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**PERCEPTIONS OF TEACHERS WHO ENGAGE IN SOCIAL MEDIA
NETWORKING: A MULTIPLE CASE STUDY**

by

Celese L. Nolan

A Dissertation

Submitted to the
Department of Educational Services and Leadership
College of Education

In partial fulfillment of the requirement

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Doctor of Education

at

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December 19, 2017

Dissertation Chair: MaryBeth Walpole, Ph.D

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Dedications

I dedicate my dissertation work to my family, friends, cohort, professors, and educational colleagues.

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Throughout my time in the doctoral program, there have been many people who have provided guidance, inspiration, support and encouragement.

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Abstract

Celese L. Nolan

PERCEPTIONS OF TEACHERS' EXPERIENCES WHO ENGAGE IN SOCIAL MEDIA NETWORKING: A MULTIPLE CASE STUDY

2017-2018

MaryBeth Walpole, Ph. D.

Doctor of Education

The purpose of this study was to examine how and why teachers engage in social media networks. Using a case study approach, data was gathered through semi-structured interviews, online observations, direct observations, artifacts, and documents to gain understanding to how and why teachers are using online networks such as Facebook, LinkedIn, Pinterest, and Twitter for professional learning. The underpinnings of constructivism and social constructivism theories served to provide a framework for understanding how teachers perceive their professional use of social media. Moreover, this study sought to gain insight into how this practice may or may not influence teacher practice at Rawlings County Institute of Technology. As a result, this research identified five themes: Effects on Students' Learning Experiences and Engagement; Convenience: Access and Opportunities Embedded within Social Media Venues; Personalized/Customized Learning Experiences; Building Knowledge to Enhance Practice; and Self-Care and Support.

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Chapter 1

Introduction

In today's classrooms, the expectations for student achievement are complex. Twenty-first century teachers must be equipped with both pedagogical and content knowledge and skills to improve their practice and meet student achievement expectations. Moreover, teachers are faced with technological advances and need continuous professional learning experiences to evolve their practices within a rapidly changing context. Historically, school districts have attempted to assist teachers in acquiring new knowledge and skills through intermittent professional development workshops. This approach is often disjointed and fails to improve student achievement and teacher practice (Ball & Cohen, 1999; Yoon, Duncan, Lee, Scarloss, & Shapely, 2007). Recently, professional learning and support is being explored through social media engagement. Research suggests that educators are enhancing their learning through connecting with each other online and adapting their practices to address the challenges of meeting the diverse needs of 21st century students (Purcell, Heaps, Buchanan, & Friedrich, 2013). The opportunities for professional learning that exist within social media networks serve as an innovative solution for bridging formal and informal learning, as well as for leveling the playing field for students (Lieberman & Mace, 2010; McCulloch, McIntosh, & Barrett, 2011).

Social media is woven into the fabric of everyday living for a variety of purposes. The power of these tools includes access to information as well as participative and interactive capabilities. In schools, a growing number of educators are using social media to enhance communication, collaboration, and engagement for their own development, as

well as to provide 21st century learning environments for students (Bartow, 2014; Carr, 2013; Carpenter & Krutka, 2014b; Fortin, 2010; Purcell, et al., 2013). In recent findings involving Advanced Placement and National Writing Teachers, the Pew Institute reported that “78% (of teachers) use social networking sites such as Facebook, LinkedIn or Google+, compared with 69% of adult internet users and 59% of all adults” (Purcell et al., 2013, pp. 6). On the other hand, many teachers struggle with today’s technology in comparison to professionals in other fields (Prensky, 2001; <http://tech.ed.gov/netp/teaching-prepare-and-connect/>). Regardless of use and skill level, social media technologies provide opportunities to enhance teacher practice and student learning experiences (McCulloch et al., 2011; Purcell et al., 2013) and serve as a venue for professional development within K-12 education. As an increasing number of educators engage in social media use to inform their pedagogy, it is essential to examine the phenomenon through describing and making meaning of teachers’ perceptions, practices, and experiences. Therefore, this qualitative case study involved teachers who professionally used social media technologies and were employed at Rawlings County Institute of Technology (RCIT).

Problem Statement

Once considered the most powerful country in the world, the United States is now struggling to be competitive in a globalized economy (Dede, Kate, Nelson, Valdez, & Word, 2005; Stiglitz, 2002). In light of competition and economic survival, private and public sectors are integrating social media technologies with their practices. Social Media Technologies (SMT’s) are transforming how people and organizations communicate, connect, conduct business, and learn across the globe. In the private sector, Fortune 500

companies are increasing their use of social media tools through corporate blogs, social networking on Facebook, and microblogging on Twitter (Hof, 2012). According to a recent study, 28% of the companies had blogs, 66% had a Facebook page, and 73% had Twitter accounts (Barnes, Lescault, & Andonian, 2012). Within higher education, 95% of all colleges utilize social media as a communication tool with their students (Ferriter, Ramsden, & Sheninger, 2011). Yet, many K-12 public schools are hesitant to implement social media practices while at the same time being under public scrutiny for failing to prepare 21st century college-ready graduates (Jacobs, 2010). Educators are aware of external influences relating to the privatization of education, national standards, high stakes testing, and varying evaluation methods, and educators are feeling pressured to adapt in the midst of declining budgets and resources (Bushweller, 2013; <http://www.cfr.org>). The Council on Foreign Relations (2012) reports that failing to properly prepare students is a matter of national security as there are insufficient numbers of highly skilled employable students and young adults (<http://www.cfr.org>).

The challenges associated with preparing students for college and careers are complex (Beetham & Sharpe, 2013). In order for teachers to be considered effective practitioners, they need to continue to learn and to understand the educational challenges of the 21st century. Reform efforts necessitate technology integration, but addressing students' challenges using technology is often initiated with limited supports in place. The infusion and rapidly evolving nature of technology has added a new layer to educators' capacity in terms of providing equitable environments for all students. Within this context, learning gaps exist between students from differing socioeconomic classes, and a gap also exists between what teachers need to know and what they actually do

know. There is a digital divide among students, and in many cases, there is a digital divide between teachers and students (Callaghan & Bower, 2012; Mattero, 2015; Prensky, 2001; Warshauer, 2007). Furthermore, school systems face the challenge of moving beyond traditional teaching methods to the integration of technology-driven teaching and learning practices (Collins & Halverson, 2009).

In terms of 21st century learning, there is a gap between the expectations for student achievement, content delivery, and instruction in public education (Darling-Hammond, Wilhoit, Pittenger; 2014). Research abounds asserting that teacher quality, coupled with ongoing professional development, are essential factors for school improvement (Heck, Banilower, Weiss, & Rosenberg, 2008; Holland & American Research Association, 2005; McCulloch et. al., 2011). Moreover, advocates for digital learning claim innovative technologies have the potential to improve teacher practice and increase student engagement with a more personalized experience (Darling-Hammond, Zielenzinki, & Goldman, 2014; Dede et al., 2005; <http://tech.ed.gov/netp/teaching-prepare-and-connect/>).

In light of current demands for school reform, educators across the country are faced with increasing demands for professional development to implement changes involving the common core standards, teacher accountability regulations, and student performance measures. While high quality professional development models exist, access is often limited and insufficient (Carpenter & Krutka, 2014b). In relation to the field of K-12 education, continuous, meaningful, and reflective professional development is often difficult to implement and maintain due to constraints on time, resources, and budgets (Barnes, Camburn, Sanders, & Sebastian, 2010; Fullan, 2007). Moreover, it historically

has been common for teacher learning experiences to be disconnected from daily practice and not based on a collaborative model (Elmore, 2002). Subsequently, teachers are often practicing in isolation without systems in place to support continuous professional growth experiences (Alderton, Brunsell, & Bariexca, 2011; <http://tech.ed.gov/netp/teaching-prepare-and-connect/>).

Conversely, social networking venues can provide educators with greater access to knowledge (Carpenter & Krutka, 2014b). By connecting informal and formal experiences, professional learning can take place without traditional barriers (Bartow, 2014; Buus, 2012; Ferriter & Provenzano, 2013; McCulloch et al., 2011). Furthermore, social media has the potential to provide professionals with the tools to learn new ideas and connect with other educators within a school setting, across a district, throughout a state, and even around the world (Ferriter & Provenzano, 2013). Thus, using social networks provides new opportunities for professional growth and student learning (Fortin, 2010).

In order for students to increase their achievement levels, as well as thrive in a global economy, they should be immersed in a technology rich learning environment (Dede et al., 2005). Thus, schools and teachers alike need the capacity, support, and on-going experiences to deliver 21st century driven pedagogy (<http://tech.ed.gov/netp/teaching-prepare-and-connect/>). While this ideal has been articulated through research and reform strategies, many schools and classrooms remain unchanged from the industrialized model of the 20th century (Fulton, Yoon, & Lee, 2005). The Office of Education Technology is exploring the tenets of social media and other online learning venues as a means for enhancing learning experiences for today's

educators (<http://tech.ed.gov/>). Within this context, professional learning can occur using a hybrid model involving both virtual and in-person experiences (Dede et al., 2005).

Social media use has altered how people think, learn, communicate, and connect (Siemans, 2005). Moreover, social media tools lend themselves to professional and collaborative learning in which educators can exchange user-generated content as well as enhance and extend the educational conversations occurring throughout the school community (Bozarth, 2012; Dixon, 2011; Lightle, 2010). Thus, the accessible and evolving nature of social network platforms offer educators numerous learning opportunities and resources that can enhance teacher practice (<http://tech.ed.gov/netp/teaching-prepare-and-connect/>).

Although educators are using social media tools professionally, the innovative nature of this topic limits the amount of research linking this practice to high quality teacher practice and improved student outcomes. It is considered a new phenomenon, and the impact of using this venue for learning is not entirely clear (Sacks & Graves, 2012). Thus, there is a need to examine how and why teachers are professionally using social media and in what ways, if any, this practice supports their professional development and teacher practice.

Purpose of the Study

The purpose of this multiple case study was to examine the experiences and perceptions of RCIT teachers who engage in social media networking. A multiple case study design was utilized for this qualitative inquiry as the research was focused on understanding how these teachers perceived and made meaning of their professional social media experiences (Creswell, 2014). The participants were selected through

purposeful sampling and included high school teachers who professionally use social media at RCIT. In conducting this research, it was my intention to understand how and why teachers used social media as well as their perceptions of social media's influence on their teaching practice. Data collection involved individualized, semi-structured interviews; online observations of social media activity; classroom observations; artifacts; and documentation. This study addressed the following questions.

Research Questions

Research questions provide focus for qualitative research (Creswell, 2013; Yin, 2014). In this multiple case study, the aim of this research was to gain insight into how and why teachers are engaging in social media networks and what meaning they made of these experiences. Additionally, this study sought to understand how teachers perceived the ways in which their knowledge, practices, and beliefs were impacted. The overarching question for this study is, 'How do teachers perceive their professional social media experiences?' Thus, the following questions were designed for this study:

- Why do teachers engage in social media networks?
- In what ways do teachers construct knowledge and make meaning from their social media experiences?
- In what ways, if any, does social media use influence their teaching practice?
- What changes have they made as a result of using social media?

Significance of the Study

The intent of this study was to contribute to the existing body of knowledge about best practices relating to using social media and its impact on teaching practice within K-12 educational environments. Research has shown there is a link between high quality

professional development, instruction, and student achievement (Darling-Hammond et al., 2009). In order for teachers to have the capacity to teach for tomorrow's expectations, they need to engage in continuous learning to meet the diverse and changing expectations. Subsequently, social media networks provide educators with access to a multitude of learning opportunities (Alderton et al., 2011; Chen & Bryer, 2012; Wesely, 2013).

As many educators are engaging in social media, it is important to understand how they are using these venues and in what ways is it influencing their practice. Scholarship on learning in the 21st century posits that workers must have information and communication technology (ICT) skills, as well as the ability to solve complex problems (Dede et al., 2005). Moreover, the integration of digitally enhanced resources in school environments offers the potential for improving teacher practice and student learning (Dede et al., 2005). This case study seeks to add to existing scholarship regarding how educators harness social media technologies for teaching and learning in the 21st century.

Theoretical Framework: Constructivism and Social Constructivism Theories

I selected the theories of constructivism and social constructivism to ground this case study. The theory of constructivism focuses on how the individual mind builds knowledge, whereas social constructivism focuses on knowledge building within a social context (Churcher, Downes, & Tewksbury, 2014; Vraidas & Zembylas, 2004). In this case, both theories apply to teachers as individual learners who engage in individualized and socially situated knowledge building experiences (Churcher et al., 2014; Keengwe, Onchwari, & Agamba, 2013).

Constructivism. Constructivism theory is focused on knowledge and learning (Woo & Reeves, 2007). It is driven by the precept that learning is complex and people construct knowledge and make meaning within their social environments (Lincoln & Guba, 1985; Siemans, 2005). Knowledge building is an active process and is non-existent without the presence of a learner (Huang, 2002; Vrasidas & Zembylas, 2004). Moreover, knowledge is created as individuals take in new information and try to make sense of their learning experiences (Driscoll, 2000; Woo & Reeves, 2007). Therefore, learning in this context is a meaning-making process in which individuals form their own interpretations of knowledge building experiences (Keengwe et al., 2013; Woo & Reeves, 2007).

Social constructivism. The fundamental belief of social constructivism is that knowledge is generated through dialogue and social interaction (Churcher et al., 2014). Moreover, learning is viewed within a socio-cultural context and humans look for an understanding of the world in which they reside and interact (Huang, 2002; Woo & Reeves, 2007). Furthermore, Churcher et. al (2014) emphasize that learning through dialogue and social exchange is essential to the construction of knowledge.

As expectations for student achievement change, it is important for teachers to build new knowledge and improve their practice through professional development experiences (Desimone, Smith, & Ueno, 2006). However, traditional methods of professional development, such as district in-services and workshops, often fail to meet the needs of teachers as learners (Sparks, 2002). Additionally, teachers need substantial time to enhance their level of expertise in order to increase student achievement levels (Wei et al., 2009). Many K-12 educators are turning to social media platforms to enhance

their learning (Schrader, 2015). Furthermore, Schrader (2015) argues that social media provide new venues for learning that are aligned with constructivism and social constructivism theories. Engaging in these experiences, teachers construct new knowledge and meaning from online connections, bring it back to the classroom, and re-construct knowledge and meaning (Morphew, 2012).

Definitions

- Social media refers to internet-based applications that allow users to create content and interact through sharing information.
- Blogs: Online commentary, similar to a journal that typically appear in reverse chronological order, where contributors post on-going commentary, descriptions, pictures, and or videos of events (Powell & McCauley, 2012).
- Microblogging: Similar to blogging, micro-blogging is bound to 140 characters or fewer.
- Professional development refers to teachers learning and deepening their pedagogical content knowledge and instructional practices in relation to new standards as a way to improve student achievement and promote college and career readiness for all learners (Yager, 2013).
- Social Network Sites (SNS) are defined (Boyd & Ellison, 2007) 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 (p. 211).

Summary Overview

This chapter serves as an introduction for this dissertation through providing an overview of the problem and problem statement, describing the purpose of the study, presenting the research questions and significance, explaining the theoretical framework, and outlining definitions of key concept, words, and phrases that are used throughout the course of this dissertation. In Chapter 2, I provide a review of literature and applicable studies relating to professional development, teacher practice, and social media in K12 public school environments. Chapter 3 describes the research design will serve as a framework for this qualitative case study (Yin, 2013). This includes a rationale for the research design and site, participant candidates, data collection and analysis methods, and the researcher's positionality. Chapter 4 provides a discussion of the findings for this study. Lastly, Chapter 5 provides implications that emerge from the study's findings and recommendations for future research.

Chapter 2

Literature Review

The focus of this literature review is 21st century teacher practice, professional development (PD), and the influence of social media technologies within the context of an evolving educational landscape. This review begins with a broad overview of 21st century teacher practice. Next there is a discussion of literature related to characteristics of effective professional development. This will be followed by a section reviewing the professional use of social media by K-12 educators. This chapter is a result of examination and synthesis of articles, books, and empirical studies that resulted from database and search-engine inquiries on education policy and reform, organizational change, PD, teacher practice, social media in education, and case study research.

21st Century Teacher Practice

Schools face many challenges, including demands for reform from No Child Left Behind (2001), adoption of the Common Core State Standards, implementation of new nationally recognized standardized tests, and the linkage of student performance on these tests to teacher evaluation systems (Desimone et al., 2006; Elmore, 2002; Knapp, 2003; Youngs, 2013). The focus of these reforms is to increase student achievement and close the achievement gaps between socioeconomic classes and between underrepresented students of color and White and Asian students (Loucks-Horsley, Hewson, Love, Mundry, & Stiles, 2010; Rock & Wilson, 2005; Zepeda, 2012). In order to improve student achievement and close these gaps, a change in teaching and learning is needed (Guskey, 2002).

As schools are challenged to close the achievement gap, there is a need to examine current expectations for classroom teachers as a starting point to understand current practices. One way to improve student learning is to immerse students in a technology rich curriculum (Darling-Hammond et. al., 2014; Dede et al., 2005). While this change has been articulated through research and reform efforts, many school environments remain unchanged from the industrialized factory model of the 20th century (Fulton et al., 2005). There are a few reasons for this. First, many teachers fall within the category of digital immigrants and have difficulty with meaningful technology integration (Polly; 2014; Prensky, 2001). Secondly, existing resources fall short of creating and fostering technology rich learning environments (<http://tech.ed.gov>). However, researchers are exploring the new opportunities afforded by social media technologies as a means to build capacity and improve teacher practice in ways that traditional forms of professional development have not addressed sufficiently (Alderton et al., 2011; Bartow, 2014; Chen & Bryer, 2012; Sie et al., 2013).

