has also really “enriched” his experience. Principal D also referenced Tweetdeck to help him
monitor when to engage or not engage. He expressed that time constraints have been a factor in him choosing to not engage in the chat element of Twitter and acknowledged focusing on time with his young family, rather than Twitter chats.

Principal C reported, “If it’s five minutes at lunch, I’ll just grab it (Twitter) real quick to see if there’s anything out there. Sometimes I’ll copy it, send myself an email with it, just so I can pull it up later.”

**Information Consumption Based on Needs.** Principal C cited a one-to-one technology initiative that his school was implementing as a focal point for information recently sought through Twitter. He reported about the value in using Twitter to “hone in” on specific information that helped to inform their initiative. This information included connecting with other schools that have undergone similar initiatives in order to learn about their experiences.

Regarding choosing information for consumption, Principal E stated:

It’s kind of, I guess, what you put into it. If you personalize it to fit your needs or if you’re looking for certain needs, I think you have that personal lens... I also personalize things by looking for things. Like right now we’re involved with moving to a full-service community school. So, I’m really looking at who might be leaders in that area that I can follow and personalize things that way.

Principal E went on to report:

I’m driving it. I can find things to meet my needs of find links that will take me even further. I think that’s one of the things that I really appreciate with Twitter, is the links out there that will take you to some really good research stuff, or some really good reading stuff. So if I want to read up on something, this whole community school movement, you know, I’ve found some things out there. Or other initiatives with our PLC work. And so, even personalizing my learning, (Twitter) connects me with others who are trying to figure things out or have done something (similar), and that helps me learn.
Research Question Two: Emerged Themes

Collaboration and Twitter

How are selected principals using Twitter to collaborate with other practitioners and sustain level of expertise?

The second research question addressed two of the identified key characteristics to effective professional development, according to Rutherford (2010): effective professional development is collaborative and helps professionals sustain a level of expertise. The researcher examined participating principals’ perceptions of using Twitter to collaborate with other professionals.

In Table 4.5 the following themes emerged regarding Twitter and collaboration.
Table 4.5 Emerged Themes Regarding Principals’ Perceptions of using Twitter to Collaborate with other Practitioners

<table>
<thead>
<tr>
<th>Themes: Collaborative Uses and Thoughts</th>
<th>Summary of Positive Feedback</th>
<th>Summary of Challenges or Cautionary Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchanging and sharing of resources and/or ideas</td>
<td>Each principal reported using Twitter to exchange and/or share resources and/or ideas as examples of collaboration through Twitter.</td>
<td></td>
</tr>
<tr>
<td>Consumption versus sharing</td>
<td>Four out of five principals (A,B,C,D) reported that they consume information/ideas more than share information/ideas when they collaborate with others on Twitter. Principal E reported that she consumed and shared information/ideas equally.</td>
<td>Principal B reported that he consumed more due to time constraints and felt that he didn’t always have the time to share.</td>
</tr>
<tr>
<td>Deeper collaboration</td>
<td></td>
<td>Principals A and E reported that, although they make initial connections and begin collaboration with Twitter, other resources/tools are used to take collaboration deeper and make it more meaningful.</td>
</tr>
</tbody>
</table>
| Other reported examples of collaboration through the use of Twitter | • Sharing stories of success  
• “Lurking” in chats  
• “Connecting” with like-minded professionals everywhere, regardless of distance apart | |

Table 4.5 illustrated the common themes that emerged from the participants’ responses to questions regarding the use of Twitter for collaborative purposes. Sample excerpts of participant responses were categorized and provided in the following sections.

**Exchanging and Sharing of Resources/Ideas.** Principal D touched on retweeting as a way in which Twitter supports the sharing of ideas and resources:

Well, I think collaboration begins at its simplest form probably if you are sharing something with the world when you put it on Twitter, or if somebody’s willing to share something that other people have put on Twitter - the whole re-tweeting thing. So it’s kind of this open forum for sharing.
Principal E reflected on feedback as a source of sharing. “There’s a piece of feedback that you get after you share something on Twitter that somebody responds to that does something for you that energizes you.”

**Consumption of Information versus Sharing Information.** Principal B expressed that, although he shares about happenings in his school often, when it comes to personal, professional development, he consumes more because of time constraints. He indicated that this was an intentional choice. Conversely, when asked about consumption versus sharing, Principal E stated, “I’m going to say fifty-fifty. I do share things and I do also consume things. So, I think it has to be a give and take. I’m just not out there to consume, consume, consume.”

**Collaboration at a Deeper Level.** Principals A and E spoke about the importance of taking Twitter connections “deeper” in order to make more meaningful and authentic connections. These methods included meeting and/or working with others in person and using other social media tools such as Voxer and Periscope to deepen the connection or experience.

Principal A elaborated and shared a story about using Voxer to connect with his PLN during a difficult time:

For the first time in my career, I had a student die during the school year...I shared this experience (on Voxer), saying, ‘I’ve had the most difficult day of my professional career. I need your thoughts and prayers and spirit with me.’ The support I received was just overwhelming. And ideas and suggestions I got...

...I delivered the Eulogy for the child. I got some feedback from other principals who had gone through the same experience. It was, ‘We experienced this, remember this, remember this, and remember this.’ Another principal shared that they did a balloon launch to honor the child. I took that idea. We’re planting a tree in the spring. So (what) was one of the most difficult experiences I’ve ever had as a principal, I was able to reach out through social media and get the support that I needed.
Other examples of collaboration through the use of Twitter included the sharing of stories and successes from school to the public, “Lurking” in educational chats and connecting with like-minded individuals regardless of distance.

**Sustaining a Level of Expertise and Twitter**

Within research question two, the researcher examined principals’ perceptions of using Twitter to sustain a level of expertise in their field. In Table 4.6, the following themes are reflected from the interviews.

Table 4.6 Emerged Themes Regarding Principals’ Perceptions of Using Twitter to Sustain a Level of Expertise

<table>
<thead>
<tr>
<th>Themes: Uses to Sustain Levels of Expertise</th>
<th>Summary of Positive Feedback</th>
<th>Summary of Challenges or Cautionary Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stay current</td>
<td>Each principal reported using Twitter to stay current with educational practices, trends, research, and/or happenings in other schools as practices that helped to sustain levels of expertise.</td>
<td>Principals A and E reported that it was important to take the information accessed through Twitter to a deeper level.</td>
</tr>
<tr>
<td>Efficiency factors</td>
<td>Four out of five principals (B,C,D,E) reported that time and accessibility make the use of Twitter a helpful tool for sustaining levels of expertise.</td>
<td></td>
</tr>
<tr>
<td>Spark ideas</td>
<td>Principal A and E reported that Twitter helps to spark thoughts and ideas that would lead to further inquiry or engagement.</td>
<td></td>
</tr>
<tr>
<td>Connectedness</td>
<td>Principal A reported that his associations with other professionals have been important in his ability to sustain his passion in the field.</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.6 illustrated the common themes that emerged from the participants’ responses to questions regarding the use of Twitter to sustain levels of expertise. Sample excerpts of participant responses were categorized and provided in the following sections.
**Stay Current.** Principal B reported:

I read a lot. And it’s funny because, I think, in the past we would go and read journals and things like that. When the kids go to bed, I’ll be on my phone and my wife will be like, ‘What are you doing on there?’ I’ll say, ‘I’m on Twitter.’ She says, ‘Well why are you doing social media?’ And I’ll say, ‘I’m actually reading. I’m learning about some of these different teaching practices that are out there so I can be better at my job.’ ... I do use that a lot to get caught up on research and folks that I’d met.

Principal C concurred by describing the use of Twitter as a way to, “... [keep] up with what’s happening out there, and staying on the cutting edge, so we’re able to educate and empower our staff and our students to keep doing great things.”