In order to improve achievement levels, students must be equipped with more than the ability to regurgitate information. As technological advances increase access to information and resources, it is important to focus on how students are learning and how they can apply that knowledge (Pahomov, 2014). Proponents for constructivism as a learning theory argue that an individual's knowledge is constructed (Phillips, 1995). Thus, students need to be empowered with higher-order skills and to be able to problem-solve, think critically, innovate, collaborate, engage in a wide variety of communication methods, interact with technology, and learn how to learn (Darling-Hammond, Pittenger, & Wilhoit, 2014). Moreover, researchers argue that students must be able to demonstrate

social-emotional intelligence grounded in self-improvement, resiliency, and resourcefulness (Darling-Hammond et al., 2014). This calls for a significant shift to instructional practices that are student-centered, in which teachers foster environments where students can learn, apply, and practice expectations in authentic ways (Marzano & Toth, 2014). Clearly, this is a shift from current teacher practices.

In 2008, the International Society for Technology in Education (ISTE) published the National Educational Technology Standards for Teachers (NETS) to provide a framework for technology integration in K-12 education (<http://iste.org/standards>). Within this framework, effective educators are expected to possess the knowledge, skills, and dispositions that improve student outcomes through facilitating digital learning experiences, modeling expectations, and engaging in continuous professional learning (ISTE Standards, 2008). Teachers need to be equipped with the necessary knowledge and skills to deliver information in ways students learn and understand (Darling-Hammond, 2000). The American Association of Colleges for Teacher Education (AACTE) (2008) argues that good teaching practice in the 21st century includes technology, content, pedagogy, and knowledge (TCPK). Correspondingly, the NETS/ISTE (2008; 2017) standards provide a framework for teachers to activate, develop, and foster deep and meaningful learning experiences while engaging in pedagogical renewal as both producers and consumers of knowledge, ideas, and information.

The ISTE/NETS for teachers: A constructivist perspective for 21st century teacher practice. The ISTE/NETS standards for teacher practice were developed as a guide for effective educator practice in the 21st century (ISTE, 2008; ISTE, 2017).

Moreover, these standards provide ways in which teachers can understand how to infuse innovative practices in the classroom (ISTE, 2008; ISTE, 2017). Although there are a variety of lenses through which to examine these standards and teacher practice, I have selected a constructivist paradigm as it aligns with goals embedded within this case study (Churcher et al., 2014; Keengwe et al., 2013; Yin, 2014). To point out, the fundamental elements of a constructivist classroom include intentionally seeking and placing value on students' perspectives, collaborating with students and colleagues, engaging students in real-world problem-solving activities, personalizing experiences to assist students in making meaning, and exploring concepts and ideas (Erickson, 2007; Morpew, 2012). Most recently, ISTE (2017) released a first draft of revisions that personify the core tenets of the 2008 standards. In turn, a 21st educator is to be a learner, leader, citizen, collaborator, designer, facilitator, and analyst to create empowered students (ISTE, 2017). With this in mind, the standards provide a framework for examining 21st century teacher practice through a constructivist lens (Morpew, 2012).

Standard I: Facilitate and inspire student learning and creativity. The first standard emphasizes that teachers use technology, content, pedagogy, and knowledge to construct meaningful experiences that enhance student learning, ingenuity, and innovation through in-person and virtual settings (ISTE, 2008; ISTE, 2017). More specifically, teachers facilitate a learning culture with technology to provide opportunities for students to activate innovative thinking, explore everyday issues, solve problems, reflect, collaborate, and construct knowledge using digital tools (ISTE, 2008; ISTE, 2017; McKight et al., 2016; Morpew, 2012). In terms of identifying and exploring issues, educators design authentic, technology, and student driven learning experiences

through social-networking sites, blogs, and microblogs that support the individual needs of learners (ISTE, 2017; Morpew, 2012). Furthermore, there is a heightened focus on the learner's ability to create, which is identified as the highest and most complex of the cognitive processes (ISTE, 2008; ISTE, 2017; Morpew, 2012).

Within this paradigm, it is important for teachers to support independent and divergent thinking (ISTE, 2017; Morpew, 2012). Divergent thinking is exemplified by flexibility and the formulation of new ideas and creativity (ISTE, 2017). In contrast, convergent thinking involves replicating and adapting known information or processes to new conditions or circumstances (Gomez, 2007). Both ways contribute to problem-solving (Gomez, 2007). Yet, many classrooms continue to foster environments in which regurgitation of previously known ideas is the performance exemplar and student creativity is stifled (Gomez, 2007).

With this in mind, educators facilitate project-based learning (PBL) and hands-on experiences for students to tap into resources and use their intellect (ISTE, 2017; Morpew, 2012). PBL involves students collaboratively engaged in real world problem solving activities (Buus, 2012; ISTE, 2017). In this light, Buus (2012) argues that social media and web 2.0 technologies provide opportunities to embrace the principles of constructivist learning and offer potential in facilitating PBL's. For instance, teachers can integrate individual or collaborative student blogging and guiding questions as a reflective writing exercise or as a way to engage them in critical thinking (ISTE, 2017; Morpew, 2012).

Standard II: Design and develop digital age learning experiences and assessments. In the second standard for improving teacher practice, authentic learning

and assessment through technology is emphasized (ISTE, 2008; ISTE, 2017). Teachers with a constructivist mindset understand the importance of designing meaningful experiences and interactions through digital tools that are relevant to student learning (ISTE, 2017; Morphey, 2012; Petko, 2012). This approach assists learners in accessing prior knowledge and connecting ideas, as well as in constructing new knowledge and meaning (ISTE, 2017; McKnight et al., 2016; Morphey, 2012). Provided that classrooms are equipped with computers, teachers can engage students in independent and collaborative inquiry through WebQuests (ISTE, 2017; Morphey, 2012; Wu, 2016). The WebQuest framework was developed by Bernie Dodge in 1995 and involves exploring concepts and problem-solving with technology mediated tools such as the Internet (Vanguri, Szymanski, Sunal, Wilson, & Wright, 2004). In this scenario, teachers can use existing WebQuests, or create their own and share with other educators (<http://webquest.org/search/index.php>). WebQuests are often delivered as a group activity, and involve a six-step process (Dodge, 1997; Wu, 2016). Lastly, personalization and assessments are key elements of this standard (ISTE, 2017). Educators in the role of analyst use digital tools for formative and summative assessments as well as for managing student data to inform instructional decisions to improve student achievement (ISTE, 2008; ISTE, 2017; McKnight et al., 2016).

Standard III: Model digital age work and learning. The third standard speaks to the need for teachers to have the necessary knowledge and skills to model collaborating, working with, and learning within virtual environments (ISTE, 2008; ISTE, 2017). It is important for educators to understand how to use multiple technologies in order to effectively integrate them into their daily practice (ISTE, 2017; McKnight, 2016;

Morphew, 2012). In terms of 21st century teacher practice, digital technologies offer a repertoire of resources to facilitate active student engagement (ISTE, 2017; McKnight, 2016; Rivero, 2013). Moreover, when teachers combine technology with successful instructional strategies, students gain content knowledge and innovative skills that transfer to increased student achievement (Pitler et al., 2007). Specific examples include hosting a classroom web-page; creating digital presentations, podcasts, and videos; as well as modeling troubleshooting with technology (Morphew, 2012).

Standard IV: Promote and model digital citizenship. The fourth standard outlines the understandings, practices, and responsibilities that teachers need to have in terms of promoting and modeling digital citizenship (ISTE, 2008; ISTE, 2017). Teachers naturally serve as role models, and it is important for educators to be mindful of their audience, especially within the technology arena (ISTE, 2017; McKnight, 2016; Morphew, 2012). More specifically, social media technologies offer different platforms for educators to demonstrate and teach appropriate and safe online practices when engaged in research and other virtual learning experiences (Bartow, 2014, ISTE, 2017; Larkin, 2013).

Standard V: Engage in professional growth and leadership. The final standard focuses on the teacher as a learner and leader promoting professional growth and educator leadership (ISTE, 2008; ISTE, 2017). Within this standard, emphasis is placed on educators continuously engaged in learning and exhibiting the traits of a 21st century teaching practitioner (ISTE, 2008; ISTE, 2017). These traits include staying up to date current research and trends in education while also pairing technology with learning experiences that are steeped in higher order thinking, communicating, and collaborating

(ISTE, 2008; ISTE, 2017; McKight, 2016; Saxena, 2013). When infusing digital tools into everyday practice, such as engaging in social media networks, professional learning can occur naturally within the classroom and beyond (ISTE, 2008; ISTE 2017; Morpew, 2012).

As this section of the literature review describes, 21st century teacher practices involve providing engaging learning environments and equipping students with the necessary skills and knowledge that will prepare students for college and career (ISTE, 2008; ISTE, 2017; Saavedra & Opfer, 2012). However, many teachers do not have the skills to implement such practices and need to grow their professional skills. Therefore, such professional growth is critical, and is typically referred to as professional development. Thus the next section focuses on professional development.

Professional Development

As schools and educators are under pressure to transform their practices for 21st century expectations, there is a need to examine current approaches to professional development (PD) to meet these expectations (Prestridge, 2014), since PD is most often utilized to improve teachers' practice. Scholarship pertaining to the core tenets of effective PD suggests there is a connection among teacher learning, school improvement, and student achievement (Bayar, 2014; Darling-Hammond & Ball, 1999; Desimone, 2009; Zepeda, 2012). Several studies have shown that student learning is strongly influenced by a teacher's effectiveness (Schroeder, Scott, Tolson, Huang, & Lee, 2007; Nye, Konstantopoulos, & Hedges, 2004; Wright, Horn, & Sanders, 1997). Correspondingly, professional learning experiences play an important role in enhancing teacher quality and subsequently increase student learning (Sparks, 2002).

Although teachers attend preparation programs and are required to pass state-mandated exams, many enter the field without the necessary skills to address the diverse academic, social, and emotional needs of today's learners (Bayar, 2014; <http://www.ed.gov/teaching/national-conversation/vision/section-v-entering-profession>). This is particularly true in impoverished schools that serve a majority of students of color (Darling-Hammond; 2003). Elmore (2002) asserts that teachers working with students who have the most needs, ranging from extreme poverty, to language and cultural barriers, as well as to unstable lives at home and within the community, are required to have a greater depth of knowledge and wider range of skills than their counterparts in schools with fewer challenges.

Consequently, evidence stemming from teacher attrition research shows those who do not have the proper training tend to leave the classroom within the first five years (Darling-Hammond & Sykes, 2003). Low teacher retention rates expose students to a higher number of inexperienced teachers and place financial burdens on schools. As a means to remediate this issue, many school districts use PD as a way to fill the gap between teacher preparation programs and modern day pedagogical expectations, such as NETS, for educators across the country (Bayar, 2014; Desimone, 2009; Guskey, 2002). Notwithstanding, as standards and curriculum expectations change, it is necessary for experienced teachers to implement new teaching practices, such as the NETS standards in the previous section (Darling-Hammond & Ball, 2000). In comparison to other countries, the United States provides fewer opportunities and supports for teachers (Wei et al., 2009).

Moreover, nations that devote substantial expenditures and prioritize schools' time for continuous professional learning outperform the United States on international assessments. In order to bridge the gap, many schools implement a variety of PD initiatives to improve teaching with the intention of raising student achievement levels. Yet, a scant number of school districts address teacher learning in a systemic way or as a strategic component for continuous improvement (Elmore, 2002; Sparks, 2002). Learning encompasses change (Knowles, 1973); therefore, it is essential that teacher development remains a priority for change efforts in order to improve teacher practice and student achievement (Bayar, 2014; DuFour & Eaker, 1998; Guskey, 2002; Loucks et al., 2010).

Likewise, effective PD is a focus of educational reform and is necessary for improvements in teachers' attitudes, beliefs and practices, and ultimately, in student performance (Bayar, 2014; Guskey, 2002; Loucks et al., 2010). Such effective PD focuses on improving teacher practice, changing teacher attitudes and beliefs, and increasing student achievement (Guskey, 2002). Following the PD experience, the shift in educators' attitudes and beliefs occurs only after changes in practice result in student improvement gains (Guskey, 2002). In other words, the change in practice comes before the change in educators' attitudes and beliefs. Teachers' learning process, then, has the potential to be cyclical as teachers engage in additional PD experiences (Guskey, 2002). Moreover, teachers' pre-existing knowledge and beliefs shape their future learning (Ball, 1996; Darling-Hammond & Ball, 1999). Therefore, beliefs, attitudes, and reactions are reflective of whether change has occurred (Ball, 1996; Loucks-Horsely et al., 2010).

Taking into consideration that PD has the potential to influence teacher quality, improve student outcomes, and inform future practice, researchers have explored the effectiveness of this modality. To this end, it is important to examine teachers as learners, and the extent to which school leaders play an essential role in teacher development (Sparks, 2002). Specifically, school leaders need to provide continuous access to meaningful learning experiences that are student-centered; job-embedded; collaborative; connected to the goals and standards of learning; inquiry-based; reflective; and focused on knowledge, content, and instruction (Banilower, Rosenberg, Weiss, & Horizon Research, 2006; Desimone, 2009; Guskey, 2003; Knapp, 2003; Loucks-Horsley et. al., 2010; Torff & Sessions, 2008; Yoon, Duncan, Lee, Scarloss, & Shapley, 2007; Wei et al., 2009; Zepeda, 2012). Thus, it is critical to examine the role of school leadership further.

Role of leadership in professional development. School leaders are faced with the challenge of preparing teachers who prepare students for the college or workforce. In light of these challenges, educational leaders are required to balance the increasing demands of the profession, including increased accountability and innovation, with working with teachers in preparing students for jobs (Barnes, Camburn, Sanders & Sebastian, 2010). Both district and school leaders are integral to teacher professional development (Desimone et al., 2006). In fact, when principals are involved in PD, their leadership positively influences the comprehensiveness of that PD (Newman, Kings, & Young, 2000). Further, principals in higher performing schools prioritize PD through funding allocations, building a culture of high expectations, fostering trust and collaboration, and emphasizing open communication within their educational environments (Newman et al., 2000).

While research abounds in terms of quality PD and leaders' roles in design and implementation, PD is often delivered in the forms of workshops and conferences. In some cases, graduate coursework is also recognized as PD (Elmore, 2002; Wei et al., 2009). These forms of PD are fragmented and disconnected from schools, teaching, and from teachers' learning needs (Sparks, 2002). Practices such as adding in-service days and workshops during the school year are insufficient (Bayar, 2014; Darling-Hammond et al., 2009; Sparks, 2002).

Characteristics of effective professional development. Several specific characteristics emerge from the research as enhancing teachers' PD. These include having it be student-centered and data-driven and having coherent alignment to reform and school improvement goals. Moreover, effective characteristics include PD that is sustained over time, focused on the enhancement of content knowledge and pedagogy, collaborative, job-embedded, reflective, and supportive. The following sections will describe these characteristics in more depth.

Student-centered and data-driven. Researchers describe effective PD as centered on student learning (Loucks-Horsley et al., 2010; Mundry, 2005; Osterman & Kottcamp, 2004). Moreover, researchers suggest it is important for educators to engage in practices that involve a clear and coherent vision for expectations to analyze student performance results, to identify remediation needs, and to plan target goals with embedded monitoring specific to identified gaps (Loucks-Horsley et al., 2010). Analyzing student performance data, as part of PD, is beneficial to understanding student learning needs (Zepeda, 2012). Knowing one's students is of paramount importance in teacher practice (Ball, 1996). Therefore, educators need to understand how students learn, as well as how to foster

learning environments that build upon and construct new knowledge and understandings (Mundry, 2005). Lastly, it is important that PD encompasses the realities of students and classrooms and that design reflects these realities (Elmore, 2002).

Coherently aligned to reform efforts and school improvement goals. Coherent professional development experiences enhance teacher learning and practice (Birman et al., 2000). Such coherent experiences are multi-layered, interrelated, and influence one another (Sparks, 2002). Moreover, when PD is relevant to teachers and aligned with reform efforts, such as standards and high-stakes testing, teachers are inclined to change their practice (Holland & American Educational Research Association, 2005; Knapp, 2013). This type of PD is time-consuming; however, and therefore, meaningful educational change takes time (Fullan, 2007).

Sustained over time. The fact that effective PD occurs over longer periods of time is supported by abundant research (Bayer, 2014; Birman et al., 2000; Desimone, et al., 2006; Desimone, 2009; Garet, Porter, Desimone, Birman, & Yoon, 2001; Guskey, 2003; Hunzicker, 2010; Knapp, 2003; Loucks-Horsley et al., 2010; Torff & Sessions, 2008; Wei et al., 2009; Youngs, 2013; Zepeda, 2012). Traditional, and often deemed ineffective, PD is referred to in the literature as brief workshops or conferences that are generic in nature (Bayar, 2014; Darling-Hammond et al., 2009; Sparks, 2002). These experiences tend to lack focus, are too brief to address the complexities facing today's educators (Sparks, 2002; Zepeda, 2012), and are perceived as shallow, fragmented, and disconnected from school improvement needs (Yoon et al., 2007). When teachers engage in professional learning, it takes time for newly acquired information to change their practice and belief system (Loucks et al., 2010). One study found that modifications to

instructional practices occurred after 80 hours of PD (Supovitz & Turner, 2000). In another study, teachers with an average of 49 PD hours over one year fostered student achievement gains (Wei et al., 2009). Although research shows that teachers need substantial contact hours to enhance their level of expertise and increase student achievement, Wei et al. (2009) reported that the majority of teachers in the United States continue to participate in traditional PD workshop-style or conference experiences.

In contrast to what is typically delivered, teachers prefer professional learning time that is relevant, supportive, and that improves their practice (Zepeda, 2012). These attributes often emerge from non-traditional forms of PD that involve coaching, mentoring, or peer observations (Bayar, 2014; Sparks, 2002; Zepeda, 2012). Professional Learning Communities and the Lesson Study model also include the attributes that teachers value (Sparks, 2002). These forms of teacher learning activities involve longer periods of time and are implemented on a continuum intending to improve teacher quality and enhance practices (Bayar, 2014; Sparks, 2002; Supovitz & Turner, 2000).

Likewise, the duration of professional learning experiences is important in two ways (Garet et al., 2001). First, teachers need to have time to engage in deeper conversations that relate to content and pedagogy. Secondly, when activities occur over longer periods of time, they have more time to apply what they have learned and garner feedback. In one example, teachers revealed that the prolonged nature of professional development, involving a summer institute and follow-up sessions, translated into meaningful learning experiences (Birman et al., 2000).

Meaningful learning in relation to teaching newly developed standards for students is time-intensive and complex (Darling-Hammond et al., 2000). Professional

development that broadens the scope of professional learning provides more time and opportunities for educators to deepen pedagogical content knowledge and actively engage in collaborative activities (Loucks-Horsley et al., 2010; Sparks, 2002). Moreover, PD duration in terms of contact hours is a key characteristic of effectiveness (Garet et al., 2001; Wei et al., 2009). Thus, a reconceptualization of professional learning time that is continuous over longer spans of time is essential for improving teacher quality and student learning outcomes (Sparks, 2002).

Focused on deepening content knowledge and enhancing pedagogy. In addition to having PD occur over longer time periods, it is important for teachers to have deep content knowledge in order for their instruction to lead to student learning, and numerous studies show that educator expertise is associated with higher levels of student achievement (Ball, 1996; Darling-Hammond & Ball, 2000). In terms of PD, knowledge development is a change process that involves building upon prior understandings, creating new ideas, modifying understandings, and replacing knowledge in the presence of irrefutable new ideas (Loucks et al., 2010). Such knowledge development is also complex and time intensive.

The combination of content knowledge and knowledge of effective instruction for the content is referred to as Pedagogical Content Knowledge (PCK) (Shulman, 1986; Bransford et al., 1999; Schroeder et al., 2007; Sparks, 2002). PCK is “knowledge of subject matter for teaching” (Schroeder et al., 2007; p. 1438; Shulman, 1986). Strong content knowledge is essential to effectively learning how to deliver information in ways students will learn and understand (Darling-Hammond & Ball 2000). Engaging teaching practitioners in learning experiences that focus on content is important, but it is more

effective when it is paired with the manner in which students learn it (Desimone, 2009). Thus, one key characteristic of effective teacher learning experiences involves addressing both content and pedagogical knowledge (Guskey, 2002).

Unfortunately, many practitioners in education do not have the requisite depth of knowledge to implement rigorous standards (Desimone, 2006). Additionally, most educators and others working in the field are not equipped with the technological skills and knowledge required to facilitate innovative teaching practices that are needed to improve student learning (Elmore, 2002). Obviously, teachers with insufficient content and pedagogical knowledge are detrimental to student achievement; in these cases, PD is the most widely used improvement strategy (Desimone et al., 2006), and teachers report that PD increases their knowledge and skills (Birman et al., 2000). PD that includes opportunities for teachers to apply new knowledge improves teacher practice and student learning (Loucks-Horsley et al., 2010; Wei et al., 2009). Clearly, coupling content knowledge and pedagogical skills is a key element of effective PD (Sparks, 2002).

Collaborative and job-embedded. Collaboration is also an essential element of professional learning experiences (Birman et al., 2000; Bransford et al., 2000; Desimone, 2009; Garet et al., 2001). In terms of PD, it is important that collaborative activities promote active learning and meaningful conversations in which teachers can exchange ideas and discuss issues that are closely related to their environment (Birman et al., 2000). Additionally, collaboration often engages teachers within the same educational setting, whether by grade level or by department (Birman, 2000; Desimone, 2009). Correspondingly, teachers benefit when collaborative experiences are job-embedded and connected to practice (Darling-Hammond et al., 2009; Knapp, 2013; Zepeda, 2012). The

term job-embedded implies the experiences occur during the school-day, whether with or without students, and held within the classroom or school (Croft, Coggshall, Dolan, Powers, & Killion, 2010). Furthermore, PD that encourages collaboration provides opportunities to celebrate successes (Bransford et al. 2000).

There are positive aspects that can emerge from collective participation, including the opportunity to converse about ideas, information, or problems stemming from the PD activity; share materials; and have discussions within and across grade levels (Garet et al., 2001). Collaborative activities are also beneficial when they are practiced within the same school, as they may foster a shared professional culture (Garet et al., 2001). Therefore, collaborative learning approaches in education have the potential to foster school improvement efforts, especially when they are intensive, ongoing, and centered on student learning with an emphasis on teaching related content and curriculum (Wei et al., 2009).

Two collaborative approaches, lesson study and Professional Learning Communities (PLC's), also referred to as Communities of Practice (CoP's), emerge frequently throughout the literature as particularly effective approaches to PD (Loucks-Horsely et al., 2010; Mundry, 2005; Sparks, 2002; Zepeda, 2012). Other approaches, such as case discussion, peer coaching, and teacher study groups are also mentioned as effective approaches (Loucks-Horsely et al., 2010; Sparks, 2002; Zepeda, 2012).

The concept of lesson study has emerged from an embedded teaching practice in Japan and is built upon the understanding that teaching is a cultural endeavor (Stigler & Hiebert, 1999; Weeks & Stepanek, 2001). Lesson study methodology is collaborative, on-going, goal oriented, process-centered, and focused on professional growth (Weeks &

Stepanek, 2001). When lesson-study is implemented and sustained over time, teachers experience growth in confidence (Rock & Wilson, 2005). Although there is slight variation across the literature, the lesson study model is process centered, incorporating multiple steps that create a cycle for learning and PD with the focus on improving teaching and learning outcomes. This growth model is a way teachers can collaboratively improve upon their practice through on-going critique and reflection (Rock & Wilson, 2005; Loucks-Horsely, 2010).

Collaboration as a characteristic of effective PD is often coupled with Professional Learning Communities (PLC) (Dufour & Eaker, 1998). A PLC involves a variety of stakeholders focused on ensuring that students learn through building and sustaining a culture of collaboration. With student achievement gains as the focal point, this style of PD is touted as a medium for continuous school improvement through enhancing teacher practice and student outcomes (DuFour & Eaker, 1998; Loucks-Horsely et al., 2010). A PLC differs from a traditional working group in that it encourages identifying, examining, and finding solutions for real educational issues through improving instructional methods and overall practice (Putnam, Gunnings-Moton, & Sharp, 2009). Under this model, teachers come together to move from frustration and isolation to productive collaboration. Moreover, trust among community members lies at the heart of such communities and leadership support and vision are critical to their sustainability (DuFour & Eaker, 1998; Fullan, 2007; Zepeda, 2012).

Involves reflective practice and active participation. Active participation is a key element to the success of both lesson study and PLC's (DuFour & Eaker, 1998), which is the case for PD in general (Desimone, 2009; Garet et al., 2001; Guskey, 2003). Teachers

report knowledge and skill acquisition increases that translate into changes in practice when they are engaged in active learning (Birman et al., 2000). Active participation experiences include: engaging in meaningful conversations, planning, observing peers, identifying problems, reviewing student work, and reflecting on practice (Guskey, 2003; Kassner, 2014; Sparks, 2002; Youngs, 2013). Reflective practice, in particular, is important because the educator is the active learner engaged in continuous inquiry, which promotes professional growth and provides support (Osterman & Kottcamp, 2004). Reflective practice involves a strong commitment from individuals, and is a means to engage in self-examination in order to identify problems and explore solutions for improvement (Osterman & Kottcamp, 2004).

Supportive. Within the changing context of educational reform, teachers need support for learning and teaching rigorous standards and meeting the expectation of all students being successful. Support is an important factor to ensure initiatives are being translated into practice (Zepeda, 2012). Teachers who have left schools characterized as urban and high-poverty have identified a lack of support from administration as a factor in their departure (Ingersoll, 2001). It is necessary at all levels in education to ensure adequate systems are in place to support the needs of students and teachers alike. Moreover, teachers are inclined to change when they are supported. Thus, support is associated with improved practice and student outcomes (Banilower et al., 2006).

Therefore, it is clear that while there is a need to change teacher practice, current PD is not adequate even though characteristics of effective PD are well known. A new way to enhance teacher learning and practice may be through social media (Bartow, 2014). The United States Department of Education suggests building teaching and

learning capacity through digital tools, such as social media. One of the pillars for the *Future Ready Schools* initiative is for educators to connect with online communities and networks on national and global levels (www.tech.ed.gov). As expectations for increased technology integration and innovation are leading school initiatives, there are an increasing number of connected educators who are turning to social media tools such as Facebook, Google+, LinkedIn, Pinterest, and Twitter to connect with others in the field (MMS Education, 2012). Learning is socially constructed, and it is beneficial for teachers to connect with outside sources for diverse perspectives and expertise (Sparks, 2002). Moreover, technology integration provides opportunities and builds competencies that are aligned to 21st century teaching and learning needs (Bransford et al., 2006). Thus, technology provides a lens through which to examine innovative approaches to teacher learning and practice. The following section will include an overview relating to current professional development of technology practices.

Social Media Technologies in K-12 Education

As technology quickly evolves as a teaching and learning medium in the 21st century, there is a need to examine how social media technologies (SMTs) are currently influencing teaching and learning in schools. Social media is an innovative venue for teacher learning that allows for inquiry-based interactions and collaboration (Goodyear, Casey, & Kirk, 2014). For example, K-12 teachers use social media, such as Twitter, to engage in online conversations and follow experts related to their field (Alderton et al., 2011). Additionally, emerging technologies are enhancing instruction within the classroom, as well as providing a professional learning medium for communicating, making connections, exchanging content, collaborating, and finding support from other

like-minded individuals (Carpenter & Krutka, 2014b; Ferriter, Ramsden, & Sheninger, 2012; Martinez, 2010; Robbins & Singer, 2014). The term social media refers to internet-based applications that allow users to create content and interact through sharing information (Lightle, 2010). Common forms of social media technologies include blogging (Blogger, Tumblr, & WordPress), microblogging (Twitter), networking (Google Plus, Facebook, LinkedIn), image-sharing (Flickr, Pinterest, Instagram), collaborating (Edmodo, Google Hang-Outs, Moodle, Schoology), and video-sharing (YouTube, Vimeo) (Bryer & Chen, 2012; Carpenter & Krutka, 2014b; Guy, 2012; Kietzmann, Hermkens, Martinez, 2010; McCarthy, & Silvestre, 2011; Powell & McCauley, 2012; Rivera, 2013; Robbins & Singer, 2014).

There is a growing body of research in relation to the role of SMTs in transforming today's educational landscape. As an increasing number of America's high school graduates struggle to be productive digital citizens in a highly competitive global economy, there is a need to examine how teachers are engaging in social media to support their PD and how it influences their practice and ties to student achievement (Alderton et al., 2011; Bartow, 2014; Dixon, 2011; Lightle, 2010; Martinez, 2010; Perez, 2012). Teachers use social media, specifically Twitter, for PD as a means to connect with other educators (Carpenter & Krutka, 2014a). According to a national study conducted by MMS Education (2012), educator participation in social networks has grown by 34% since 2009 and has emerged as an opportunity for teachers to virtually exchange ideas, information, and resources (Carpenter & Krutka, 2014a; Ferriter, et al., 2012). The accessible nature of these platforms provide opportunities for educators to communicate, connect, share content, collaborate, learn, and find support from like-minded individuals

(Carpenter & Krutka, 2014a; Ferriter et al, 2011; Martinez, 2010. MMS Education, 2009).

Historical context. The advent of the World Wide Web created a foundation from which Web 2.0 and social media technologies emerged, providing a standardized infrastructure that has expanded communication practices exponentially (Carpenter & Krutka, 2014c; Greenhow, et al., 2009; Martinez, 2010). A term often used interchangeably with Web 2.0, social media employ mobile and web-based technologies that enable online participants to create, share, and exchange user-generated content in a virtual environment (Greenhow & Gleason, 2012; Kietzmann, Hermkens, McCarthy, & Silvestre, 2011; Lightle, 2010).

Participation in social media has continued to increase since the World Wide Web was developed. Research reveals that 74% of online adults use social networking sites (Pew Institute, 2014). Globally, 71% of online adults use Facebook, 26% use Instagram, 23% use Twitter, 28% use Pinterest, and 28% use LinkedIn. Within the United States, 58% of online adults use Facebook, 23% use LinkedIn, 22% use Pinterest, 21% use Instagram, and 19% use Twitter. Amongst online users, an increasing percentage of internet users are using multiple sites. In 2013, 42% reported using multiple sites whereas 52% reported using a single site. The participatory aspects of social media have created global access and opportunity for educators to communicate with colleagues rather than being limited to interactions with colleagues during the school day, through email, or during professional conferences (Bozarth, 2012; Cox & McLeod, 2014; Gao, Luo, & Ke Zhang, 2012; Lightle, 2010).

Educator use of social media for communication. Using social networking in education for improving communication and collaboration engages students and connects school and community stakeholders (Carpenter & Krutka, 2014b). Furthermore, having an online presence enables districts to leverage social media tools to share positive aspects of their educational settings (Gordon, 2012; Williamson & Education Partnerships, 2012).

Social media has the potential to serve as an efficient communication strategy for educational settings (Carpenter & Krutka, 2014a; Carr, 2013; Gordon, 2012; ISTE, 2017; Rivero, 2013). As school districts throughout the country begin to integrate 21st century practices, educators are finding creative ways to implement social media communication strategies to promote partnerships with families, keep school communities informed, provide new opportunities for stakeholders to facilitate and engage in conversations, and increase student engagement through new media technologies (Gao et al., 2012; ISTE, 2017; Joosten, 2012; Keitzman et al. 2011; Powell & McCarthy, 2012; Malyn-Smith & Smith, 2014). The importance of parent and teacher communication is essential for establishing a web presence that all stakeholders can access (Powell & McCauley, 2012). As social media is transforming communication, an increasing number of educators are also integrating it to enhance their practices (Bryer & Chen, 2012; Gao et al, 2012, Guy, 2012).

Social media technologies provide a variety of ways to exchange information with students, families, and community stakeholders during and beyond the traditional school day (Carr, 2013; Joosten, 2012; Powell & McCauley, 2012). Integrating technology in this way provides opportunities to learn and deepen understanding within a real world

context, which is crucial to meeting the challenges and rigorous expectations for preparing students in the 21st century (Bryer & Chen, 2012; Gao, Luo, & Zhang, 2012; Jacobs, 2010). The key aspects of social media allow educators to expand communication and encourage participation (Carpenter & Krutka, 2014a; Gao et al., 2012; Greenhow et al., 2009; Joosten, 2012; Vissar et al., 2014). Through using these platforms professionally, teachers have the opportunity to meet 21st century pedagogical requirements with student content; as well as student to student and student to instructor exchanges (Bryer & Chen, 2012; Gao, et al., 2012; ISTE, 2017). When incorporated to facilitate a richer learning environment, there is an increase in communication, student engagement, contextual information, and feedback (ISTE, 2017).

 Blogging is the most in-depth method of communication because it allows for two-way communication and archiving of conversations (Byington, 2011; Powell & McCauley, 2012; Ferriter et al., 2012). When a reader accesses a blog, the most recent post is listed first. Some blogs are public, whereas others are private. In either scenario, users can leave comments for the blogger (Paulus, 2007; Powell & McCauley, p. 21; 2012). Blogs vary in content and appearance, but typically contain text, images, videos, and hyperlinks to the bloggers' interests (Paulus, 2007; Powell & McCauley, 2012).

 Blogs are emerging as a way for educators to share school information and help parents feel more connected to their child's education (MMS Education, 2012; Powell & McCauley, 2012; Wejr, 2014). Yet, research varies pertaining to the educational use of blogs. While one survey (MMS Education, 2012) suggests 16% of educators use blogs professionally, results from another inquiry report 35% of educators have blogs (Rivero, 2013). Other scholarship relating to the use of blogs supports the benefits of

incorporating this medium into formal and informal professional practice (Paulus, 2007). This pathway provides those within the field of education with an innovative way to share their voices and reflect on their practice with a global audience (Byington, 2011; Ferriter et al., 2012; Prestridge, 2014). They also serve as a digital portal for professional conversations to take place (Kietzmann et al, 2011; Lightle, 2010).

Correspondingly, these conversations stretch beyond traditional educational environments without the barriers of space and time. They can occur both synchronously and asynchronously, allowing for fewer restrictions (Byington, 2011; Carpenter & Krutka, 2014a; Carpenter & Krutka, 2014b; Ferriter & Provenzano, 2013; Wesely, 2013). As new media is increasingly becoming a part of educator practice, traditional conversations occurring in school-bound common areas are being communicated online and take on many forms, further enhancing professional interest (ISTE, 2017; Lightle, 2010). Blogs also can be utilized for sharing content and for increasing transparency within one's organization (Cox & McLeod, 2013; Ferriter, et al., 2012). Moreover, the personalized PD and interactive nature of this modality sheds light on the atmosphere, culture, and experiences of the bloggers within the context of their organizations (Schoneboom, 2011). They also serve as a means for support (Alderton, et al, 2011; Carpenter & Krutka, 2014b; Schoneboom, 2011). Educators around the world not only communicate with professional peers and experts through blogs, but they can also connect for professional development (Alderton et al., 2011; Carpenter & Krutka, 2014a; Carpenter, 2014b; ISTE, 2017; Larkin, 2013).