Principal D expressed:

If I really wanted to know something that was presented to me that I didn’t know about, the first thing that I would go to, would probably be Google. The second thing that I would do is search Twitter, find some sort of hashtag associated with it. I think that’s my one-two.

Principal E reported:

Sometimes if you have a little bit of time just to even scan the headlines of what’s happening with Twitter, with people you follow, you stay very current and up-to-date on research. Students that I talked with two weeks ago at UMD (University of Minnesota – Duluth) that were finishing up the semester in the teaching field, I encouraged them to go on Twitter and read some of the headlines and look at some of the buzz words prior to an interview, so they would be able to know what some of the questions might be coming at them with current research and type things.

Principals B and C also disclosed that Twitter helped them stay current with things that were happening in other schools. Following leaders in other districts reportedly helped to keep a pulse on the innovative happenings in other places.

**Efficiency Factors.** As Principals B and E eluded in previous statements, a theme of timeliness and efficiency factors emerged in the responses. Principal B elaborated in a later response:
...I’d be reading EdWeek (in the past) and I’d be doing all those things, and it would take me a lot more time. I probably wouldn’t be able to read as much because I’d have to take time to go and find it. Right now, I can hop on Twitter and just scroll through it and I can see, ‘Oh, I’m interested in that.’ And so it really keeps all of us current.

Principal D spoke about the 140 character limit as a feature that allows information to be summarized, and more effectively sorted for value “To me, it’s an efficiency thing...one hundred and forty characters really sums it up.”

Principal C cited accessing information “instantly” as an advantage of using Twitter to stay current on research or leading concepts.

**Spark Ideas to Go Further.** Principals A and E reported that Twitter helped to spark thoughts and ideas that would lead to further inquiry or engagement, such as: connecting in-person, accessing blogs, or taking action-steps in his/her own school.

Principal A stated, “Twitter is the spark of ideas, but then if I want more content or research, then I will go to their other resources, which could include their blog posts, their podcasts, their Facebook page, the Voxer group.”

Principal E concurred:

I find things out through Twitter...But then it’s actually going and carrying out and doing even more. And so far, for me to sustain a level of expertise, I still need more. I need more than what Twitter has. And for me, some of that is physically attending a conference ... Twitter’s good. Social media’s good, but for me personally, yea, I still need some of that.

**Connectedness.** Principal A related his association with other like-minded professionals as important to his ability to sustain his passion in the field:

I get to stay on top of things and be knowledgeable...this idea of sustaining my level of expertise in the field. This is my thirty-fourth year in education. I keep telling everyone (that) my plan is to be principal at (school) for six more years and then be able to retire. I feel more connected, more knowledgeable, more hopeful, more motivated now, in my thirty-fourth year, than ever before in my career because of the tools and the resources that we have available.
Principal A went on to disclose that he felt that the use of social media has also kept him connected to students and how students choose to learn.

**Research Question Three: Emerged Themes**

What are principals’ perceptions of the effectiveness of using SNS for personal professional development purposes?

The third research question focused on participating principals’ general perceptions of effectiveness regarding Twitter for personal, professional development. The interviewer probed for evidence of such perceptions. Principals reported the most effective ways that they each use Twitter professionally. They also rated the value of using Twitter based on Rutherford’s (2010) key characteristics—practical, participant-driven, collaborative, and sustainable—of quality professional development. The following sections summarize these findings.

**Most Effective Uses of Twitter by Each Principal**

The researcher examined principals’ perceptions of the most effective uses of Twitter for personal, professional development. The following information was synthesized from the interviews in Table 4.7.

Table 4.7 Participants’ Reported Most Effective Professional Uses of Twitter

<table>
<thead>
<tr>
<th>Participant</th>
<th>Most Effective Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant A</td>
<td>Accessing information/ideas and using them in school</td>
</tr>
<tr>
<td>Participant B</td>
<td>Marketing/promoting school and accessing information/ideas</td>
</tr>
<tr>
<td>Participant C</td>
<td>Marketing/promoting school and using Twitter to establish positive culture</td>
</tr>
<tr>
<td>Participant D</td>
<td>Marketing/promoting school happenings</td>
</tr>
<tr>
<td>Participant E</td>
<td>Sharing ideas and collaborating with others</td>
</tr>
</tbody>
</table>
Table 4.7 illustrates the information reported by participants regarding their most effective professional use of Twitter. Sample excerpts from participant responses are provided in the following sections.

Principal A recounted a story about a blog post from a well known, nationally recognized, teacher that he read. He outlined the point of emphasis that he had recently made with his staff. He shared the post with his staff (through the teacher’s perspective), asked them to reflect on it, and be prepared to discuss it at an upcoming meeting. This led to a more efficient and deeper discussion by staff members.

Principal B reported that marketing his school and consuming information/ideas were most effective uses of Twitter for him.

Similarly, Principal C cited the use of Twitter to help create a positive culture as he transitioned to a new high school:

I use it to engage with students...Kind of building culture and climate...posting things about students or the great things that are going on in the school, the things that are happening with our activities, or things that are going on with teachers.

Principal D concurred stating:

I use it to promote our school...promoting the positive work that is happening...This afternoon at two-o’clock, we have our jibberbox. It’s a STEM project where the fourth graders had to get junk to move with a little motor in an engineering project. So, I’m going to go in there and I’m gonna take four pictures and I’m going to Tweet it out and say, you know, with one hundred and forty characters summing up what we did...Positive promotion of the work.

Principal E reported the most effective use of social networking for her is the relationships that have formed as a result of connections made through Twitter:

To have a group of people who have similar interests and to be able to bounce ideas off, ask each other questions, practice things, try things out, and come back together and talk about how it went ... Those groups are probably most effective.
Effectiveness of Twitter According to Rutherford Characteristics

Within research question three, the researcher requested participants rate Twitter on its developmental effectiveness based on Rutherford’s (2010) key characteristics of quality effectiveness: practical, participant-driven, collaborative, and sustainable. The following tables reflect those ratings by each characteristic.

Table 4.8 Principal Ratings for “How Effectively Does Twitter Access Content that Directly Relates to Your Professional Practice?”

<table>
<thead>
<tr>
<th></th>
<th>Principal A</th>
<th>Principal B</th>
<th>Principal C</th>
<th>Principal D</th>
<th>Principal E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Valuable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat Valuable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Valuable</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Extremely Valuable</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

One hundred percent of respondents rated the use of Twitter for practical purposes as very valuable or higher.

Table 4.9 Principal Ratings for “How Effective is Twitter for Constructing Personalized Learning that You Direct?”

<table>
<thead>
<tr>
<th></th>
<th>Principal A</th>
<th>Principal B</th>
<th>Principal C</th>
<th>Principal D</th>
<th>Principal E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Valuable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat Valuable</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Very Valuable</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extremely Valuable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

A majority of the respondents rated the use of Twitter for constructing personalized learning as very valuable or higher. All participants saw some value in using Twitter to construct personalized learning.
Table 5.0 Principal Ratings for “The Value of Using Twitter for Collaborating with Other Practitioners?”

<table>
<thead>
<tr>
<th></th>
<th>Principal A</th>
<th>Principal B</th>
<th>Principal C</th>
<th>Principal D</th>
<th>Principal E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Valuable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat Valuable</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Very Valuable</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Extremely Valuable</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A majority of the respondents rated the use of Twitter for collaborating with others as very valuable.

Table 5.1 Principal Ratings for “The Value of Using Twitter in Sustaining Level of Expertise in Your Field?”

<table>
<thead>
<tr>
<th></th>
<th>Principal A</th>
<th>Principal B</th>
<th>Principal C</th>
<th>Principal D</th>
<th>Principal E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Valuable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat Valuable</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Very Valuable</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Extremely Valuable</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A majority of the respondents rated the use of Twitter for sustaining a level of expertise in their field, as very valuable.