Educator use of social media for making connections. Social media tools have expanded communication practices and have extended meaningful connections in

innovative ways (Carpenter & Krutka, 2014b; Chen & Bryer, 2012; Wejr, 2014), which Porterfield and Carnes (2011) affirm can assist with building teacher credibility within one's school community. Social media tools can be utilized to create a positive narrative and connect with stakeholders in ways that can re-shape a school's image and offset the negative publicity that is often associated with public schools (Carr, 2013; Cox and McLeod, 2014; Larkin, 2011). For instance, educators can transition from one-sided communication strategies to exchanges with a variety of stakeholders and experts across the globe (Carpenter & Krutka, 2014b; Chen & Bryer, 2012; Ferriter & Provenzano, 2012; Keitzman et al, 2011; Lightle, 2010; Wejr, 2014). The U.S. Office of Educational Technology identifies connected educators as those who regularly engage in social media for professional learning as well as for integrating digital resources in the classroom (<http://tech.ed.gov/>).

As social media usage is increasing throughout the country, educators are also increasing their connectedness (MMS Education, 2009; MMS Education, 2012). In 2009, a national survey revealed that 61% of participating educators belong to a Social Networking Site (SNS) (MMS Education, 2009). These respondents also exhibited greater perceived values for using SNS to connect with parents, students, professional peers, and the local community to gain support (MMS Education, 2009).

Creating connections is an essential component of social media engagement (Churcher, Downs, & Tewksbury, 2014). Researchers in this field describe social networking platforms, such as Twitter and Facebook, as pathways for establishing connections (Ferriter, 2010; Powell & McCauley, 2012; Wejr, 2014). Twitter has become the preferred micro-blogging tool for educators (Ferriter & Provenzano, 2013; Gao et al.,

2012). Twitter is a popular social networking site that limits users to sharing messages, called Tweets, that are 140 characters or fewer and can include hyperlinks, images, or videos (Alderton et al., 2011; Carpenter & Krutka, 2014a; Gao et al., 2012; Greenhow & Gleason, 2012; Kassens-Noor, 2012; Keitzmann et al. 2011).

Participants who professionally use Twitter typically engage in the practice to stay up to date with current events and for networking with other educators (Gerstein, 2011). Additionally, Twitter is a tool for improving communication effectiveness and expanding digital Professional Learning Networks (PLN's) for exchanging ideas and resources within and outside of one's organization (Carton, 2014; Cox & McLeod, 2014; Ferriter et al., 2011; Gao et al., 2012; Visser et al., 2014).

Twitter is organized by hashtags (#) that allow users to filter through content and that can also be used to create, find, and engage in online discussions that are based on a particular topic or interest (Carton, 2014; Carpenter & Krutka, 2014a; Visser, 2014). This platform enables educators to meet up at specific times through the hash-tag function or through feeds to discuss issues related to education, parental involvement, school reform, and technology integration (Gao et al., 2012). These discussions connect educators throughout the world and have the potential to enhance their learning to inform their practice. Moreover, there are chats for a variety of topics related to teaching and practice (Carton, 2013). Educational professionals engage in Twitter chats to gain knowledge; communicate with experts in their field; find support; and provide reflective insights, ideas, and resources related to the topic (Carpenter & Krutka, 2014a).

Commonly used hashtags related to education include #edchat, #edreform, #edtech,

#elearning, #flippedclass, #highered, #ntchat (Carpenter & Krutka, 2014a; Visser et al, 2014; www.teachthought.com).

Twitter is also noted as a grassroots approach to professional learning and provides a way for educators to connect through a common interest (Carpenter & Krutka, 2014a; Carpenter & Krutka, 2014b). Educators value Twitter for its ability to facilitate on-going conversations related to K-12 education (Alderton et al., 2011). Through these modalities, users are able to connect with others based on specialized areas of their profession or interests. Furthermore, Twitter users have open access to search, follow, interact, share, and learn with like-minded educators and experts from around the world (Gao et al., 2012).

Researchers examining educational use of blogs, Twitter, and other tools fostering online community environments for professional development, reveal users turn to these platforms seeking others with shared interests in order to offset feelings of teacher isolation (Byington, 2011; Carpenter & Krutka, 2014b; Hur & Brush, 2009). To that end, SMT's open the doors for educators to connect with stakeholders and like-minded peers for a variety of purposes (Lightle, 2010).

Social media for informal professional development. Moreover, social networking sites provide a digital environment in which educators can support their professional growth through creating or joining online communities of practice, posing questions, reading feeds from other teachers, and exchanging messages and resources (ISTE, 2017; Sumuer et al., 2014).

Twitter, Facebook, Pinterest, and other social media tools lend themselves to learning through observing, collaborating, imitating, and modeling without the traditional

barriers often associated with professional learning such as time, proximity, and money (Gerstein, 2011). Teachers perceived Facebook as a tool for creating digitally enhanced teaching activities that were constructivist in nature and supported their professional development (Cevik, Celik, & Haslamam, 2014; Samuer et al., 2014). Correspondingly, teachers interacted with Facebook to make announcements, form groups, exchange information, and discuss educational topics (Sumuer et al., 2014). Therefore, the integration of social media strategies in education offer the potential for creating cooperative, collaborative, and experiential learning opportunities within and beyond the traditional classroom environment (Joosten, 2012).

Emerging research examining social media and innovative digital learning environments within the field of education use the terms *collective intelligence* and *wisdom of the crowds* in relation to collaborative learning (Carpenter & Krutka, 2014a; Gea, Soldado, & Gamiz, 2011; ISTE, 2017; Jin, Porter, & Saunders, 2014). Virtual collaboration activities are supportive in nature and involve the active participation of individuals who join together to meet an objective (Byington, 2011; ISTE, 2017), which contrasts to the experience of many educators who are left to their own devices to solve school-related problems and break down the learning barriers of their students (Ardichvili, Page, & Wentling, 2003; Darling-Hammond & Ball, 1998; Elmore, 2002). Further, the world of social media provides a globally supported learning networks for users to connect with others to build knowledge, develop their professional interests, and create communities (Carpenter & Krutka, 2014b; ISTE, 2017; Lightle, 2010).

Additionally, communities offer opportunities for professional development in which individuals learn and grow together (de Oliveira et al., 2015). The accessible and

community-driven nature of social media technologies organically open the doors for educators to freely access information and enhance their knowledge in both purposeful and unintended ways (Bartow, 2014). Additionally, its participative nature allows teachers to collaborate with a focus on teaching and learning, and provides an online environment that could create change in education through creating, constructing, and exchanging knowledge on a continuum (Fortin, 2010; Churcher et al., 2014; ISTE, 2017).

Using SMT for learning, communicating, collaborating, and applying new skills and knowledge is emerging as an informal professional development paradigm (Alderton et al., 2011). By the same token, educators are exploring information rich environments online such as Facebook, Twitter, and educator blogs among others to follow emerging trends and integrate the tools into their practice (Carpenter & Krutka, 2014b; Smith & Malyn-Smith, 2014). For example, educators can embed school videos, links, resources, and artifacts, which can lead to communicating more effectively, broadening their audience, deepening their own understanding, and providing ongoing synthesis of best practices for continuous improvement (Pea & Maldonado, 2006).

Educators have greater access to knowledge and have the opportunity to take the reins of their own learning experiences through social media (Carpenter & Krutka, 2014b). As the popularity of social media as a learning medium grows, an increasing number of teachers and administrators are actively participating through sharing ideas, content, and knowledge (Alderton et al., 2011; Hew & Hara, 2007). The participatory nature of social media promotes an environment in which educators are actively engaged in their virtual informal and formal learning environments (Bartow, 2014; Carpenter & Krutka, 2014b).

Furthermore, educators have a plethora of opportunities to continuously gain knowledge and form connections through the global social media landscape (Alderton et al., 2011; ISTE, 2017). As social media sites, such as Twitter, gain popularity, teachers and other educational professionals are developing formal and informal learning communities online (Alderton et al., 2011). Researchers argue that teachers' practice can be enhanced through participating in informal knowledge sharing with social networking technologies (Alderton et al., 2011; Hew & Hara, 2007; Schlager & Fusco, 2003).

Moreover, educators are using social media technologies to find professional support (Alderton et al., 2011; Carpenter & Krutka, 2014b; Hur & Brush, 2009). Social networking sites and other social media venues provide opportunities to ask questions, share emotions, and engage in meaningful conversations relating to education. Results from a 2012 survey of K-12 educators revealed that 87% found value in using social network sites for peer support, and 83% of the participants found value in terms of gaining PD (MMS Education, 2012). When teachers find a supportive and collaborative community of peers who share similar interests and expertise in their field of practice, they feel valued and less isolated (Alderton et al., 2011; Byington, 2011).

Creating a network of connected educators, also known as learning online communities, communities of practice, or professional learning networks (PLN), is now possible through social media networking and web 2.0 platforms (Bruckman, 2006; Lightle, 2010; ISTE, 2017). This is reflective of a time when Dewey (1938) posited that learning should not be a world apart but rather integrated within society (Bruckman, 2006). Almost seventy-five years later, Dewey's vision has been made possible as a result of technological advances in global societies, specifically in education. While the

terminology varies in relation to educational online communities, several researchers use the term online Communities of Practice (CoP) (Byington, 2011; Churcher et al., 2014; Hew & Hara, 2007; Hur & Brush, 2009; Wesely, 2013). Other scholarship describes them as Professional Learning Networks (PLN) (Alderton et al., 2011; ISTE, 2017; Larkin, 2011; Lightle, 2010; Perez, 2012). Communities of Practice (CoP) are typically comprised of individuals who collaborate for professional improvement (Wenger, 2012). Online CoP serve a similar purpose and allow educators to connect in order to exchange ideas, communicate concerns, learn, and improve their practice through emergent social media technologies, including blogs and social networking sites (Byington, 2011; Churcher et al., 2014).

Byington's (2011) research compares the differences between face-to-face and online CoP's. Within virtual environments, the barriers of time and space associated with professional learning are reduced (Bartow, 2014; Martinez, 2010). The asynchronous and synchronous nature of blogs has the potential to promote meaningful conversations while providing an archive of dialogue and shared resources (Byington, 2011). Blogging has emerged as an opportunity for learners to display their knowledge on a variety of subjects available to a global audience (Pea & Maldonado, 2006). In a matter of minutes, a learner can share information, reflect, or even critique their experiences. Active engagement within the *blogosphere*, can be a reflective activity as well (Byington, 2011; Prestridge, 2014). Bloggers have the capacity to support interactive learning communities in which educators exchange ideas, resources, and strategies (Byington, 2011; Ferriter et al., 2012). In turn, the convergence of professional learning and social media technologies provide educators with access and opportunity to exchange ideas, build knowledge,

follow trends in education, and find support through participation in online collaboration with like-minded individuals (Byington, 2011; Carton, 2014; Carpenter & Krutka, 2014b).

Theoretical Framework

I have selected the theories of constructivism and social constructivism to ground this case study. The theory of constructivism focuses on how the individual mind builds knowledge, whereas social constructivism focuses on knowledge building within a social context (Churcher et al., 2014; Vraidas & Zembylas, 2004). In this case, both theories apply to teachers as individual learners who engage in individualized and socially situated knowledge building experiences (Churcher et al., 2014; Keengwe, Onchwari, & Agamba, 2013).

Constructivism. Constructivism theory is focused on knowledge and learning (Woo & Reeves, 2007). Knowledge building is an active process and is non-existent without the presence of a learner (Huang, 2002; Vrasidas & Zembylas, 2004).

Knowledge is created as individuals take in new information and try to make sense of their learning experiences (Driscoll, 2000; Woo & Reeves, 2007). Therefore, learning in this context is a meaning-making process in which individuals form their own interpretations of knowledge building experiences with social media (Keengwe et al., 2013; Woo & Reeves, 2007).

Social constructivism. The fundamental belief of social constructivism is that knowledge is generated through dialogue and social interaction (Churcher et al., 2014). Additionally, learning is viewed within a socio-cultural context and humans look for understanding of the world in which they reside and interact (Huang, 2002; Woo &

Reeves, 2007). Furthermore, Churcher et al. (2014) emphasize that learning through dialogue and social exchanges is essential to the construction of knowledge.

As expectations for student achievement change, it is important for teachers to build new knowledge and improve their practice through professional development experiences (Desimone et al., 2006). However, traditional methods of professional development, such as district in-services and workshops often fail to meet the needs of teachers as learners (Sparks, 2002). Additionally, teachers need substantial time to enhance their level of expertise to, in turn, increase student achievement levels (Wei et al., 2009). K-12 educators are turning to social media platforms to enhance their learning (Schrader, 2015). Furthermore, Schrader (2015) argues that social media provide new venues for learning that are aligned with constructivism and social constructivism theories. Engaging in these experiences, teachers construct new knowledge and meaning from online connections, bring it back to the classroom, and re-construct knowledge and meaning (Morphew, 2012).

Figure 1 shows that student achievement is influenced by teacher practice. The quality of teacher practice is influenced by professional development. Professional development is necessary for teachers to enhance their knowledge and skills in order to be successful in the classroom (Vrasidas & Zembylas, 2004), and it can take on a variety of forms. Many schools, however, face the barriers of money, time, and proximity that get in the way of implementing the elements of effective professional development and improving student achievement (Gerstein, 2011). Within virtual learning environments, these barriers are reduced (Bartow, 2014; Martinez, 2010). In turn, educators across the

country are turning to social media platforms to communicate, collaborate, exchange information, and learn (Carpenter & Krutka, 2014a; Gerstein, 2011).

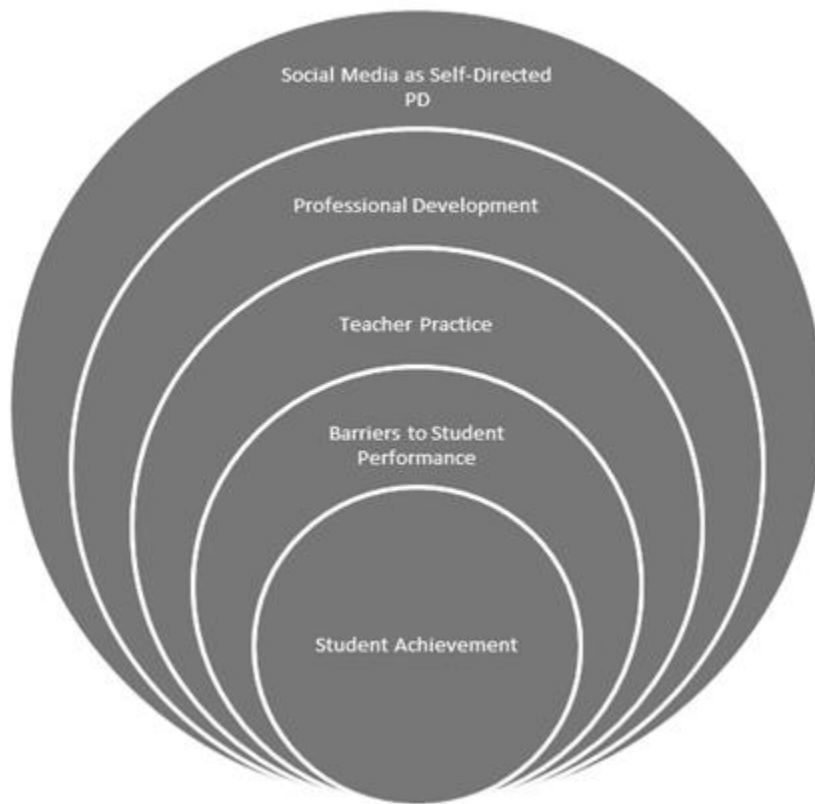


Figure 1. Conceptual Framework. Conceptual framework developed by Celese Nolan, (2017).

Summary of the Literature Review

Thus, from the research presented, it is clear there is a need to transform classroom practices and improve student achievement. In many circumstances, students are entering the classroom with more digital experience than most educators (Prensky, 2001; Duncan, 2012). In order to improve student achievement and address learning barriers, teachers need to continuously enhance their practice through formal and

informal PD, such as social media. Social media technologies provide a plethora of tools for educators to individualize their instruction and PD needs. Educators can improve their practice within nonthreatening virtual settings while also providing the 21st century skills for students to be thriving life-long learners, as well as college and career ready.

Furthermore, research suggests that the optimal learning environments for student growth are inquiry-based, provide authentic experiences, and are student driven (Lee & Hannafin, 2016; ISTE, 2017; Morpew, 2012). With this mindset, the best learning environment for teacher growth would also involve inquiry and active participation within an authentic learning environment. While research supports PD approaches such as lesson study and PLC as ways to promote continuous improvement, the restraints of time, money, and resources often contribute to the breakdown or unsustainability of conventional PLC's and other PD initiatives. In turn, teachers need to engage in continuous learning opportunities through both formal and informal methods to be effective practitioners (Hew & Hara, 2007; Matzat; 2013). Thus, social media technologies serve as tools for educators as both teachers and learners.

Chapter 3

Methodology

This chapter provides a thorough description of the qualitative methods used to collect and analyze data in a multiple case study that sought to understand how teachers perceive their knowledge, practices, and beliefs are impacted when they engage in social media networking. In order to provide a contextual analysis on the relationship between social media use and teacher professional development, I drew on the scholarship of in following recommended steps for conducting case study research and Saldana (2009) for coding the qualitative data (Yin, 2014). For the purpose of this research, data was collected from five participants over the course of four months. Data collection involved interviews, classroom observations, online observations, and artifacts (Yin, 2014).

Rationale for and Assumptions of Qualitative Methodology

In an effort to explore the complexities of this topic in-depth and understand the meaning that individuals give to a social phenomenon, a qualitative approach is most appropriate for this study (Creswell, 2013; Merriam, 1998). Furthermore, I chose a multiple case study approach to strengthen the design (Yin, 2014). Although social media use has emerged as a growing phenomenon over the past decade, there is a relatively limited amount of research pertaining to the use of social media for teacher growth and learning in public education. While using social media as part of their professional practice is not mandated, a growing number of educators are using it for this purpose (Forte, Humphreys, & Park, 2012; Schaffhauser, 2014). In conducting this research, I wanted to gain insight into how and why teachers are using social media and what meaning they are making of these experiences. Additionally, I sought to understand how

teachers perceived the ways in which their knowledge, practices, and beliefs were impacted.

In qualitative approaches, the researcher serves as the primary instrument and an active participant in terms of collecting and analyzing data (Merriam, 1998). As the primary instrument in this study, it was important that I examined and discussed my beliefs and philosophical assumptions. According to Creswell (2014), it is crucial for researchers to identify and understand how these factors play a role in the design and implementation of any qualitative research. In terms of my own assumptions and beliefs, I understand that each person sees the world through his or her own lens and that one person's reality does not define someone else's. Additionally, I value the uniqueness of an individual's knowledge and how each participant makes meaning of his or her life experiences (Merriam, 1998). This description of my assumptions and beliefs served as a tool in reflecting on and monitoring my own subjectivity and bias in examining teacher perceptions in each case (Creswell, 2014; Glesne, 2006).

Qualitative inquiry involves emerging questions and protocols, the collection of data within the setting of the participants, inductive data analysis, construction of themes from data, and the formulation of interpretations and meaning (Creswell, 2014).

Qualitative research questions often begin with *how* and *why*, as a means for gaining an understanding of the phenomenon. According to Yin (2014), when the nature of research questions requires exploration and rich descriptions, a qualitative approach is warranted. In this study, the research questions are designed to understand how and why teachers are engaging in social media networks.

Research Questions

Research questions provide focus for qualitative research (Creswell, 2013; Yin, 2014). In this multiple case study, the focus was to describe, explain, and understand teachers' perceptions. More specifically, the aim of this research was to gain insight into how and why teachers engaged in social media networking and what meaning they made of these experiences. Additionally, this research sought to explain how teachers perceive the ways in which their knowledge, practices, and beliefs are impacted when they engage in social media networking with the following research questions.

- Why do teachers engage in social media networks?
- In what ways do teachers construct knowledge and make meaning from their social media experiences?
- In what ways, if any, does social media use influence their teaching practice?
- What changes have they made as a result of using social media?

Another element of qualitative research is that the inquiry takes place in the participant's natural setting or in the field through in-depth and semi-structured interviews, direct observations, and documentation (Yin, 2014). I conducted each interview face-to-face, ranging from 45-60 minutes, and I observed each of the participants in his or her classroom for 80 minutes at RCIT while strictly adhering to the protocols that are designed for this study (See Appendices A, B, and C). Additionally, I observed their online exchanges, content-sharing, Twitter feeds, and posts on Facebook, Instagram, and Pinterest. In turn, I hoped to understand how and why teachers are connecting to engage in social media networking.

Qualitative inquiry also aligns to my theoretical framework consisting of constructivism and social constructivism. Constructivism is viewed as an epistemology that sets itself apart from post-positivism, transformative, and pragmatism worldviews (Creswell, 2014). Also referred as naturalistic inquiry or social constructivism, it is driven by the precept that learning is complex and people construct knowledge and make meaning of reality within their social environments (Lincoln & Guba, 1985; Siemans, 2005). The fundamental belief of social constructivists is that humans look for an understanding of the world in which they reside and interact. Based on their lived experiences, individuals create subjective meanings (Creswell, 2014; Para, 2010). Knowledge that is constructed as a result of the collaboration between the researcher and the participants is acknowledged in the literature as an advantage within this qualitative approach (Baxter & Jack, 2008; Ritchie & Lewis, 2003).

I thoughtfully selected qualitative research for this study because I wanted to be able to explore, understand, and explain the perceptions of teachers at RCIT. As previously discussed, the characteristics of qualitative research methods are beneficial to exploring and understanding the meaning that individuals give to a social phenomenon (Merriam, 1998). In concert with my theoretical framework, it was critical for this study to use a methodological approach that is aligned with gaining each participants' insights through rich explanations that answer how and why teachers in this study were engaging in social media networking.

Strategy of inquiry. I used a multiple case study method, within a qualitative framework as a design for this research (Yin, 2014). A multiple case study design provides the researcher with the opportunity to explore the uniqueness pertaining to the

perceptions of each teacher's experiences as well as the commonalities among the experiences (Baxter & Jack, 2008; Yin, 2014). Similar to this research, Para (2010) used a multiple case study approach to examine teacher professional development and for online teaching and learning and how it impacts teachers' face-to-face teaching practices. In terms of case study as a strategy of inquiry, Yin (2014) describes a case study as an in-depth investigation of a phenomenon within its real-life context that can be bound by time, location, or other factors and where the case is the primary subject of inquiry. Creswell (2014) explains case study research as the exploration of lived experiences within a bounded system through multiple sources of data. Within this framework, each case was a teacher at RCIT, and the phenomenon being studied were the experiences of teachers who engage in social media networking. Moreover, a case study approach is aligned with a constructivist paradigm (Baxter & Jack, 2008; Yin, 2014).

Through the lens of a constructivist paradigm, this multiple case study examined teachers working within a Career and Technical High School and provided an in-depth, rich description of their perceptions of using SMT's. As the researcher and primary instrument for data collection, I was interested in how these teachers make meaning of their experiences (Patton, 2002). The bounded system for this inquiry was inclusive of teachers who use SMT's within RCIT within a specified time frame. The case was designed to span over three months with an added window of two weeks to adjust for availability or other unforeseen events.

Building upon the tenets of qualitative inquiry, a multiple case study approach was appropriate for this research. First, this case study provided a framework for exploring the need to understand the complex nature of a social phenomenon (Yin,

2014). Secondly, the nature of *how* and *why* research questions that is often embedded within this design allowed me to engage the participants in thorough inquiry as well as glean understanding in relation to the phenomenon. Next, the in-depth data collection methods often associated with a case study, including interviews, direct observations, journal, and documentation provided me with robust sources of information (Creswell, 2014; Yin, 2014). Moreover, these techniques provided multiple pathways that gave me the instruments to gather rich descriptions relating to teachers' experiences within multiple contexts.

Essential components. According to Yin (2014), there are five essential components to a case study research design that include research questions as identified earlier in this chapter; study propositions; unit(s) of analysis or case; the rationale for linking the data to the propositions; and criteria for interpreting the findings. Other factors to consider were case boundaries. Three elements that were essential to establishing boundaries in this research were location, number of cases, and time. Therefore, the research period for this study included five teachers over three months at RCIT.

Propositions. Propositions provide focus, direction, and purpose in a case study (Yin, 2014). There are six propositions embedded within the design of this research. First, teachers need to be equipped with the necessary knowledge and skills to deliver information in ways that students learn and understand (Darling-Hammond & Ball, 2000), and it is important for teachers to build new knowledge to improve their practice through professional development experiences (Desimone et al., 2006). The next proposition is that traditional forms of professional development, such as district in-

services and workshops fail to meet the needs of teachers as learners (Sparks, 2002), and social media venues provide opportunities for learning in ways that traditional forms of professional development have not addressed sufficiently (Alderton et al., 2011; Bartow, 2014; Chen & Bryer, 2012; and Sie et al., 2013). Therefore, many educators see social media as an opportunity to bridge a gap in their professional learning (Forte et al., 2012). The third proposition is that although collaboration has been found to be a critical aspect of professional development (Birman et al., 2000; Bransford et al., 2000; Desimone, 2009; Garet et al., 2001), the teaching profession can be isolating (Alderton et al., 2011), and educators turn to social media venues to find like-minded individuals to communicate with and exchange ideas (Carpenter & Krutka, 2014a; Ferriter et al., 2011; Martinez, 2010; MMS Education, 2009).

The fourth proposition is that knowledge building is an active process and is created as individuals take in new information and try to make sense of their learning experiences (Driscoll, 2000; Woo & Reeves, 2007). Therefore learning in this context is a meaning-making process in which individuals form their own interpretations of knowledge building experiences with social media (Keenwe et. al., 2013). The fifth proposition is that social experiences and individual interactions within social media environments are important components of knowledge growth; knowledge can be generated through dialogue and social interaction (Churchar et al., 2014), such as social media exchanges. Lastly, the sixth proposition is that teachers are inclined to change when they are supported. Additionally, support is associated with improved practice and student outcomes (Banilower et al., 2006). It is clear that there is a need to change teacher practice, and current PD is not adequate even though characteristics of effective PD are

well known. In turn, a new way to enhance teacher learning and practice is through social media (Bartow, 2014).

As the participants' perceptions are not apparent, I focused on unearthing and interpreting how the participants cognitively process their experiences through describing the underlying essence that is found within dialogue and text (Ritchie & Lewis, 2003). The systemic ways in which data analysis can occur is also conducive to this study. I analyzed each teacher to capture his or her unique experiences as well as identify similarities and differences among them. As a result, a rich description of these experiences provided insight as to what teachers experience as a result of social media engagement. To that end, a multiple case study approach was most suitable for this study.

Unit of analysis. The third essential component according to Yin (2014) is the unit of analysis. That unit is each teacher that will be included in this multiple case study (Yin, 2014). I conducted this study in a career and technical high school. In order to identify the participants in the study, I began purposive sampling through criterion-based selection (Merriam, 1998; Yin, 2014). Yin (2014) refers to this as bounding the case by distinguishing characteristics of the unit(s) from those not included in the study. During this phase, I contacted five potential candidates. Prior to initial contact, I determined a list of attributes or characteristics required to ensure the participants chosen from RCIT align to the context of the study (Merriam, 2009; Patton, 2002; Yin, 2014). Participants were full-time teachers who utilized social media as part of their professional practice on a weekly basis.

It is important to note that I discussed the criteria with the participants. From this population, I selected all five teachers from the initial sample who met the research criteria. In qualitative research, it was necessary to identify individuals who have experienced the phenomenon that was being examined (Creswell, 2007). In this case, the phenomenon was the shared experience of teachers using social media tools, such as microblogging on Twitter, Facebook, Pinterest and blogging, as a means for enhancing their practice. The criteria was developed to bound the units of the study and ensure accuracy in identifying potential candidates who teach within RCIT and use SMT at least one time per week as part of their professional practice (Yin, 2014).

Linking the data to the propositions. The fourth essential component according to Yin (2014) involved linking the data to the propositions. The theoretical propositions presented earlier in this chapter are reflective of the research questions and literature review. For instance, the first proposition speaks to the need for teachers to improve their practice. Therefore, one of the research questions asks, what changes has the teacher (unit of analysis) made as a result of using social media (Yin, 2014)? Moreover, this strategy drives the design for data collection and analysis strategies as criteria for interpreting the findings, and is further expanded upon later in this chapter.

Setting/Context

Rawlings County Institute of Technology (RCIT) is a career and technical education (CTE) high school located in southern New Jersey, serving 240 enrolled full-time ninth grade students, 232 full-time sophomore students, and seniors who attend as shared-time students from other high schools in the county. Each year, RCIT brings in a

freshman class of 240 students and phase out many of the shared-time programs that are now full-time.

In terms of full-time academics, RCIT offers two pathways toward college and career readiness. The first pathway, referred to as programs of study, consists of health science and medicine, engineering technology, law enforcement, information technology, and studio production and broadcasting. The other pathway is referred to programs, and they are certification driven. These programs consist of automotive technology, construction trades, cosmetology, culinary arts, and welding. Yet, each pathway consists of courses in which students earn college credits along the way.

Purposeful sampling. I conducted this study in a career and technical high school. Following Coburn's approach (2004) to case study selection, the participants included teachers at RCIT (Coburn, 2004). In order to identify the participants in the study, I conducted purposeful sampling through criterion-based selection (Merriam, 1998). During this phase, I contacted five potential candidates. Prior to initial contact, I determined a list of attributes or characteristics required to ensure the participants chosen from RCIT aligned to the context of the study (Merriam, 2009; Patton, 2002). Participants were full-time teachers who utilized social media as part of their professional practice on a weekly basis.

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Facebook, Pinterest and blogging, as a means for enhancing their practice. The criteria was developed to ensure accuracy in identifying potential candidates who teach within RCIT and use SMT at least one time per week as part of their professional practice.

Data Collection

For this study, I employed a data collection approach that incorporated Yin's (2014) four principles of data collection. First, I used multiple sources of evidence including interviews, observations, artifact collection, and field notes (Yin, 2014). Multiple sources were most useful for data triangulation and strengthened the construct validity of this case study research (Yin, 2014). The second strategy included the creation of a case study database that is password protected on a computer and locked in my office (Yin, 2014). This storehouse held all data collected throughout the duration of this study. Artifacts such as photographs, screenshots, and lesson plans were scanned into the secured electronic storage space. Next, I maintained a chain of evidence (Yin, 2014). This included a case study report, case study databases, citations to specific sources of evidence stored in the case study database, case study protocol that link questions to protocol topics, and case study questions (Yin, 2014).

The fourth principle involved exercising care when using data from electronic sources (Yin, 2014). Yin (2014) recommends using caution when using social media sites such as Facebook, Twitter, and blogs as sources of evidence. In observing these venues, it is important to use a skeptical lens that looks for accuracy of information and authorship (Yin, 2014). As recommended by Yin (2014), I also obtained written permission from the participants to observe and use their social media interactions and activities as part of the data collection process. Additionally, the process included identifying the research site

and individuals, acquiring permission through institutional review board and research site approval(s), using observation and interview protocols to record information, and resolving unforeseen field issues (Creswell, 2013).

Data collection methods. Data collection involved interviews, direct observations, researcher's journal, and documentation (Creswell, 2013; Yin, 2014). In preparation for collecting qualitative data, I sought guidance from the dissertation committee to ensure well-defined protocols and procedures were in place prior to fieldwork as to reduce potential barriers to the research. The protocols and procedures provided a systematic process for collecting qualitative data seeking to follow a chain of evidence (Yin, 2014).

Interviews. In order to collect the participants' perceptions of their experiences using social media, I conducted a semi-structured interview with each participant, which were approximately one hour in duration (Seidman, 2006). The interview protocol was designed to elicit each teacher's perceptions of the ways in which social media were influencing his or her knowledge and practice (Yin, 2014). Teachers were prompted to answer in depth about their professional experiences using social media, any challenges they encounter, how they incorporate it into their practice, as well as how it informed them as professionals (Appendix A). Patton (2002) suggests open-ended questions that draw on experience and behavior, opinion and values, feelings, knowledge, inputs, and demographic questioning. I conducted the interviews on-site at RCIT. Each participant was given the same interview questions with varying probes in order to gain further insight and understanding into the participant's responses (Creswell, 2007). The

interviews lasted 45-60 minutes and were recorded with a digital recorder and professionally transcribed in their entirety.

As a means to gather rich descriptions through interviewing each participant, I sought to make meaning and understand their experiences in relation to the phenomenon (Seidman, 2006). This instrument was designed to develop each participant's story and sought to glean how they came to use social media platforms as a part of their professional practice, which tools they used and for what purpose(s), who did they connect with, and to what extent did they use them? The information gathered from the interviews confirmed the virtual settings for the online observations, and it provided context for classroom observations and artifact collection throughout the study.

The interview process also focused participants on how they perceived their social media experiences, what they have learned as a result of professionally using social media, and how use of social media influenced their teaching practice. It included questions or prompts to give specific examples and reconstruct their experiences both using social media and experiences stemming from the engagement.

Direct and online observations. Observations were conducted in two forms including on-line observations over a two week period and a follow-up classroom observation. Ritchie and Lewis (2003) discuss observations as a way to capture occurrences as they happen and are viewed through the lens of the researcher. During the first week of each of the two-week phases, I virtually observed the participants' professionally related activities on social media utilizing an online observation protocol (Appendix C). Creswell (2013) discusses this in terms of audiovisual materials and argues for collecting data online due to its non-intrusive nature. This can include the flow

or exchange of information, tweets, retweets, “pins” or any other activity relating to the field of education. I also performed classroom observations. An observation protocol (Appendix B) was utilized to organize and provide focus during each session (Creswell & Clark, 2011).

Documentation and artifacts. Documentation and artifacts are not necessary for data collection in a case study, but my purpose for adding this caveat to the research design is to obtain another source of data to corroborate information gleaned from the interviews and observations, which enhance the trustworthiness of the findings (Glesne, 2006). Artifacts and documentation took on different forms and may evolve over time. They were in the form of teacher-made newsletters, lesson plans, classroom pictures, and other documents that may be posted on a participant’s website or social media profile (Creswell, 2013).

Instruments and Recording Procedures

In order to strengthen the validity and trustworthiness of this study, protocols were designed for interviews, observations, audio-visual materials, artifacts and documents. The observation protocol included the participant’s name, phase, location, date, length of activity and will be divided into two columns. The left-hand side of the column included descriptive notes for me to chronologically summarize related activities in the classroom. The right hand side of the protocol included an area for me to write reflective notes that may influence interview questions for the second and third phases of interviewing. The interview protocol was similar in nature however; included a series of questions and adequate space for me to take notes relating to nuances that may not be captured by the recording device. As for the collection of audio-visual materials, I

recorded this digitally through a *Snipping Tool* that enabled me to capture and transfer the online activities into the electronic protocol that included the social media tool that the information was extracted from with the date and time as well as with descriptive and reflective notes and classroom photographs.

Data Analysis

Data collected from interviews, observations, documentation, and field notes were organized, transcribed, coded, summarized, and interpreted (McMillan, 2004). Multiple strategies were employed to examine the data of each participant throughout the process. In this case, each participant was analyzed individually as the essence of their experiences was unique. For this multiple case study, I relied on Yin (2014) and worked on analyzing data from the ground up through a coding process to begin linking data to my propositions and explanation building. From there, I engaged in cross-case synthesis.