Summary

This chapter reported on the findings from three research questions. Interview responses were recounted from five participating principals who actively used Twitter for personal, professional development. The study sought evidence, or a lack of evidence, related to the key characteristics of effective professional development as noted in the review of literature. It also sought principals’ perceptions of using social network tools, specifically Twitter, for personal, professional development.
The first research question focused on the use of Twitter for accessing content that directly related to practice (practical) and constructing personalized learning (participant driven) (Rutherford, 2010). The findings provided evidence that verified the use of Twitter for personal professional development that was practical to their job as a principal. Such evidence included sharing and consuming information/ideas that led to changes in practices and procedures. The findings also revealed evidence to support the concept of using Twitter for personal, professional development that can be driven, personalized, and tailored according to the individual. Principals specifically noted the use of Twitter to search for specific information and ideas, to follow selected individuals based on interest and like values, and to choose when to engage based on time and convenience factors.

The second research question focused on the use of Twitter, for collaborating (collaborative) with other practitioners and sustaining a level of expertise (sustainable) (Rutherford, 2010). The findings provided evidence that verified the use of Twitter for collaboration with other educators, researchers, and principals among many other groups. Principals specifically reported Twitter as a collaborative tool, stating participation and/or lurking in professionally focused chats, sharing ideas and resources, and personal connections with colleagues/professionals through Twitter were key, strategic connections for them.

The third research question sought respondents’ perceptions of the effectiveness of using Twitter for personal, professional development purposes. Principals reported that Twitter was most effective for marketing and sharing school experiences with others, building a positive school culture, and connecting with others. Overall, principals gave a rating of very valuable or extremely valuable to 90% (18) of the four key elements that
characterize effective professional development. 10% (2) of the respondents rated the use of Twitter for professional development that is participant driven as *somewhat valuable*.

Chapter five examines the relationship between the findings and the literature, and presents the conclusions of the study. Limitations of the study are presented, and recommendations are made for possible future research. The researcher will also provide potential applications for the findings of the study and recommendations for further study.
Chapter V: CONCLUSIONS AND RECOMMENDATIONS

Introduction

The review of literature indicated that the development and growth of technology over the past few decades has merged with the constant evolution in educational professional development. Literature also revealed a noticeable gap in educational research between technology and professional development. Although there seems to be emerging and increasing numbers of studies focused on how scholars, learners, educators, teachers, and other professionals use Social Networking Sites (SNS) for learning and personal, professional development, little research was found on principals’ use of SNS for learning and personal, professional development.

The review of literature also revealed a study by Rutherford (2010) that examined the current research regarding effective professional development characteristics.

1. **Sustained, on-going and intensive** (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Wayne, Yoon, Zhu, Cronen & Garet, 2008; Wei, Darling-Hammond, Andree, Richardson & Ophanos, 2009)
   a. Supported by modeling
   b. Focused on specific problems or practices
   c. Embedded

2. **Practical** (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Hirsh, 2004; Nord, 2004; Wei et al., 2009)
   a. Directly related to practice
   b. Connected to and/or derived from work

3. **Collaborative** (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Hirsh, 2004;
Nord, 2004; Warren-Little, 2006)

4. Participant driven, constructivist in nature (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Wayne et al., 2008)

   a. Grounded in participants’ questions, inquiry, experimentation

   b. Grounded in profession-wide research

In this researcher’s study, it was reported that Rutherford’s common characteristics of effective professional development were in fact emerging themes within interview responses. The purpose of this case was to gather information about how selected principals used SNS to meet their personal, professional development needs, with specific emphasis given to Twitter. This study also examined selected principals’ perspectives on the effectiveness of using SNS for personal, professional development. The researcher intended to specifically explore the use of SNS by selected principals to provide sustained, on-going and intensive learning; provide practical engagement and learning that is directly related to practice; provide collaboration and learning through sharing knowledge; and provide participant driven/constructive learning (Rutherford 2010). The study was designed to add to the limited field of knowledge.

In implementing this study, three general research questions guided the study. The research questions were:

1. How are selected principals using Twitter to access content that directly relates to practice and construct personalized learning?

2. How are selected principals using SNS to collaborate with other practitioners and sustain a level of expertise?
3. What are selected principals’ perceptions of the effectiveness of using SNS for personal, professional development purposes?

Research questions were framed according to Rutherford’s (2010) review of literature, which concluded that effective professional development is practical (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Hirsh, 2004; Nord, 2004; Wei et al., 2009), participant-driven or constructivist in nature (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Wayne et al., 2008), and collaborative (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Hirsh, 2004; Nord, 2004; Warren-Little, 2006) and helps professionals sustain a level of expertise (Borko, 2004; Darling-Hammond & Mclaughlin, 1995; Wayne et al., 2008; Wei et al., 2009).

The case study gathered the perspectives of active, lead principals who served in public school settings and were self-described, “experienced Twitter users.” A purposeful (or purposive) sample was used to select participating Minnesota principals by securing the support of the Minnesota Association of Secondary School Principals (MASSP), followed by a snowball sampling method (Patton, 2002). Purposeful sampling methods included identifying specific criteria or skills that were most relevant to the case, therefore offering the opportunity for the researcher to maximize learning about the case study (Chein, 1981; Merriam, 2009).

The case study format allowed the researcher to examine specific uses of Twitter by principals for personal, professional development purposes. In doing so, the researcher was able to locate evidence of key elements of effective professional development as cited in the review of literature. Participating principals’ perceptions regarding Twitter for personal, professional development was also examined.
The following text will present discussion and conclusions of the study, limitations of the study, recommendations for the field, and recommendations for future research. All findings were based on study conclusions, and kept in relation to the literature review.

**Discussion and Conclusions**

Using qualitative interviews, the researcher examined respondent principals’ feedback for evidence or lack of evidence related to the key characteristics outlined in Rutherford's (2010) study about effective professional development. Principals’ perceptions of the effectiveness of using Twitter for personal, professional development were also gathered and reported.

**Research Question One**

How are selected principals using Twitter to access content that directly relates to practice and construct personalized learning?

Research question one addressed the key characteristics of “practical” and “participant driven” (or constructivist in nature) development, as cited by the 2010 Rutherford study.

**Practical.** Four themes emerged from the responses about the practicality of using Twitter for personal, professional development. They included: (1) shared ideas/practices from others, (2) accessibility to information, (3) connectivity to others, and (4) implemented practices learned. In the context of professional use, each of the themes is directly related to the practice of serving as a principal and connected to or derived from work (Rutherford, 2010).

The use of Twitter to access information that directly relates to the ambitions and needs of the user make it a tool that is practical by design. The functionality that allows
users to filter what they consume or post provides practicality by nature. Principals reported that the use of Twitter for personal, professional development was directly related to the work of the principal.

In the case study, evidence of such informal learning that was voluntary, self-directed, and often mediated within a social context (Falk, 2001; Dierking, Ellenbogen, & Falk, 2004) led respondents to practical changes in practices that impacted student opportunity and learning.

Principal A effectively summarized the findings related to the practicality of using Twitter in stating, “I can tell you that learning, and reading, and listening, and connection through the spring and summer has changed my practice for the current school year.”

Among multiple value statements that Principal E made regarding the use of Twitter as a practical tool for personal, professional development, she offered two cautionary statements that were notable in the research. “There’s a lot of good stuff out there. You just need to know where to go. You could spend hours wasting your time too.”

This cautions that effective personal, professional development needs to be focused on specific problems or practices that are directly related to work (Rutherford, 2010). Because of the broad and vast amounts of information housed in SNS, it may be easy to become an inefficient tool in the learning.