Coding process. When analyzing the qualitative data, I began with a preliminary reading of the interview transcripts (Creswell, 2007). The transcription process resulted in numerous pages of double-spaced text (Steinberg & McCray, 2012). Double-space formatting was chosen to allow space for writing notes within the text for codes, themes, and reflective thoughts that require notation. In order to ensure focus and understanding of the data, I re-read the transcripts while listening to the audio tracks that were uploaded to the computer. This was extremely helpful in capturing the nuances that I might have missed in the absence of the audio support. While immersed in the interview data, I used the highlighter function on my computer to identify and organize the preliminary findings during the initial and In Vivo coding processes in an electronic code book in the form of a table (Saldana, 2009). From there, I transferred the codes onto colored post-it notes. I

utilized the same process when analyzing the data from the observations, documents, and field notes (Creswell, 2007).

The next step included a focused coding approach to group related codes into themes. From there, these were used to compare the newly constructed codes during this cycle across the other participants' data to assess comparability and transferability (Saldana, 2009). As codes and themes emerged through the data triangulation process (Yin, 2014), I created a table with thematic categories and inserted direct quotes from the interviews, blog posts, twitter feeds, and reflective field notes (for each participant). I repeated the inferential process as themes and findings emerged from the data sets (Craig, 2009; Denzin, 2012). The final codes and categories were collapsed, and themes were identified.

As codes were created and themes across the preliminary codes emerged, I created a table with thematic categories and inserted direct quotes from the interviews, blog posts, twitter feeds, and reflective field notes. I repeated this process as themes and findings emerged from the data sets. Then, the participants were compared to identify similarities and differences between their experiences during the research period through cross-case analysis.

Explanation building. Explanation building was used as a secondary technique that leads to further insights (Yin, 2014). This technique consisted of a narrative and linkage of data to the propositions, in order to explain how and why teachers were engaging in social media networking (Yin, 2014).

Data management. Data storage protocols are essential throughout the data collection cycle. A briefcase, personal computer, digital recording device, and iPad were

utilized to capture and store information in the database. The briefcase stored all of these devices that were strictly used to collect data during the collection phase. Each day, the artifacts, interview, and observation protocol forms were stored in a locked drawer in my home office, but a picture of each with a label including participant name, date, and reflection were electronically stored on external hard drive that were also be locked in the same location as an added measure. Additionally, the files that were captured and recorded electronically were backed up after each event.

Trustworthiness

In order to strengthen the trustworthiness and credibility during the reporting process, Lincoln and Guba (1995) suggest member checking. Member checking involves the researcher discussing findings and emerging themes with the participants as a means for ensuring accurate interpretation. After the data collection process that includes interviews, direct and online observations, and documentation, I engaged in member checking by giving the participants the opportunity to clarify through reviewing their transcripts (Creswell, 2014). The variety of collection methods also allows the researcher to observe data through the paradigm of Argyris and Schon's (1974) espoused theories versus theories-in-use. This lens was just be one method for comparing data to strengthen the trustworthiness of the study.

Triangulation of the collected data also added to the credibility and trustworthiness of this study (Patton, 2002; Ritchie & Lewis, 2003; Yin, 2014). Creswell (2007) recommends triangulating research data in the forms of observations, interviews, documentation, and field notes in order to provide validity and supporting evidence for research findings. In addition to collecting data from multiple sources, the use of linking

data to propositions and explanation building was used as well to further develop theory (Yin, 2014).

Role of the Researcher

My interest in this topic originated from my own engagement in SMT as well as informal conversations with teachers and administrators who were discussing how colleagues were using social media within the school district. My role as a researcher and primary instrument for data collection was to examine how teachers perceived their professional use of social media in influencing practice and to understand the essence of what they experienced through its utility. Moreover, it was important to identify, examine, and monitor or reflect on my own biases so that they did not interfere with the study. I am an advocate for integrating technology into every aspect of education because I believe that it is a life-skill and a venue for lifelong learning. I also believe that technology integration can build professional capacity as well as provide students with enhanced learning experiences.

Prior to working in public education as a teacher, curriculum coach, and administrator, I worked as an analyst for a Fortune 500 company with a strong global presence. It was not uncommon for me to travel between states or engage with colleagues in other parts of the world. When I returned to education in 2003, I was taken aback by the disconnect between the field of education and the professional world. While being passionate and engaged with my students, I believed it was critical for them to be engaged in activities that helped them understand the real life connections between the curriculum and career readiness, as well as, goal setting and self-reflection through ongoing data analysis. From there, I acquired as much technology as possible, including

robotics kits, and scoured the digital landscape for tools to foster my professional learning and my students. In identifying my own bias, I believe that social media technologies have the potential to assist teachers in bridging their learning gaps as well as create a pathway for lifelong learning. Although I did not intend on altering behaviors or skewing data during the study, I believe my presence research may have an influence on the participants to increase or adjust their posts online (Creswell, 2007).

Ethical Considerations

When conducting research, it is essential to address ethical considerations. In addition to understanding my role as a researcher, there are other aspects to include. After submitting the proposal to the institutional review board prior to conducting this research, it was also crucial that participants in the study were informed about the purpose of the study, how the data was utilized, and that they were allowed to withdraw at any time without penalty.

Building trust with the participants is also an important component. The researcher's rapport with participants is an essential element in research (Seidman, 2006). Jehn and Johnson (2010) suggest building rapport through informal interviews helps the researcher establish levels of trust and communicate one's value of confidentiality that is embedded within the research study. Professionalism throughout the process was essential, and it was also important to be courteous and mindful of each participant's time. This involved flexibility and a constant awareness on behalf of the researcher.

Field issues often include acquiring access to the site, scheduling of interviews and observations, and managing ethical issues (Creswell, 2013). For this study, I used a backyard research approach, where I collected data within the district that I am

employed. As such, I adhered to the guidelines provided by RCIT. Although interviews were scheduled in advance, I scheduled back-up dates in the event that unexpected parental visits and emergency drills. I realized this occurs frequently, and I had to be flexible within this context. Ethical issues can arise during the data collection phase. When collecting data it is important for the researcher to build trust, be respectful of the research site and transparent, strictly adhere to protocols, avoid leading questions, and provide a reward for participating (Creswell, 2013). Confidentiality is also essential. In turn, each participant was given a pseudonym to ensure privacy.

In analyzing and reporting the data, it was critical to make sure each participant was assigned an alias with a profile to ensure anonymity, report perspectives and findings authentically, and follow APA guidelines (Creswell, 2013). Lastly, when publishing the study it was also important to share it with the participants and other stakeholders.

Conclusion

As the use of social media for professional development amongst teachers increases, it is important to understand how and why they are using these venues and in what ways it is influencing their practice. This qualitative multiple case study approach allowed me to explore, understand, and explain the perceptions of RCIT teachers who integrated social media technologies into their practice. Scholarship on learning in the 21st century posits that workers must have information and communication technology skills, as well as the ability to solve complex problems (Dede et al., 2005). Moreover, the integration of digitally enhanced resources in school environments offers the potential for improving teacher practice and student learning (Dede et al., 2005). This case study

sought to add to existing scholarship regarding how educators harness social media technologies for improving teaching and learning in the 21st century.

In summary, this multiple case study explored how public high school teachers perceived their use of engaging in social media networking. The underpinnings of constructivist and social constructivist theories served to provide a framework for understanding how teachers perceive their professional use of social media. Data collection involved individualized, semi-structured interviews, online observations of social media activity, classroom observations, documents, and researcher's field notes in order to describe how high school teachers perceived the relationship between social media tools such as blogs, micro-blogs (Twitter), Pinterest, and social networking (Facebook) sites and their learning and practice.

Chapter 4

Findings

This study sought to examine the experiences and perceptions of RCIT teachers who engage in social media networks. In this section, I present the findings. First, I review of my research questions with a brief overview of the findings. Then, I provide a brief synopsis of each subject. Next, I discuss in detail the themes that emerged from this research. The research questions that guided this study were as follows:

Research Question #1: Why do teachers engage in social media networks?

Research Question #2: In what ways do teachers construct knowledge and make meaning from their social media experiences?

Research Question #3: In what ways, if any, does social media use influence their teaching practice?

Research Question #4: What changes, if any, have they made as a result of using social media?

These questions were designed to gain insight into how and why teachers were engaging in social media networks and what meaning were they making of these experiences. Moreover, this research sought to show how teachers perceived the ways in which their knowledge, practices, and beliefs were impacted when they engaged with social media networks for professional purposes (ISTE, 2017).

Utilizing a case study approach, qualitative data collection included a semi-structured interview; classroom observation; observations of social media content and interactions; and artifacts in the form of lesson plans, photographs, and emails for each participant (Creswell, 2014; Yin, 2014). Through a thorough, multi-layered, and detailed

analysis of the data, a deeper understanding became apparent and five themes were identified (Saldana, 2009; Yin, 2014). These themes are: Influences on Students' Learning Experiences and Engagement; Convenience: Access and Opportunities; Personalized/Customized Experiences; Building Knowledge to Enhance Practice; and Self-care and Support. Before presenting the data on these themes, I provide an overview of each participant.

Participants: An Introduction

Subject A. Subject A is a female English teacher and is certified to teach high school grades 6-12. After graduating from college, she joined RCIT as a Title 1 English teacher for two years. During that time, she also wrote English curriculum in preparation for transitioning from a shared-time environment to a full-time Career and Technical (CTE) high school. Within RCIT's shared-time environment, students throughout the county attend their high school of residence or choice and are enrolled in a CTE course or program for a portion of their day during their junior and senior years. Upon successful completion of their program at RCIT, students exit with a career ready certificate in addition to their high school diploma. Additionally, she assisted other teachers in the development of their CTE programs. Now in her third year, she teaches 9th grade English and recently completed her Master's Degree.

In terms of social media venues, Subject A primarily utilizes Pinterest. Subject A stated:

I use Pinterest a lot. That's really my primary social media tool where I'm trying to find different lessons. I have an entire board dedicated to that. I think that Pinterest is a great resource. You can pull different articles or sometimes they

have an entire lesson plan dedicated to whatever you are studying in class.

Sometimes I use Instagram.

Subject A also uses Facebook to stay connected to the school and occasionally Instagram for professional use. She stated, “Now, I do follow the school page. That helps me keep connected to the school in ways like that, like what’s happening.” She does not use Twitter. She stated, “I don’t really use Twitter at all. I used to have a Twitter (account), but I don’t think I even remember the password for it.”

Subject B. Subject B is a female Special Education teacher who teaches English and History to high school students with mild to moderate intellectual disabilities. Prior to teaching at RCIT, Subject B worked her way through college as a waitress and bartender. After graduating, she worked in an elementary school for half of a year and transferred to the high school. She recently got married and hopes to begin her Master’s degree in a few years. She has been teaching for over 3 years.

Subject B primarily uses Pinterest, Twitter, and Instagram daily. She first started using Pinterest during her student teaching experience. She stated during the interview:

Pinterest was the first one. Back in the day you had to be invited to Pinterest when it first came out (chuckle). My cousin invited me, and it was like the world to educators. It was so exciting, and I was still in [college] as a student and seeing how it was influencing my student teaching and field work experience. Using social media as a guide was nice.

In terms of how she uses social media, she stated in her interview:

I use Pinterest to get lesson plan ideas. I use Twitter for different articles. There’s Edutopia. I use that a lot through Twitter, and I like to find a lot of classroom

management articles on there or for different things like what special education techniques work for high school settings.

Subject C. Subject C is a male and has been a Physical Education and Health teacher for one year at RCIT and has been a certified CrossFit trainer for over three years since he graduated from college. He is also a member of the wellness committee and volunteers his time to teach Crossfit to staff members on a weekly basis. It is important to note that RCIT is a high school without sports teams. A number of RCIT students play sports, such as softball, baseball, and soccer for travel teams and their sending high school. The reason I mention this is that although Subject C has a passion for coaching baseball, he chose RCIT because the school's emphasis on fitness and the curriculum's focus on lifelong healthy lifestyles align with his core values and vision for his students.

In terms of social media venues, Subject C utilizes Pinterest, Instagram, Twitter, and YouTube every day. He also has a blog via Google. According to subject C, "In reality, if you think about it they [social media venues] all technically align and are the same; but Pinterest is cool because there are so many pictures and ideas...where you can personalize a board." Speaking specifically to his use of Twitter he says, "You get to use words. There are pictures, but you get to type on there." He has a similar opinion about Instagram and stated that it is "another way you get to look at pictures again, but it's what you want to see for information, and blogging is obviously just my information going out into the world and letting them [people] comment on it."

Subject D. Subject D is a male Construction Trades teacher in his second year at RCIT. In addition to his teaching certification and certification in carpentry, he also holds a Bachelor's degree in Business and a Master's degree in Business Administration. After

achieving First Team All American in college, Subject D played professional baseball in the minor leagues before completing a four-year apprenticeship and an additional 15 years with the Carpenter's Union.

Subject D primarily uses Twitter, Pinterest (his wife's account), LinkedIn, YouTube, and has a school blog. He utilizes all of these venues to get ideas, learn strategies, and stay up to date with changes in the field. During the interview, he stated:

LinkedIn is a wonderful source that I do use. I don't post. It's more one directional for me at this time. I don't feel comfortable now as a teacher or as an instructor to provide input. It's more input for me so I use that I use for educating myself... same thing with Twitter. It's really helped me in the classroom.

In terms of his blog, he stated:

It's a great way for outside community as well as the parents of my students to become more involved with our classroom; and even though they can't be in the classroom, they still have that feel, and they become part of our classroom even though they are not here. They get to see instantly what their child is working on.

Subject E. Subject E is a female and has been a special education teacher for over four years. Within the context of special education, she taught students with multiple disabilities and is currently teaching a Career and Technical class to high school students with mild to moderate intellectual disabilities at RCIT. Teaching students with intellectual disabilities requires a wide-array of skills and strategies to create an environment where students can learn and apply skills within real-life settings both within and outside of the school. After graduating from college, she spent a few years

working for the Department of Aging in Pennsylvania and in the healthcare field writing and implementing grants.

In terms of social media venues, Subject E utilizes Facebook and Pinterest.

According to subject E,

I rely on social media to find experts...more experienced teachers online. I use Pinterest...I use a lot of Teachers Pay Teachers. I do follow a lot of teacher blogs on Facebook. They have a lot of resources to point me in the right direction with what I was looking for.

Table 1 provides an overview of social media network preferences that were utilized by each subject for professional purposes during data collection.

Table 1

Social Media Network Use by Subject

Name	Social Media Network					
	Facebook	Instagram	LinkedIn	Pinterest	Twitter	YouTube
Subject A	X	X		X	X	
Subject B		X		X	X	
Subject C		X		X	X	X
Subject D			X	X	X	X
Subject E	X			X		

Note. X = Subject use of social media network.

Influencing Students' Learning Experiences and Engagement

As a result of this research, the first theme is focused on the ways subjects use social media to influence students' learning experiences and engagement. Knowing one's students is essential to teacher practice (Ball, 1996; ISTE, 2017). More specifically,

educators need to be able to connect with students, focus on how they learn, create learning environments, and provide resources from social media engagement that help students build upon existing knowledge as well as construct new knowledge and understandings (Mundry, 2005; ISTE, 2008; ISTE, 2017). Data supporting this theme pertain to interview responses, observations, and artifacts showing that social media is utilized to increase levels of student achievement and engagement (ISTE, 2017).

Subject A. Subject A utilizes social media to find resources that will assist her students (ISTE, 2017). During the interview she stated:

We have computers which are great, but sometimes it's good to write out annotations, and it helps with memory. You know you need to make sure they are taking notes. They can't write in the books. So, I remember going on Pinterest looking up annotations (Figures 2 and 3) [and] printed out packets for them so they have their annotation booklet. It has six post-it notes on the front and back. So, we have the page number and their flag. We found that from Pinterest.

Additionally, during my online observations, she posted annotation resources on her Pinterest board, and those resources are identified in the figures 2 and 3. Data aligned to this statement includes a resource that she saved on her Pinterest page titled, 'Flag Your Strategy' (Figure 2).



Figure 2. Flag Your Strategy. Pinterest post from Subject A (2017). Image retrieved by Celese Nolan, (2017).

APPROPRIATE ANNOTATION	
Is	Is NOT
<ul style="list-style-type: none"> QUESTIONS = ABOUT THINGS YOU DON'T UNDERSTAND, THINGS YOU ARE PREDICTING, THINGS YOU ARE TRYING TO MAKE SENSE OUT OF CONNECTIONS = WHAT YOU ALREADY KNOW ABOUT YOURSELF, YOUR WORLD, OR OTHER READINGS INTERPRETATIONS = MEANING OR DEPTH - NOT AT THE SURFACE LEVEL OF THE TEXT; REQUIRES THINKING AND INFERENCE (PUTTING PUZZLE PIECES TOGETHER) SUMMARIES = PUTTING SOMETHING INTO YOUR OWN WORDS, PARAPHRASING INFORMATION IN THE MARGINS AND AT THE END OF SECTIONS/CHAPTERS PATTERNS = USING NUMBERS, BULLETS, OR OWN METHOD TO ORGANIZE LISTS, SERIES, SEQUENCES, CHRONOLOGIES, OR MOTIFS WORDS = MAKING VOCABULARY WORDS, COURSE-SPECIFIC TERMS, AND UNIQUE DICTION CHOICES STAND OUT 	<ul style="list-style-type: none"> NOTES WITHOUT THOUGHTS = TO REMEMBER WHY (E.G., SIMPLY IDENTIFYING A "SIMPLE" SERVES LITTLE PURPOSE; INSTEAD, RECORD A THOUGHT ABOUT WHY THAT SIMPLE IS THERE.) PERSONAL REACTIONS = FOR THOUGHTS WORTH REMEMBERING - NOT JUST "WOW!" OR "BORING!" ONE-WORD COMMENTS = JUST DOESN'T DEPICT ENOUGH THINKING TO JUSTIFY THE SPACE IT TAKES UP. NOTES WITHOUT SYMBOLS OR SYMBOLS WITHOUT NOTES = THEY TAG TEAM TO BRING THE PASSAGE TO LIFE. TOO MUCH OF ANYTHING = HIGHLIGHTING AN ENTIRE PAGE OR PARAPHRASING EVERY SENTENCE WILL BECOME SELF-DEFEATING.