A second cautionary response that Principal E offered regarding the depth of learning while using Twitter:

There was a recent comment on Twitter that really made me think. Saying, ‘Are Twitter chats just the latest buzzword or are people actually doing something because they participated in a Twitter chat?’ Every Twitter chat, I (am) thinking of that now. Every time I go into a Twitter chat, I’m thinking, ‘I’m not going to spend this hour here, unless I’m gonna take something out of it. And what is it, when I get done, that I’m gonna take out and take to the next step? Yea! You sit (in) those for a
good hour, but then, it’s like students, (if) you don’t put a summary on something, what meaning does it have? Where are you going with it?

The comments by Principal E indicated a need for effective professional development to be specific in its design and intention. This coincides with Rutherford’s (2010) findings about designing professional development that is directly related to work. The caution lies in the fact that due to the nature of SNS, it may be easy to become inefficient or lack specific focus when learning.

These findings did not contradict the beneficial values reported by all respondents when asked about the use of SNS for personal, professional development that is practical, but rather supported the concept that truly effective professional development cannot be practical alone. It supports Rutherford (2010) findings that several key characteristics are required to ensure professional development is effective.

In summary, principals’ responses to questions that focused on their perspectives of if/how using SNS (specifically Twitter) for personal, professional development was practical were largely supportive.

**Participant driven.** All principals reported that they believed their professional learning through SNS was personalized, therefore, “grounded in the their own questions, inquiry, and/or experimentation” (Rutherford, 2010). All participants also reported the positive value of choice when using SNS for professional development.

The use of Twitter allows users to interact with others and/or the application itself in ways that are intuitive and directed by the user’s wants, needs, and interests. When principals focus their wants, needs, and interests on professional improvement, they can direct their own learning. The ability to choose when to engage, how long to engage, with
whom to engage, about what to engage, and how intensely to engage a topic or focus area also allows users to tailor their use to their own professional needs.

Many researchers (Rutherford, 2010; Bull et al., 2008; Quattrocchi, 2014; Brennan, 2013; Greenhow et al., 2009; Lin, 1999; Putnam, 2000; Ellison et al., 2007; Cohen, 2007; Barron, 2006; U.S. Dept. of Education, 2010; Falk, 2001; Dierking et al., 2004) acknowledge that professional learning is changing due to the evolution of new technological tools. Traditionally, professional development occurred in formal learning (OECD, 2010) contexts. In such formal learning contexts, it is difficult for participants to direct their own learning due largely to the structure of the event. According to the responses of the principals interviewed in the study, one of the most important advantages of using SNS for personal, professional development is the fact that the learning is directed by the learner.

In summary, the evidence collected in the study suggested that using SNS for personal, professional development can be categorized as both practical and participant driven.

**Research Question Two**

How are selected principals using SNS to collaborate with other practitioners and sustain a level of expertise?

Research question two addressed the following key characteristics of Rutherford’s (2010) quality professional development characteristics: collaborative and sustained, ongoing and intensive.

**Collaborative.** The findings provided evidence that verified the use of Twitter as collaborative among educators, researchers, principals, and other groups. The respondents specifically reported preferred strategies for using Twitter to collaborate, including;
participation and/or lurking in professionally focused chats, sharing ideas and resources, and making personal connections with colleagues/professionals that began through Twitter connections.

Although methods varied, all respondents reported using SNS to collaborate by sharing knowledge with others. Principals B, C, and D preferred consuming information rather than sharing. Principal A preferred sharing information and participating in chats, while Principal E reported to value consuming and sharing information equally. Nevertheless, all participants made statements about personally using SNS to professionally collaborate with others through the use of Twitter.

Principal A spoke about the value of SNS in gaining needed support and connections during a challenging time in leadership:

So, [what] was one of the most difficult experiences I’ve ever had as a principal, I was able to reach out through social media and get the support that I needed.” He also stated that after thirty-four years as a principal, “I feel more connected, more knowledgeable, more hopeful, more motivated now in my thirty-fourth year than ever before in my career because of the tools and the resources that we have available.

Social networking sites, such as Twitter, are designed to connect people to people with the intention of sharing experiences, thoughts, opinions, and ideas. For this reason, Twitter in particular provides an effective platform for collaboration in its most basic form of sharing and consuming information between individuals or groups. When collaboration is focused on professional learning and growth, it supports effective professional development.

Throughout the findings focused on collaborative professional development, the researcher noted evidence of active participation and sharing (Jenkins, 2006; Greenhow et al., 2009) as well as listening, lurking, and consuming (Lee, Chen, & Jiang, 2006; Crawford,
Furthermore, principal responses revealed evidence of Social Learning Theory (Bandura, 1977) as well as collaborative learning (Dillenbourg, 1999).

These findings directly relate to the research on Social Learning Theory (Bandura, 1977) and Connectivism Theory (Siemens, 2004). According to the review of literature, Greenhow et al. (2009) explained that Web 2.0 tools might allow academics to harness the power of social scholarship to reflect and reimagine professional possibilities. “Such tools might positively effect – even transform – research, teaching, and service responsibilities” (pg. 253). Principal A’s statements reinforce this idea.

Likewise, the review of literature examined the work by Ellison, Steinfield, & Lampe (2007) which emphasized that a sense of increased social connection is affiliated with an increase of social capital. Social capital (Lin, 1999) is the accumulation of resources through social interactions. The result of increased social capital often results in increased feelings of trust, social cohesion, and reciprocity (Putnam, 2000). Three of the five study participants spoke of establishing connections through SNS that were strong enough to eventually lead to meeting their SNS colleagues in person, and in some cases, presenting (at conferences) the work related to the learning and collaboration that occurred online through a PLN.

**Sustain Level of Expertise.** All principals reported high value statements about the use of Twitter for sustaining levels of expertise by remaining current with ideas and happenings. The participants’ responses about sustaining levels of expertise were similar to those reported in the category of “practical”. Many professional practices that were learned and implemented through connections made using SNS were reported as now embedded into practice.
Sustaining a level of expertise was reported to be a challenge with which principals have struggled for some time. Various past strategies for sustaining expertise included reading journals, attending conferences, and following the news. SNS have reportedly changed the way respondents consume information and remain current on events and happenings. When applied professionally, principals reported that they could locate information about or connect with others who were directly knowledgeable about specific solutions or practices that they sought.

It was noted that although Principals A and E reported such evidence, they also disclosed that further steps should be undertaken by the learner to expand their depth of learning. These included examining more detailed research that was prompted by Twitter interactions, and making personal connections to those with whom they were collaborating online. Although these responses were made in the context of sustainability, they are likely applicable to collaboration, practicality, and participant driven characteristics as well.

In summary, the evidence collected in the study suggested that using SNS for personal, professional development can be categorized as collaborative and helpful in sustaining a level of expertise as a principal.

**Research Question Three**

What are selected principals’ perceptions of the effectiveness of using SNS for personal, professional development purposes?

Research question three inquired further about particular perspectives held by the participants regarding the use of SNS for personal, professional development purposes. In doing so, all responding principals were asked to rate the value of using SNS for personal,
professional development in various categories. Following the rating, principals were asked to elaborate on their ratings.

Principals reported that Twitter was most effective for marketing and sharing school experiences with others, building a positive school culture, and connecting with others.

Overall, principals provided ratings of *very valuable or extremely valuable* to ninety percent (18) of the four key elements that characterize effective professional development. These findings support the qualitative information gathered by research questions one and two.

In the case of the five participants who actively participated in the use of Twitter, using SNS for effective personal, professional development appeared to have occurred in varied forums. It was noted that each respondent used Twitter in different ways to meet his/her individual, professional needs. It was further determined that their strategies evolved over time. This was consistent with the literature review, which confirmed that technology is beginning to change the ways that professional learning takes place (Jenkins, 2006; Crawford, 2009; Greenhow et al., 2009).

It was noted that ten percent (2) of the respondents rated the use of Twitter for professional development as “somewhat valuable”. This was an interesting finding, and after further analysis of the responses, the researcher found that this rating opposed the qualitative feedback offered in this category in research question one and two. It is unclear if the interview question was misinterpreted by the participants, or if the contradicting feedback was intentional.
In reviewing the findings, Principal C indicated that his interpretation of the question included his staff as the participants rather than himself. Therefore, his answer focused on the staff driving his learning through Twitter.

...I look at my building, it’s getting more people to use Twitter. That’s probably number one. I know that when I was at the middle school last year, we just used the hashtag (#name,year). If I’m thinking about for my building, I’d say right now that, I just gotta get more people to understand it, and things like that...

Principal D reflected on the time that he sees as required to truly drive learning effectively using SNS. In relation to some high-level colleagues and Twitter users in the field, he reported that he had not used Twitter as deeply due to family and time constraints.

I think that, for me, I probably haven’t used it to shape my personal practice, like I have seen it with others that have completely connected with people across the nation. I mean I think of some of my colleagues with MESPA who were these beginning Twitter people and have flown right by me and have these networks of collaboration and have taken it to a level that I just haven’t done yet.

In summary, the data collected through this qualitative case study furnished high correlations between the use of Twitter for professional purposes and the key characteristics of effective professional development, as defined by Rutherford (2010). Therefore, although this study is not generalizable, the findings support the notion that principals can use SNS for effective personal, professional development purposes, but in some cases there may be a need to make deeper connections, beyond the SNS tool, to enhance the experience.

**Additional Findings**

In addition to the findings previously documented, additional information that was not specifically investigated by the researcher emerged through the study. The following is a summarized list (not arranged in any order) of common responses related to various professional uses of Twitter by principals.
• Sharing the story, marketing, and/or promoting happenings in school: classroom, athletics, events, learning, etc.
• Connecting with students/families and building a positive school culture
• Participating and/or lurking in chats
• Accessing information, ideas, philosophies, and/or research to stay current
• Staying current with practices and happenings in other schools
• Sharing ideas with others
• Accessing other SNS: Voxer, Periscope, Tweetdeck to go deeper and/or enhance connections/learning after an initial connection through Twitter
• Directly meeting with people to go deeper and/or enhance connections/learning after an initial connection through Twitter
• Direct messaging to ask questions or connect privately

The findings supported the concept that Twitter has a variety of professional uses by principals. Some of these uses were not related to personal, professional development, but rather offered efficiency or communicative benefits to the principal.

Limitations of the Study

Limitations are defined as features of the study that are usually not accounted for in the study design and have an impact on the study (Roberts, 2010). Limitations for this case study were the following:

1. Participant selection criteria included active Twitter users. Due to the case study design, it was important to include such criteria. The selection introduced inherent bias in the study because all participants were found to be like-minded
participants. In future research, this factor could be mitigated by a change in study design and/or participant selection processes.

2. Participants self-reported the results in this case study. Self-reporting can lead to over or under-reporting by participants. Precautions were taken to ensure participants’ anonymity.

3. Three interviews were completed in-person and two interviews were completed through Google Hangouts. This was a departure from the initial study design that was required because of distance and time constraints. Participants were able to choose the time that was most convenient to their schedules in order to limit challenges with time constraints. In future research, this limitation could be mitigated through a design that allows for all interviews to take place online or in-person.

4. Participants were selected based on the partial snowball sampling (Patton, 2002) method, and resulting in all participants serving in metro school districts. There was no representation of perspectives from principals serving in rural districts. In future research, this limitation could be mitigated by designing a different sampling technique that would target a cross-section of participants.

Recommendations for Professional Practice

The following recommendations for professional practice are based on the results and findings of this research study. Recommendations include involvement from school boards, superintendents, and principals.

Social Media Training. School districts should consider providing leaders with training in using social media resources for their personal, professional development. The
results of this study not only indicate the potential effectiveness of using SNS for professional development, but evidence was collected from participants about important initiatives, practices, and strategies that were implemented in schools because of the use of SNS. It is noted that differentiated training may be beneficial based on experience and skill sets of the leaders. It is also recommended that school districts allow their leaders the time to foster such skills and build social networks.

**Top-down Modeling of SNS Usage.** Superintendents and district leaders should consider modeling the appropriate use of SNS for personal, professional development purposes. Such modeling would help to support a culture of inquiry and connectivity throughout the district. One example of such modeling would be for district leadership to host an ongoing, scheduled chat that focuses on topics that directly relate to the practice of educating students effectively.

**Deepen SNS Connections.** School districts and principals should consider researching and exploring ways to strengthen and deepen connections and learning that occurs through engaging in SNS. Districts should support efforts to connect with Professional Learning Network members, face-to-face, when appropriate. Fostering closer connections could also be accomplished by investigating and exploring new and current technological applications that support deeper levels of connectivity. Applications such as voice and video tools could enhance the level of learning by principals and others when using SNS for personal, professional development.

A current list of such applications may include, but is not limited to:

- Google Hangouts
- Voxer
• Skype
• Periscope
• Go-To-Meeting.com
• HeyTell

Recommendations for Future Research

The following recommendations for further research and analysis are suggested to overcome the limitations of this study and advance the field of knowledge. Such recommendations would provide greater significance and generalizability to the field of knowledge.

Replicate with Increased Participants. Future researchers may consider conducting a qualitative study that would increase the number of participants assessing the use of social media and networking and the impact of personal, professional development on a larger scale. A replication of this qualitative case study would permit further generalization. A broader replication of this study may allow for expanded populations of participants that may represent a greater range of experiences.

Replicate with Inactive SNS Participants. Future researchers may consider conducting a qualitative study that would target participants who may or may not be active social media users. Such a study would allow for a more comprehensive understanding of the similarities and/or differences in perspectives.

Examine Specific SNS Tools. Future researchers may consider designing a study to examine various social networks and determine how they may be more useful than others for specific personal, professional development purposes.
Examine Social Learning Theory and SNS Correlation. Future researchers may consider designing a study to better ascertain the correlation between Social Learning Theory (Bandura, 1977) and the use of SNS for personal, professional learning.

Examine SNS and Social Belonging. Future researchers may consider replicating the Ellison, Steinfield, & Lampe (2007) study that found that college undergraduates use of SNS was associated with learners’ sense of increased social connection and belonging. The study could focus on other professional cohorts such as principals, district leaders, teachers, or K-12 students.

Examine Deepening Connection Beyond SNS. Future researchers may consider designing a study to increase understanding about the benefit of taking initial SNS learning to a deeper level by making more authentic connections with others.

Summary

Chapter five examined the results of the study in relation to the literature reviewed in chapter two. This study investigated the uses of SNS for personal, professional development with principals. The specific purpose of the case study was to gather information about how selected principals were using Twitter to meet their personal, professional development needs. It also examined selected principals’ perspectives on the effectiveness of using Twitter and other SNS for personal, professional development. The study was designed to add to the limited field of knowledge.

Participating principals reported evidence that supported Rutherford’s (2010) summary of the literature about effective professional development. The primary finding of this study affirmed that such evidence existed with this sampling of principals. The secondary finding of the study focused on participants’ perceptions of the effectiveness of
using SNS for personal, professional development with principals. The findings supported the theory that SNS can (and does) serve as an effective tool for personal, professional development for this sampling of principals. It was also determined that professionals should be intentional about the learning that takes place with the use of SNS, and that it may be beneficial for principals to take such learning deeper by connecting with others in person or though alternative methods.