Info taken from: <http://www.teachhub.com/How-annotation-encourages-student-reading>

Figure 3. Appropriate Annotation. Pinterest post from Subject A (2017). Image retrieved by Celese Nolan, (2017).

She also uses Pinterest to find ideas to influence classroom decor for the students. During the interview she stated, “I’ve also used Pinterest for looking for classroom decorations. Things like that just always brighten up the classroom a little bit and make it more welcoming for students.” One example was evidenced on her Pinterest board and during my observation, where I noted the same decorative picture from her Pinterest board on her classroom wall.

Subject B. Subject B finds benefit in “being able to pull something out of it (social media) that is meaningful for the students.” Moreover, she stated that she looks for resources that “will challenge your students” (ISTE, 2017). Similar to Subject A, she also uses social media to find student-centered classroom decor ideas. During the interview she stated, “I use Instagram the most for decor to make it a more inviting atmosphere for the kids.” During the online observation phase, I observed that she posted a flexible seating resource on her Pinterest board (Figure 4) and captured a flexible seating area in her classroom during the direct observation (Figure 5).



Figure 4. Getting Started with Flexible Seating. Pinterest post from Subject B’s classroom (2017). Image retrieved by Celese Nolan, (2017).



Figure 5. Flexible Seating Area in Classroom. Classroom photograph of Subject B's classroom. Photograph retrieved by Celese Nolan, (2017).

Subject B also uses Pinterest to find lesson ideas intended to increase student levels of engagement (ISTE, 2017). I observed that her lesson plan included a resource from social media called “Escape the Room”. The resource was also posted on her Pinterest board. I observed this lesson during the classroom observation phase of the study (Figure 6), and I took a photograph of the ‘Escape the Room Activity’ that was written on her whiteboard as evidence (Figure 7). During this lesson, I observed that students were engaged and on task as they explored the classroom to solve clues in order to ‘Escape the Room’ (ISTE, 2017). The subject also modified the lesson by playing mysterious sounding music to set the tone. The lesson was influenced by the resource found on Pinterest and aligned with her lesson plans (ISTE, 2017).



Figure 6. Escape the Room. Pinterest post from Subject B. Image retrieved by Celese Nolan, (2017).

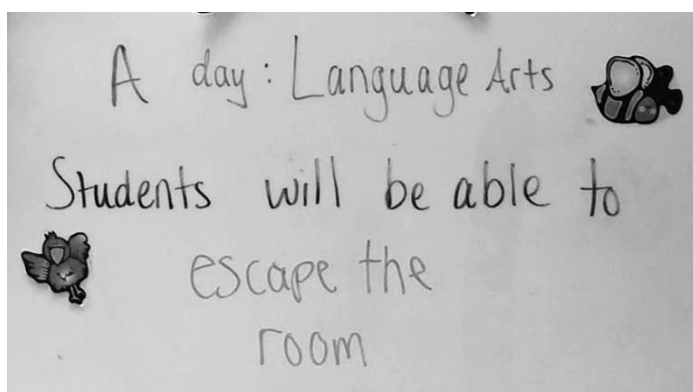


Figure 7. Escape the Room Activity. Photograph from Subject B's classroom of the escape the room activity written on the board. Photograph taken by Celese Nolan, (2017).

Subject C. Subject C believes the students are benefitting from his social media engagement and stated, “They (students) are getting fresh ideas” (ISTE, 2017). In terms of connecting with students he stated, “Using social media is cool because you’re relating to them as far as you might say ‘hey, I got this from Pinterest’ and maybe a lot of students have Pinterest.” He also stated, “I’m trying new things in our department

[through blogging]. The students are given an opportunity to share their voice (ISTE, 2017). On the blog, they have the opportunity to comment and share and things like that.”

Figure 8 is a blog post where a student was the guest blogger for the day, and this was captured during the online phase of the study.



Figure 8. Blog Post. Subject C’s blog post. Image retrieved by Celese Nolan, (2017).

Subject D. In responding to the benefits of using social media as part of his professional practice, Subject D stated:

I hope that it also rolls over toward students where they view social media differently and that it suits an educational purpose as well. And if they view it

two-fold as yes, as a way to communicate and have fun, but also a way to gather information, I think that will really be beneficial for them.

Moreover, Subject D integrates resources found on Twitter to engage his students. This was evidenced in his lesson plan and during the classroom and online observation phases of the study. His focus activity included the following in his lesson plan: “Twitter Post-Students will read the following Twitter post (http://www.finehomebuilding.com/04/23/clean-mindset?utm_campaign=socialflow&utm_source=twitter&utm_medium=editpost) and will tweet a reply (in Google Classroom) providing recommendations that we can make to our shop and classroom to make our work more productive and safe.”

As the school year was coming to a close, the objectives of the week included activities surrounding closing the shop and also preparing it for the fall. Prior to entering the shop, Subject D showed a short YouTube video and modeled proper sweeping technique and discussed expectations as they would occur on a job site.

During the interview, he speaks to another way he integrates social media into the classroom as a means to connect with students (ISTE, 2017). He stated:

One of the things that I began doing with my juniors is a weekly post where I would provide them with a topic. If it was their responsibility during that week to reply back to whatever the subject matter was. Most of time it would come from a tweet or something that I saw on YouTube or even something from an email from one of the one of the people I follow on social media.

He also allows time for his students to work on personal projects and finds Pinterest to be a resource for his students (ISTE, 2017). He stated, “When the students are

able to work on personal projects, and something pops up on Pinterest, we are able to incorporate that as one of the projects. It's (ideas from Pinterest) usually a portion or a focus activity."

Subject E. In her pursuit to find teaching resources to design hands-on learning experiences through social media venues, Subject E states:

A lot of students were used to sitting with a bunch of worksheets and never complaining. That's the way it was. Now kids like to be up and interactive. Now that I know there are so many different types of learners, it [integrating resources from social media] helps you trigger them.

As evidenced during the classroom observation, Subject E asked the students to login to Google Classroom (each student has their own Chromebook) to find the assignment, "Internet Scavenger Hunt". On Pinterest, she pinned examples of Web Quests and scavenger hunts to her board. In looking at her lesson plan for the day, the Internet Scavenger Hunt was also listed as an individual activity along with student centers.

Through online observations, classroom observations, artifacts, and field notes it is evident that Subject E integrates student-centered resources into her lesson plans and classroom activities. This was also reflected through her students. This is especially true in terms of project-based learning and providing real life experiences and simulations to reinforce student learning (ISTE, 2017).

Convenience: Access and Opportunities Embedded Within Social Media

The second theme speaks to the accessible nature of social media venues and opportunities embedded within social media. The opportunities include ways to connect

with like-minded individuals and experts in the field to exchange ideas and resources (ISTE, 2017). Most importantly, these features are accessible twenty-four hours each day and seven days per week. Moreover, without the barriers of time, school funding, and location teachers have access to Tweets, posts, blogs, communication exchanges, videos, articles, and insights from leading researchers, authors, and other educators from all over the globe (ISTE, 2017). Additionally, social media provides these teachers opportunities to share information and expand their voices and opinions to audiences that would otherwise be inaccessible through blogging, tweets, retweeting posts, and posting information on social media.

Subject A. Subject A capitalizes on the access and opportunities found within social media to customize her experiences by creating personalized Pinterest boards and integrating those ideas and resources into the classroom. This was evidenced during the interview, through artifacts (photographs), and during the observation phases of the study.

Throughout each phase of data collection, it was apparent that Subject A engaged in social media, “Everyday...several times a day.” During the interview she described the ways she accesses different social media venues and the opportunities found in each to create lesson plans based on what other educators have posted (ISTE, 2017). She stated:

I think that Pinterest is good if you are looking for something specific. Whereas, Instagram gives you an overview of everything. The new feature on Instagram allows you to post multiple pictures at once...that’s kind of cool because if you’re doing a lesson or if a teacher is broadcasting something they have done they can post the multiple pictures and you can look at the different assignments. But I

think Pinterest is good for specifics. So if you're looking for a lesson tied to *A Long Way Gone* for example, you can simply search that, and then you have a bunch of different options that come up.

Subject A also posted resources relating to the novel *A Long Way Gone* on her Pinterest board (Figure 9). I then observed her using these resources in her lesson plans and in the classroom.



Figure 9. Novel Resource. Subject A's Pinterest post. Imaged retrieved by Celese Nolan, (2017).

Subject B. Subject B engages in social media “daily” and further stated, “I think the bulk of my time on social media is August because like mid-year you're kind of stuck in your ways, but then like August, it's like OK, fresh year. What ideas can I integrate this year? Throughout the year, “I usually do it after school. When my husband is watching sports, I'll go on Pinterest (chuckle) or Twitter.” Moreover, she values new ideas and the varying perspectives found within social media venues. She stated, “There is always

something new. There is always something you can do. Maybe, it's not necessarily better, but it's different, and will challenge you...there are plenty of ideas out there."

Subject C. Subject C utilizes social media "everyday". In terms of access and opportunity, he stated the following about his social media engagement, "It's all access. It's all at your disposal. This is giving you a platform to try things out." Moreover, he stated, "Whether I saw it on a kid's crossfit Youtube channel or Instagram post, all of the movements and style comes from social media. You are getting fresh ideas." In support of the statement above, he stated the following during the classroom observation, "All these exercises come from my social media sources. Crossfit pushes all their latest updates through social media like Twitter, Pinterest, and Instagram." While he enjoys the access and opportunities of social media, he stated:

You can drive yourself crazy researching and always finding good balance. You have to force time and keep balance in mind. It's what you want to see and things like that for information.

Subject D. Subject D accesses social media daily and stated during the interview, "I probably visit Twitter 2 to 3 times a day. YouTube, that's a definite daily thing, and then LinkedIn about once a week." He further stated:

Being new and having some experience using social media and then entering the field (of teaching), I think it makes my job a little easier to actually incorporate technology into the classroom. I don't think you can actually survive in a classroom without it anymore it's become such a staple and a go to for any educator I believe. There is such a wealth of knowledge out there, not to mention the share ability that you have. It's nice to see that educators aren't just keeping it

to themselves. It's like nothing is stuck inside the walls anymore. Everyone's so willing to share, and I think that benefits everybody.

Speaking more to the access and opportunities embedded within social media venues, Subject D also stated:

How you teach your skills is difficult. In carpentry...although we have a really nice textbook to use, still being able to take that skill and break it down into useful parts so that the students understand it and become successful at it (pause)...It can't just be from a book, and I believe there are so many people out there that have actually taught this.

Additionally, he uses a blog as an opportunity to reach out to those outside of the classroom he stated:

I created a blog. I think it's a great way for the outside community as well as the parents of my students to become more involved with our classroom and even though they can't be in the classroom they become part of our classroom even though they are not here. They get to see instantly what their child is working on.

Subject E. Subject E engages with social media “3, 4, 5 times per week.” When asked how she spends the majority of her time on social media and how she balances her time she stated:

I have to set aside Sunday nights or Monday mornings, early, to just do all my school work for the week. So that way, I take out the curriculum. I take out what we're supposed to be learning. I find the resources online, and then I do my lesson plans. I think they're (social media venues) easy to use and manipulate to find what you are looking for.

In support, Subject E also stated that she uses social media to:

See how something is implemented. I also like to go on teachers' blogs because I like to see what they are doing. They have a lot of resources to point me in the right direction, and I'm able to find a lot of information and a lot of good ways to teach different things to the students for that.

Subject E also stated, "I'm able to find a lot of information and a lot of good ways to teach different things to the students." She spoke to this in various ways. Subject E finds value in discovering different ideas and resources and stated:

With Pinterest, there are a million ideas, and there's a million different ways to teach it. So, it's nice to have, you know, different viewpoints on how you would implement something rather than just how the kids are using it.

Customized/Personalized Experiences

The third theme speaks to the customization of the subject's experiences with social media engagement (ISTE, 2017). It is important to note that the subjects have varying levels of expertise, unique interests, backgrounds, skill-sets, and pedagogical needs as the educational context continues to evolve with new technologies and standards. Moreover, the features of social media venues provide ways to organize the continuous flow of information through creating Pinterest boards, retweeting articles, and choosing who they follow as a further means of personalized experiences (ISTE, 2017). Thus, this allows for additional customization of their social media experiences.

Subject A. In terms of subject A, she stated, "I use Pinterest for just about everything. I use it for every aspect of teaching." In terms of why, the subject is quoted as saying, "As teachers, we do not always have the answers." Moreover, the subject's

Pinterest boards contain resources that are specific to what she is interested in and include: avoiding teacher burnout, classroom management, subject specific content, dealing with students with ADHD, organization, ways to be an effective classroom teacher, how to integrate technology, and ways to increase student engagement in the classroom.

Subject A also used Pinterest to organize information and resources. During the online observation phase of this study, I observed that she categorized hundreds of resources by creating four boards including: Quotes, Motivation, Literature, and Teaching. Within the teaching board, resources included instructional strategies, classroom management, technology, novel supports, ideas for working with students with Attention Deficit and Hyperactivity Disorder, classroom décor, and ways to be an effective classroom teacher and to increase student engagement in the classroom. She followed one board on Pinterest, “A Long Way Gone Class Board”, and she was one of 29 followers.

Subject B. Subject B stated she “uses social media as a guide.” One way she personalizes her learning experiences is by choosing who she follows. On Twitter, she followed Edutopia, Teaching Channel, Teacher Series, Google for Education, We Are Teachers, Accord Education, Ted-Ed, HuffPostEDU, NJEA, ASCD, Education Week, Edudemic, and other similar educational handles. On Pinterest, she followed two boards labeled “School Days” and “Worksheets/Graphic Organizers”. She was one of 368,550 followers of the “School Days” board and one of 413 followers of the “Worksheets/Graphic Organizers” board.

Additionally, Subject B used social media platforms differently for organization of ideas, research, and resources. On Pinterest, she created boards including: Science, Social Studies, Work Style (how to dress), Google Classroom, ESY, Organization, Special Ed, Literacy, Teacher's Toolbox, Classroom Decor, Mathematics, and Language Arts.

Subject C. In response to why he engages with social media such as Pinterest, Subject C stated, “Pinterest is cool because there are so many pictures and ideas where you can personalize a board to search categories and put it in that way.” He was also selective in who and which hashtags he followed on Instagram, Pinterest, and Twitter. In observing him online, through emails, and the interview process, he chose to follow @crossfit @JonGordon11 @believephq on Twitter. He followed @crossfit @crossfitgames @bleacherreport on Instagram; On Pinterest, he followed Health & Fitness, Physical Education Games, Physical Education, Motivational Sports Quotes, and Healthy Snacks Boards. In terms of Pinterest, he did create boards.

Subject D. Supporting how he customizes his social media engagement experiences, he chooses to follow: Stanford d.school (hub for innovation, collaboration, and creativity), Harvard i-lab (educational collaborative), OpenEd, Google for Education (leading site for google education), A Craftman's Legacy, ProTrade, and Fine Woodworking Magazine on Twitter.

Subject E. Subject E also personalizes her social media engagement. She stated, “I rely on social media to find experts...more experienced teachers online.” On Facebook, she chooses to follow *We Are Teachers*, *Teacher 2 Teacher*, *Teachers Pay Teachers*, *NJEA*, *The Teacher Next Door*, and is one of 11,000 members of a group for teachers.

Subject E also used Pinterest boards to differentiate between personal boards from her professional boards to organize information and resources. During the online observation phase of this study, I found that she categorized over 400 resources within two boards labeled *School* and *Quotes*. The resources contained within her *School* Pinterest board included how to have meaningful classroom conversations, a variety of Web Quests, instructional strategies, and subject specific content. She also followed three Pinterest boards including “Teaching <3”, “For the Classroom”, and “Education-Organization and Other.”

Build Knowledge and Enhance Practice

This theme emerged from the data is the subjects’ purposeful use of social media to learn new strategies and fill gaps in their own knowledge about their content area as a way to improve their practice (ISTE, 2017). The subjects in this study engaged with social media to learn in their subject areas through mirroring, mimicking, and modeling what they found as a means to become better teachers. Traditionally, teachers relied on other forms of professional development to learn. These subjects however, are engaging in learning through real-time and on-going social media engagement versus solely relying traditional forms of professional development offerings such as district in-services, workshops, and classes. Embedded within the context of learning, subjects referred to using social media as a means of reflective practice or on-going learning experiences (ISTE, 2017; Osterman & Kottcamp, 2004).

Subject A. In terms of engaging with social media venues to build knowledge and enhance practice, Subject A stated:

If you use it the right way, and if you don't take advantage of it, you can better yourself...to kind of model yourself after teachers that you see on social media.

Now going back, with regards to Facebook, sometimes you'll see different posts that come up with regards to teaching or good things that happened in the classroom, different videos will pop up, and I will watch those and try to model what they do, and sometimes it goes really well.

Demonstrating how Subject A takes what she learns through social media and how what she learns is translated into enhanced practice. Her lesson plan for the week of the observation contained a focus activity in which the students and teacher reviewed, modeled, and set up peer evaluation forms. Additionally, I noted that Peer evaluation forms were posted to her teaching board on Pinterest. Moreover, this was also observed during the classroom observation during student presentations. Students were completing a modified version of the peer evaluation that she found on Pinterest through Google classroom.

Subject B. This subject accesses social media venues such as Pinterest and Twitter to learn and grow. During the interview she stated that she engages with social media “to keep myself in a growth mindset...always the student.” She further supported this statement with, “I’ll go on social media that way I can still have an active mind.” Moreover, she stated, “I use that to find my research to find what the latest topics of discussions are.”