The professional implications of this study focus on supporting and encouraging acting principals to engage and participate in the use of SNS to make connections and share ideas with other professionals, to access information about current research and practices, and to share happenings from their schools. It is also noted that when principals use SNS for personal, professional development, it may be beneficial to intentionally seek opportunities to make more intimate connections with colleagues through face-to-face contact or alternative methods.
References


Johnson, P. R., & Yang, S. (2009). Uses and gratifications of Twitter: An examination of user motives and satisfaction of Twitter use. *Presentation from Communication Technology Division of the Annual Convention of the Association for Education in Journalism and Mass Communication*. Boston, MA.


Veletsianos G., & Kimmons R. (2011b). *Scholars and Faculty Members Lived Experiences in Online Social Networks*. Manuscript submitted for publication. Retrieved from


APPENDICES
Appendix A: INTERVIEW PROTOCOL

PRE-INTERVIEW

Date: Place:

Interviewer: Nate Rudolph

Interviewee/Participant (Principal A, B, C, D, E,): 

1. Welcome the participant
2. Share information about myself and the study

I am interested in your perspective about the use of SNS (specifically Twitter) for professional development purposes. The interview is intended to be noninvasive and confidential. It will last approximately one hour, and you are free to stop the interview at any time.

STAGE 1 INTERVIEW: This information will be completed by paper and pencil prior to the stage 2 interview.

1. Number of total years as lead principal
2. Current principal position most resembles: primary, intermediate, secondary, combination of primary and intermediate, combination of secondary and intermediate, K-12
3. Current principal position setting most resembles: rural, urban, suburban
4. Approximate number of years using social networking sites professionally
5. Types of formal training that prepared or taught social networking skills
6. How often do you use Twitter professionally?

STAGE 2 INTERVIEW

1. Give some examples of practical content found through Twitter that directly relates to your practice as a principal.
2. In a professional context, explain how you choose whom to follow/network with on Twitter.

3. Do you feel that your professional learning or engagement in Twitter is personalized? If so, in what ways?

4. What does collaboration look like when using Twitter?

5. In what ways, if any, do you use Twitter to stay current on research or leading concepts?

6. What are the most effective ways for you to use Twitter professionally?

7. Would you say that your professional participation on Twitter is focused more on sharing information or consuming information? Why is this a good strategy for you?

8. Rate the value of using Twitter for accessing content that directly relates to your professional practice.
   a. Not valuable
   b. Somewhat valuable
   c. Very valuable
   d. Extremely valuable

9. Please explain why you selected that answer.

10. Rate the value of using Twitter for constructing personalized learning that you direct.
    a. Not valuable
    b. Somewhat valuable
    c. Very valuable
    d. Extremely valuable

11. Please explain why you selected that answer.

12. Rate the value of using Twitter for collaborating with other practitioners.
a. Not valuable
b. Somewhat valuable
c. Very valuable
d. Extremely valuable

13. Please explain why you selected that answer.

14. Rate the value of using Twitter in sustaining your level of expertise in the field.
   a. Not valuable
   b. Somewhat valuable
   c. Very valuable
   d. Extremely valuable

15. Please explain why you selected that answer.

16. Are there any other ways that you are utilizing Twitter professionally that we have not talked about? If so, please elaborate.

POST-INTERVIEW

1. Do you have any questions or comments?
2. Thank the participant for their participation.
APPENDIX B: IRB Application

Institutional Review Board Protocol
For
Conduct of Research Involving Human Subjects

PROJECT MANAGEMENT

Project Title: Principals' Use of Social Network Sites (SNS) for Professional Development Purposes
Project Summary (3-5 sentences, include method of data gathering): The purpose of this project is to examine how school principals are using social network sites for their own professional development. The researcher seeks to explore how principals are using social network sites to sustain their learning, access content that is practical to the profession, collaborate with others, and construct their own personalized learning. For this qualitative case study, data will be gathered by interviewing 4 to 6 principals.

Data Collection (note: must be a future date and allows sufficient time for IRB review)
Start Date: December 9, 2015 Ending Date: February 1, 2016

Location of the Research: Minnesota

Principal Investigator and Primary Contact (PI): Nate Rudolph
Type of Research: ☐ faculty/staff ☐ undergraduate ☐ graduate masters ☒ graduate doctoral
Mailing Address: 1265 Fieldstone Dr., Sauk Rapids MN 56379
Telephone: 320-258-1401 Email: nate.rudolph@isd47.org
Advisor or Course Instructor (if PI is a student): Dr. John Eller
Co-PIs or Other Investigators: None

If you collaborate with an individual from another institution, we may be able to use an Authorization Agreement to rely on our or their review. Contact the IRB Administrator for more information.

Is there potential or confirmed external funding source(s) for this research project? ☐ Yes ☒ No

Funding Agency Account #

CERTIFICATION STATEMENT

The undersigned acknowledge: 1) protocol represents a complete and accurate description of the proposed research; 2) research will be conducted in compliance with IRB recommendations and requirements; 3) research will not begin until IRB approval received; 4) modifications will not be made prior to obtaining IRB approval; 5) PI responsible for reporting to the IRB any adverse or unexpected events; 6) PI to report to IRB any significant new findings which develop during the course of the study or increase the risk to participants and 7) expedited or full IRB approval in effect for up to one year and PI is responsible to request continuing review or file final report (exempt review approval is exempt from the continuing review/final report process).

Principal Investigator Signature _____________________________ Date __________
Advisor/Instructor Signature _____________________________ Date __________
TYPE OF REVIEW

REVIEW WORKSHEET

Check ALL categories—if any—that apply to your research.

Common Categories for Exempt Review Process

☐ i. Research conducted in an educational setting involving normal education practices, such as research that examines or compares regular and special education;  
   - Instructional strategies/techniques, curricula, or classroom management methods

☒ ii. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior if confidentiality or anonymity is maintained.

☐ iii. Research involving activities in category 2 with subjects who are elected or appointed public officials or candidates for public office—regardless of whether the subjects may be identified or the information is sensitive.

☐ iv. Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if one of the following is true:  
   - the sources are publicly available or information is recorded by the investigator in a way that subjects cannot be directly or indirectly identified.

☐ v. Research subject to the approval of Federal Department or Agency heads and designed to study or evaluate public benefit or service programs.

☐ vi. Taste and food quality evaluation and consumer acceptance studies, if one of the following is consumed:  
   - wholesome foods without additives, or a food that contains a food ingredient, agricultural chemical, or environmental contaminant at or below the level found to be safe by the Food and Drug Administration, Environmental Protection Agency, or U.S. Department of Agriculture Food Safety and Inspection Service

Common Categories for Expedited Review Process

☐ i. Clinical studies of drugs or medical devices only when research on drugs for which an investigational new drug application is not required. (Note: Research on marketed drugs that significantly increases the risks or decreases the acceptability of the risks associated with the use of the product is not eligible for expedited review.) or research on medical devices for which (i) an investigational device exemption application is not required; or (ii) the medical device is cleared/approved for marketing and the medical device is being used in accordance with its cleared/approved labeling.

☐ ii. Collection of blood samples by finger stick, heel stick, ear stick, or venipuncture as follows:  
   - from healthy, nonpregnant adults who weigh at least 110 pounds (collection may not occur more than 2 times per week and exceed 550 ml in an 8 week period), or from other adults and children, considering the age, weight, and health of the subjects and the collection amount, frequency, and procedure (collection may not occur more than 2 times per week and exceed the lesser of 80 ml or 3 ml per kg in an 8 week period)

☐ iii. Collection of biological specimens by noninvasive means for research purposes.  
   Examples include:  
   - hair and nail clippings in a nondisturbing manner;  
   - teeth at time of exfoliation or if routine patient care indicates a need for extraction;  
   - excreta and external secretions (including sweat);  
   - uncannulated saliva;  
   - placenta removed at delivery;  
   - amniotic fluid obtained at the time of rupture of the membrane prior to or during labor;  
   - supra- and subgingival dental plaque and calculus, provided the collection procedure is not more invasive than routine prophylactic scaling of the teeth and the process is accomplished in accordance with accepted prophylactic techniques;  
   - mucosal and skin cells collected by buccal scraping or swab, skin swab, or mouth washings;  
   - sputum collected after saline mist nebulization.
iv. Collection of data through noninvasive procedures routinely employed in clinical practice, excluding procedures involving general anesthesia, sedation, x-rays, or microwaves. Any medical devices used must be approved for marketing. Examples include:
- physical sensors that do not involve input of significant amounts of energy into the subject;
- weighing or testing of sensory acuity;
- magnetic resonance imaging;
- electrocardiography, electroencephalography, thermography, detection of naturally occurring radioactivity, echocardiography, ultrasound, diagnostic infrared imaging, doppler blood flow, and echocardiography;
- moderate exercise, muscular strength testing, body composition assessment, and flexibility testing where appropriate given the age, weight, and health of the individual.

v. Collection of data from voice, video, digital, or image recordings made for research purposes.

vi. Research on individual/group characteristics or behavior or research employing oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies on areas such as perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, social behavior, etc. if confidentiality or anonymity is maintained.

Other

Other, please explain

PROJECT DESCRIPTION

Briefly summarize the proposed research and its significance. Include explanations of the following; 1) research question/hypothesis, 2) research design, including independent/dependent variables, if appropriate, and 3) relevant theory.

The purpose of this study is to explore how principals are using social network sites for professional development. The study seeks to explore how principals use social network sites to sustain their learning, access content that is practical to the profession, collaborate with others, and construct their own personalized learning.

This study is significant because it extends the limited research focused on the use of social network technologies by principals. As the professional development movement has evolved to include various new technologies, there is very little research that focuses and supports principals in their use of such technologies to participate in effective personalized professional development.

The four research questions are: (1) How are selected principals using SNS to sustain levels of expertise? (2) How are selected principals using SNSs to access content that directly relates to practice? (3) How are selected principals using SNSs to collaborate and share knowledge with other practitioners? (4) How are selected principals using SNS to construct personalized learning?

The research design will be a qualitative case study. Principals will participate in an approximately one-hour-long interview with the researcher.

PARTICIPANTS

1. How many people will participate in the research? Who will the participants be?
The subjects/participants will be 4 to 6 school principals.

2. What are the ages of potential participants? (Check all that apply.)
   - [ ] 0-7
   - [ ] 8-17
   - [x] 18-64
   - [ ] 65+

3. Some populations are considered "vulnerable" to coercion or undue influence. Will any of these populations be invited to participate in the research? (Check all that apply.)
   - [ ] children (under age 18)
   - [ ] elderly individuals (over age 65)
   - [ ] prisoners
   - [ ] non-English speaking
   - [ ] pregnant women
   - [ ] cognitively impaired individuals
   - [ ] economically/educationally disadvantaged individuals
If any of the above vulnerable categories have been checked, provide rationale for using these vulnerable populations and detail the safeguards that will be included in the research to protect their rights and welfare.

☐ no vulnerable populations

PARTICIPANT IDENTIFICATION AND RECRUITMENT

4. How will potential participants be identified and recruited? (e.g. college classes, phone books, membership directories, etc.) How are you obtaining access to the participants?
A purposeful (or purposive) sample will be used to select participating Minnesota principals by securing the support of the Minnesota Association of Secondary School Principals (MASSP) and Minnesota Elementary School Principals Association (MESPA).

5. Copies of advertisements, bulletin board notices, telephone scripts, letters, and other recruitment materials are attached. ☐Yes ☐N/A

6. Written documentation of cooperation/permission is REQUIRED from any individual or organization that assists you in identifying and recruiting participants. Agency/Institution: Minnesota Association of Secondary School Principals (MASSP)
The following are attached and **MUST** be submitted with this protocol:

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7. Will persons be compensated for participating in the research? ☐Yes ☒No
If so, what kind of reward will be given (monetary, extra credit, or other) and when will subjects receive it (e.g. the beginning of the study, the end of the study, or at each visit)?

NOTE: classroom research offering extra credit to participants must have other extra credit opportunities available to students.

METHODS AND PROCEDURES

8. Describe the research procedures and list tasks/activities participants will be asked to complete.
1. Participants will be asked to participate in an interview.
2. The interview will include the subject/participant and the interviewer (the researcher).
3. The interview will take approximately one hour.

The following are attached and **MUST** be submitted with this protocol:

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9. How will data be collected and recorded? How and where will data be securely stored? (password protected
Interview responses will be recorded on an electronic device. Following the interview, the participants' responses will be transcribed and stored on a password protected computer. In addition, the recorded interviews will be transferred to and stored on a password protected computer.

10. Will the data include names or other identifiers? □ Yes ☒ No
   If yes, will the data be coded and identifiable information removed? □ Yes ☒ No
   If yes, explain IN DETAIL the coding process, what additional measures will be taken to keep your data secure and who will have access to it?

11. The raw data and/or coding key from this research will be destroyed (Check ONLY one):
   ☐ when the study is complete ☒ within three years
   ☒ when my degree is awarded ☐ other:

RISKS AND BENEFITS

12. Will the research present MORE THAN minimal risk* to participants? □ Yes ☒ No
   *Minimal risk means that the harm or discomfort anticipated in the research is no greater than that encountered in daily life or during routine physical/psychological examinations or tests.

13. Does the research involve:

   Yes ☒ No ☐
   ☐ Physical pain, discomfort, or injury from procedures or drugs
   ☒ Undesired and/or unexpected psychological changes (e.g. depression, anxiety, emotional discomfort, confusion, hallucination, stress, guilt, embarrassment, loss of self-esteem, etc.)
   ☐ Invasion of privacy/absence of informed consent (e.g. covert observation, review of private medical or educational records, etc.)
   ☒ Sensitive information (e.g. alcohol/drug use, sexual orientation, illegal activities, suicidal thoughts, physical/mental illness, violence, depression, psychological/physical abuse, gang related activities, pro-life/pro-choice, relationship issues, etc.) that could result in social and economic harm (e.g. civil/criminal liability or damage to financial standing, employability, insurability, reputation, etc.) if a breach in confidentiality occurred.
   ☒ Deceptive techniques (e.g. giving false feedback about performance, staging an event or situation, concealing the purpose of the research, etc.) A debriefing statement is required.

   If yes, how will subjects be misled (i.e. what information will be withheld or what false information will be provided)? Describe when and how this deception will be revealed to subjects and provide a copy of the oral or written debriefing statement. See the IRB's handout on deception and the debriefing process for information, examples, and a template.

14. What precautions will be taken to minimize or prevent potential risks, inconveniences, and discomforts (e.g. anonymous data collection, presence of trained personnel who can respond to emergencies, etc.)? Participants will be interviewed in their own setting, individually and anonymously. Participants are allowed to stop the interview at any time and may refrain from responding to questions they choose not to answer.

INFORMED CONSENT PROCESS

The informed consent process begins when you first approach potential subjects and continues throughout your research. Typically, it involves:
   • presenting information that enables an individual to knowledgeably and voluntarily decide whether or
not to participate in the research.
• documenting consent with a written form signed by the participant. An implied consent form may be used for anonymous surveys.
• responding to the participant’s questions/concerns during the research and communicating any new findings that may affect the participant’s willingness to continue in the study.

When your research involves individuals under the age of 18, you must obtain and document the consent of parents or guardians. If your research involves subjects who are between the ages of 8 and 18, child/minor assent must be documented as well. A single project could require an adult consent form, a parental consent form and a child/minor assent form.

15. Minimally consent forms MUST include the following information, please verify that your consent process addresses the following:

Yes
☑ Provides a clear understanding of the project to potential participants.
☑ Outline risks and benefits.
☑ Explain the voluntary nature of the research and give the option to withdraw at any time.
☑ Include researcher and advisor contact information for questions.
☑ Explain to participants how to request study results.
☑ Adult consent states the individual is “at least 18 years of age” to consent. If your participants are 30 or older, without a doubt, no need to include the age statement on the consent form but provide justification here:
☑ Confidentiality states data will be presented in aggregate form or with no more than 1-2 descriptors presented together.

CONFIDENTIALITY means the participants or their responses may be identifiable to the researcher.
ANONYMOUS means the participant’s demographic information or responses could not reveal their identity.

16. All projects require consent forms for potential participants: The following are attached and MUST be submitted with this protocol:

Yes      N/A
☐      ☑ A cover letter/page accompanying a confidential or anonymous survey
☑      ☐ Adult consent form
☐      ☑ A parental/guardian consent form
☐      ☑ A child assent form

17. If applicable, explain the procedures that will be used to obtain child/minor assent and attach a copy of each assent form. ☑ not applicable/no minors participating

IRB PROTOCOL CHECKLIST
(Submission of a complete IRB protocol results in a quicker response from the IRB)
☑ IRB training completed
☑ All questions answered on IRB protocol
☑ Protocol is fully signed
☑ Question #6 written support attached
☑ Question #8 data collection instrument(s) attached
☑ Questions 15 & 16 consent form(s) attached
Submit completed IRB protocol to Research and Sponsored Programs in AS 210
APPENDIX C: IRB Approval

Institutional Review Board (IRB)

Name: Nate Rudolph
Address: 1265 Fieldstone Dr.
Sauk Rapids, MN 56379 USA
Email: nate.rudolph@isd47.org

IRB PROTOCOL DETERMINATION:
Expedited Review-1

The Institutional Review Board has reviewed your protocol to conduct research involving human subjects. Your project has been APPROVED.

Please note the following important information concerning IRB projects:
- The principal investigator assumes the responsibilities for the protection of participants in this project. Any adverse events must be reported to the IRB as soon as possible (e.g., research related injuries, harmful outcomes, significant withdrawal of subject population, etc.).

- For expedited or full board review, the principal investigator must submit a Continuing Review/Final Report form in advance of the expiration date indicated on this letter to report conclusion of the research or request an extension.

- Exempt review only requires the submission of a Continuing Review/Final Report form in advance of the expiration date indicated in this letter if an extension of time is needed.

- Approved consent forms display the official IRB stamp which documents approval and expiration dates. If a renewal is requested and approved, new consent forms will be officially stamped and reflect the new approval and expiration dates.

- The principal investigator must seek approval for any changes to the study (e.g., research design, consent process, survey/interview instruments, funding source, etc.). The IRB reserves the right to review the research at any time.

Good luck on your research. If we can be of further assistance, please contact the Office of Research and Sponsored Programs at 320-308-4932 or email lidonna@stcloudstate.edu. Use the SCUS IRB number listed on any forms submitted which relate to this project, or on any correspondence with the IRB.

Institutional Review Board:
Linda Donnay
IRB Administrator
Office of Research and Sponsored Programs

St. Cloud State University:

Marilyn Hart
Interim Associate Provost for Research
Dean of Graduate Studies

OFFICE USE ONLY

SCSU IRB# 1519 - 1890
1st Year Approval Date: 12/4/2015
1st Year Expiration Date: 12/3/2016
Type: Expedited Review-1
Today’s Date: 12/4/2015
2nd Year Approval Date:
2nd Year Expiration Date:
3rd Year Approval Date:
3rd Year Expiration Date:
St. Cloud State University IRB
Continuing Review / Final Report

Principal Investigator: Nate Rudolph

Co-Investigator:

Project Title: Principals' Use of Social Network Sites (SNS) for Professional Development Purposes

1. Please indicate the status of your project:

   This form serves as a Final Report
   ___ Project has been completed.
   ___ Data collection has been completed but data analysis continues.
   ___ Project has not and will not be conducted. Explain: ________________________________

   This form serves as a Continuing Review
   ___ Participant recruitment/enrollment continues; current consent/assent required. Please attach.
   ___ Data collection continues with enrolled participants; no additional participants will be recruited.

2. How many participants have participated in your study? __________________________

3. Have any unexpected reactions, complications or problems occurred during this research?
   ___ No  ___ Yes, explain: __________________________________________________________

4. Have any participants withdrawn from the research, either voluntarily or at the researcher’s request?
   ___ No  ___ Yes, explain: __________________________________________________________

5. Have any participants complained about the research?
   ___ No  ___ Yes, explain: __________________________________________________________

6. Has any new information been identified which may affect the willingness of current or future participants to participate in this research?
   ___ No  ___ Yes, explain: __________________________________________________________

7. Have any changes been made to your research (including changes to informed consent documents, debriefing statements, recruitment materials, etc.) since it was approved by the IRB?
   ___ No  ___ Yes, explain and indicate whether changes were approved by the IRB: ________________________________

Principal Investigator’s Signature ____________________________ Date ____________________________

SCSU IRB# 1519-1890
Primary Investigator: Nate Rudolph

Advisor: Dr. John Eller

Thank you for taking the time to participate in a research study on principals and their use of social network sites for professional development. You were selected as a participant because of your current status as a principal that uses social network sites for professional purposes.

The research project is being conducted by Nate Rudolph to satisfy the requirements of a doctoral degree in educational administration and leadership at St. Cloud State University.

Background Information and Purpose

This case study was designed to explore how the merging of an evolving Internet technologies movement (such as social network sites) and an evolving professional development practices movement are being utilized by selected principals to help meet the evolving demands of the profession. The purpose of this study is to get your perspective about the use of social network sites for your own professional development.

Procedures

If you decide to participate, you will be asked a list of questions that will take approximately one hour. The interview will take place at your school building or at a location of your preference. The interview will be recorded and transcribed. Also, quotes will be used from the interview in the dissertation. Please feel free to refrain from responding if you are not comfortable with a question.

Benefits

It is hoped that the results will help identify strategies school administrators may use to enhance their ability to sustain levels of expertise, access content that is practical to the profession, collaborate with others, and construct personalized learning.

Confidentiality

The only person who will have access to the data is the researcher. Your responses are completely confidential. In addition, data will be presented with no more than 1-2 descriptors presented together. Participants will be referred to as Principal A, B, etc. in the dissertation paper. The data will be destroyed when my degree is awarded.

Study Results

If you are interested in learning the findings of the study, feel free to contact me at
nate.rudolph@isd47.org or (320) 258-1401; or John Eller at jteller@stcloudstate.edu or (320) 308-4241.

Contact Information

If you have questions right now, please ask. If you have additional questions later, you may contact me by email at nate.rudolph@isd47.org or by phone at (320) 258-1401. You will be given a copy of this form for your records.

Voluntary Participation/Withdrawal

Participation is voluntary. Your decision whether or not to participate will not affect your current or future relations with St. Cloud State University or the researcher. You may request to stop the interview at any time or refrain from responding to questions you choose not to answer.

Acceptance to Participate

Your signature indicates that you are at least 18 years of age, you have read the information provided above, and you have consent to participate. You may withdraw from the study at any time without penalty after signing this form.

Subject Name (Printed) __________________________________________

Subject Signature ____________________________________________

Date _________________________________________________________

St. Cloud State University
Institutional Review Board
Approval date: __________________
Expiration date: ______________