As part of her professional learning style, Subject B also uses social media to reflect. Supporting this statement, she stated, “I definitely look for those fresh ideas to influence my teaching, and then throughout the year, I’m like what worked, what didn’t

work to use that as reflective process to figure out how social media impacted our experiences. Moreover, when asked to describe how she uses social media, she stated:

Twitter is more like the research end of it. Twitter is great for different articles and for different research. There's Edutopia, and I use that a lot through Twitter. Eventually, I will go back to school and get my Master's degree, but now I use that to find my research to find what the latest topics (in education) of discussion are.

Evidence supporting these statements are titles and captions from Subject B's Edutopia retweets:

Three Things Students Desire to Hear From Their Teachers; Why This Teacher is Giving Out Zeros; Behavior is Just One Piece of the Puzzle; Tips on Managing a Fun, Choice Driven Flexible Seating Environment; Why History Lessons Often Don't Stick and What You Can Do About It; Educate Yourself on the Myths of Dyslexia; Make Sure Your Lesson Leaves a Lasting Impression; Ideas for Rebooting Seating so It's Designed with Modern Pedagogy in Mind; A Happy, Healthy Classroom Starts With a Happy, Healthy Teacher; 3 Things Teachers Need to Stop Doing, 3 Things Teachers Need to Start Doing, and 3 Things Teachers Need to Keep Doing; Classroom Management Fundamentals Broken Out by Grade Level.

Subject C. Speaking specifically to how social media influences his practice, Subject C stated, "We are always growing as a teacher, and as a leader in your field, you are seeing what works, what doesn't work. Basically, all of our crossfit workouts have been influenced by social media." During the interview, Subject C also stated, "I want to

get knowledge, and it's making me more well-rounded." When asked to describe how he uses social media, Subject C responded, "Selfishly, I want to get better, and whatever you're going to be, you want to be a good one." Although he stated that he uses social media for "learning new ideas." He clarifies by stating, "It's like a little library. You're expanding."

Subject D. What seems to stand out about Subject D is his eagerness to grow and learn. In support he stated, "I think mimicking and mirroring...social media gives you that opportunity." He further stated that he uses social media "for educating myself." Providing clarification he added:

I don't have any prior knowledge or prior teaching practice that has to be re-learned. For me, both are new...the teaching part and the technology part. They are going hand in hand. So, it's not a fight. It's not a way to change the way I teach to incorporate technology. I'm trying to learn both as we go, and I think it makes it so much easier to do both.

In discussing how he learns in terms of social media engagement, Subject D stated:

I think seeing how other people do things is an easier way to grow. It's an easier way to learn. For me anyway, there are other types of learning, but to be able to see someone, and to visually see that. It gives you the opportunity to tweak what you're doing and revamp. Social media gives you that opportunity daily. For me, I don't think it's the easy way out to see how they are doing it and mimicking it. I think that makes you a more efficient teacher and keeps you progressing so that you are getting better and better at what you do.

Subject E. As evidenced, Subject E turns to social media venues to learn and grow. During her interview she stated, “I think it [social media engagement] made me more aware of how to teach it [reflecting on practice].” In further support, Subject E was quoted as saying that she uses social media to see “how something is implemented. I also like to go on teachers’ blogs because I like to see what they are doing [to learn].”

Speaking specifically to how this subject builds knowledge and makes meaning of her social media experiences I observed that she has 468 pins on her teaching board, and she integrates what she finds into her lesson planning and teaching practice. The way in which she described her experiences above indicates that she uses social media as a learning tool on a regular basis.

She also emphasized the ability to use social media venues to observe what other teachers are teaching and how they are teaching it. In support, she stated, “They have a lot of resources to point me in the right direction with what I was looking for.” Subject E brought new ideas and what she learned from social media technologies back to the classroom, re-constructing knowledge and meaning, and applying to her practice to improve student achievement outcomes (Morphew, 2012). Moreover, the way in which she describes her experiences indicates that she is learning from social media engagement, and this type of learning is on a continuum. As a result, Subject E fosters a learning environment where students can learn, apply, and practice expectations in authentic ways (Marzano & Toth, 2014).

Self-Care and Support

The final theme of self-care and support emerged from this study. For the purpose of this research, self-care refers to ways in which the subjects engaged with social media

to find motivational quotes, emotional support, seek inspiration, for validation, offset feelings of complacency, and also as an outlet for creativity (ISTE, 2017). Evidence of this theme was found through Subject's A, B, C, D, and E's data.

Subject A. Subject A utilizes Pinterest to find and store numerous literary, motivational, and inspirational quotes that include the following:

We all have a story to tell; Don't let anyone dull your sparkle; Happiness can be found even in the darkest of times if one only remembers to turn on the light; We must try not to sink beneath our anguish, but to battle on; Do Not Go Gentle into that goodnight; Rage rage against the dying of the light; Rock Bottom became the solid foundation on which I rebuilt my life; So we beat on, boats against the current borne back ceaselessly into the past.

Subject B. During the online observation, I noted that Subject B pinned a number of motivational quotes such as:

Today I choose joy; Negativity...It can only affect you if you're on the same frequency; Vibrate higher!; I haven't chosen to be happy because it is good for my health; Be a voice, not an echo; Positive mind, positive vibes, positive life; Train your mind to see the good in every situation; Pick your battles, you don't have to show up to every argument you're invited to; A person who feels appreciated will always do more; Take time to do what makes you happy; Do what you love and you'll never work a day in your life; You have to be odd to be number one.

Another way she used social media within this theme was by choosing who she followed and stated, "I follow a bunch of teachers on Instagram. I get inspired by them."

In terms of using social media as an outlet for creativity, Subject B's lesson plan, her Pinterest account, and evidence collected during the classroom observation supports her statement, "I use it (social media) for more creative ideas." Evidence of this was collected in the form of artifacts. The artifacts include her lesson plan with an embedded social media resource, a photograph that captured the aligned lesson objective, and a related question posted on the digital whiteboard.

Subject C. In an email from Subject C, he stated that he follows @BelievePHQ and that it is an "EXCELLENT TWITTER ACCOUNT". He further stated, "Believe Perform has many posters and would probably be the one I follow the most." During the online observation phase, one of the Twitter posts liked by the subject included (Figure 10) that illustrates "12 Tips to Help You Overcome Setbacks." Within the same artifact, he wrote that he follows @JonGordon11 on Twitter and stated, "Jon Gordon wrote the *"Energy Bus: 10 Rules to Fuel Your Life, Work, and Team with Positive Energy* and talks about being positive."

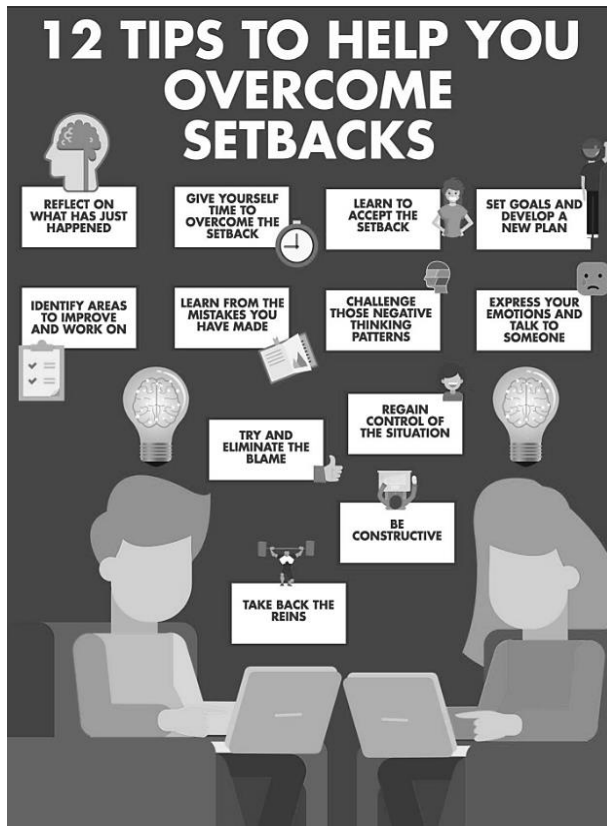


Figure 10. Believe PHQ. Twitter post by Subject C. Image retrieved by Celese Nolan, (2017).

Subject D. During the interview, Subject D stated, “I do enjoy seeing people’s creativity, their ideas, and how we can use them.” In terms of searching for emotional support, Subject D stated:

I think one of the toughest things for me is and probably as long as you teach, you wonder, are you doing things right? Or thinking, I am doing everything right, but it’s not effective. Having being able to check yourself with the outside, with other teachers to see what they are doing, and what are they using.

Subject E. Subject E used Pinterest to find inspirational quotes and posted them to her board. One of her Pinterest boards included the following inspirational quotes:

Hard work in silence lets success make the noise; and. During the classroom observation, I noted similar quotes that were posted in her room. They included: *Dream It, Believe It, Achieve It;* *Without hard work, nothing grows but weeds;* and *Bright tomorrow for today's students: Dream big, study, work hard.*

Conclusion

The purpose of this study was to examine how and why teachers engage in social media networks. Using a case study approach, data was gathered through semi-structured interviews, online observations, direct observations, artifacts, and documents to gain understanding to how and why teachers are using venues such as Facebook, LinkedIn, Pinterest, and Twitter for professional learning (Seidman, 2006; Yin, 2014). Moreover, this study sought to gain insight into how this practice may or may not influence teacher practice at Rawlings County Institute of Technology. As a result, this research identified five themes: Effects on Students' Learning Experiences and Engagement; Convenience: Access and Opportunities Embedded within Social Media Venues; Personalized/Customized Learning Experiences; Building Knowledge to Enhance Practice; and Self-Care and Support. They will be further discussed in Chapter 5.

In Chapter 5, I provide a summary of the major themes and conclusions of this study. In addition, I also present an interpretation of the findings, limitations of the study, and offer implications for future research, implications for practice, implications for leadership, reflection, discussion, and final conclusion.

Chapter 5

Conclusions and Implications

The purpose of this multiple case study was to examine the experiences and perceptions of RCIT teachers who engage in social media networks. A multiple case study design was utilized for this qualitative inquiry as the research was focused on understanding how these teachers perceive and make meaning of their professional social media experiences (Creswell, 2014; Yin, 2014). More specifically, the intent of this study was to contribute to the existing body of knowledge about best practices relating to educators' engagement with social media networks and its impact on teaching practice within K-12 educational environments. In turn, this study was designed with four research questions and corresponding propositions to answer the overarching question, how do teachers perceive their professional social media experiences? The research questions that guided this research were as follows:

Research Question #1: Why do teachers engage in social media networks?

Theoretical Proposition 1a: Traditional forms of professional development, such as district in-services and workshops fail to meet the needs of teachers as learners (Sparks, 2002), and social media venues provide opportunities for learning in ways that traditional forms of professional development have not addressed sufficiently (Alderton et al., 2011; Bartow, 2014; Chen & Bryer, 2012; Sie et al., 2013). Therefore, many educators see social media as an opportunity to bridge a gap in their professional learning (Forte, Humphreys, & Park, 2012).

Theoretical Proposition 1b: Although collaboration has been found to be a critical aspect of professional development (Birman et al., 2000; Bransford et al., 2000;

Desimone, 2009; Garet et al., 2001), the teaching profession can be isolating (Alderton et al., 2011), and educators turn to social media venues to find like-minded individuals to communicate with and exchange ideas (Carpenter & Krutka, 2014b; Ferriter et al., 2011; Martinez, 2010; MMS Education, 2009).

Research Question #2: In what ways do teachers construct knowledge and make meaning from their social media experiences?

Theoretical Proposition 2a: Knowledge building is an active process and is created as individuals take in new information and try to make sense of their learning experiences (Driscoll et al., 2007). Therefore, learning in this context is a meaning-making process in which individuals form their own interpretations of knowledge building experiences with social media (Keenwe et. al., 2013).

Theoretical Proposition 2b: Social experiences and individual interactions within social media environments are important components of knowledge growth; knowledge can be generated through dialogue and social interaction (Churcher et al., 2014), such as social media exchanges.

Research Question #3: In what ways, if any, does social media use influence their teaching practice?

Theoretical Proposition 3: Teachers need to be equipped with the necessary knowledge and skills to deliver information in ways that students learn and understand (Darling-Hammond & Ball, 2000), and it is important for teachers to build new knowledge to improve their practice through professional development experiences (Desimone et al., 2006); such as social media exchanges.

Research Question #4: What changes, if any, have they made as a result of using social media?

Theoretical Proposition 4: Teachers are inclined to change when they are supported. Additionally, support is associated with improved practice and student outcomes (Banilower et al., 2006). It is clear that while there is a need to change teacher practice and current PD is not adequate even though characteristics of effective PD are well known. In turn, a new way to enhance teacher learning and practice is through social media (Bartow, 2014).

For this research study, the participants were selected through purposeful sampling and included five high school teachers who engaged in social media networks at RCIT. In conducting this research, it was my intention to understand how and why teachers use social media as well as their perceptions of social media's influence on their teaching practice. Data collection involved individualized, semi-structured interviews; online observations of social media activity; classroom observations; and artifacts (Seidman, 2006; Yin, 2014). Based on the data that was thoughtfully and carefully gathered from this study, five major themes were discovered through the data analysis phase (Saldana, 2009). After the summary of the findings, each question and proposition is addressed. Following the key findings and themes addressed after the research questions and propositions, I discuss limitations of this study, implications for future research, implications for practice, and offer implications for leadership. I finish the chapter with a reflective discussion and conclusion.

Summary of Findings

Influencing students' learning experiences and engagement. Knowing one's students is of paramount importance in teacher practice (Ball, 1996). Analysis of the findings show that the subjects in this study used social media to connect with students through blogging and through integrating social media into the classroom, such as Tweets or social media posts. This was demonstrated through interviews, online observations, classroom observations, and artifacts (Yin, 2014). Another finding is that the subjects were engaging with social media to find resources based on students' learning styles, to increase student engagement with new strategies, create student-centered learning environments, and to discover resources that were meaningful and challenging to the students (ISTE, 2017). Mundry (2005) further supports this research and emphasizes the need for educators to connect with students, grow in understanding how students learn as well as to foster learning environments that build upon and construct new knowledge and understandings (ISTE, 2017).

As presented in the findings, the teachers in this study understand the importance of integrating meaningful experiences and interactions through digital tools and resources with social media that are relevant to student learning (ISTE, 2017; Morpew, 2012; Su, Huang, Zhou, & Chang, 2017). Moreover, as facilitators for learning, teachers are to provide authentic learning opportunities for students to activate innovative thinking, explore everyday issues, solve problems, reflect, collaborate, and construct knowledge using digital tools and virtual environments (ISTE, 2008; ISTE, 2017; Morpew, 2012). This approach involves active participation by teachers to find resources, strategies, and

new ways that assist students in accessing prior knowledge, connecting ideas, as well as, constructing new knowledge and meaning in new ways (ISTE, 2017; Morpew, 2012).

As identified in Chapter 4, subjects in this study used social media platforms such as blogs or the integration of feeds, posts, and/or content into their classroom environments to connect with students as a way to enhance their learning experiences and engagement (ISTE, 2017). Carpenter and Krutka (2014b) also identified the benefit of using social networking tools to improve student engagement and communication. In turn, the integration of student-centered tools, strategies, and digital resources gleaned from social media engagement offer educators the potential for creating cooperative, collaborative, and experiential learning within and beyond the traditional classroom environment (ISTE, 2017; Joosten, 2012).

Convenience: Access and opportunities embedded within social media

venues. As demonstrated in the data and drawn from thorough analysis, the subjects in this study value the convenience, access, and opportunities embedded within social media venues such as Facebook, Instagram, LinkedIn, Pinterest, and Twitter. Without the barriers of time, school funding, and location teachers have access to Tweets, posts, blogs, communication exchanges, videos, articles, and insights from leading researchers, authors, and other educators from all over the globe (ISTE, 2017).

According to the data, the subjects in this study utilized the opportunities social media networks offer, such as blogging, to exchange information with students, families, and community stakeholders during and beyond the traditional school day (Carr, 2013; ISTE, 2017; Joosten, 2012; Powell & McCauley, 2012). Moreover, their online presence allowed the participants to leverage social media tools to share positive aspects of their

educational settings (Gordon, 2012; Williamson & Education Partnerships, 2012). In turn, these subjects found creative ways through unlimited access and opportunities to increase communication with families, keep the school community informed, provide new ways for stakeholders to facilitate and engage in conversations, and increase student engagement (Gao et al., 2012; ISTE, 2017; Joosten, 2012; Keitzman et al. 2011; Powell & McCarthy, 2012; Malyn-Smith & Smith, 2014).

The key aspects of social media allow educators to expand communication and encourage participation (Carpenter & Krutka, 2014b; Gao et al., 2012; Greenhow et al., 2009; Joosten, 2012; Vissar et al., 2014). Speaking specifically to the findings of this study, the subjects capitalize on the opportunity to use digital tools to connect with students; share information; expand their voices to audiences in new ways such as blogging, integrating social media into instructional practices; tweeting; retweeting posts; and posting information on their blogs, Facebook, Instagram, Pinterest, and Twitter (ISTE, 2017). According to the data, the subjects found opportunities that promoted an increase in communication, student engagement, and garnered student feedback (Bryer & Chen, 2012; Gao, et al., 2012). In turn, using social networking in education for improving communication engages students and connects school and community stakeholders in real time (Carpenter & Krutka, 2014b; Trust et al., 2012).

Customized/personalized experiences. As expectations for increased technology integration and innovation are leading school initiatives, there are an increasing number of connected educators, similar to the subjects in this study, who are turning to global networks such as Facebook, Pinterest, LinkedIn, and Twitter to connect with others in the field in different ways (ISTE, 2017; MMS Education, 2012). As described in Chapter 4,

the subjects within this study described and demonstrated social media experiences that were customized to them through the creation of unique networking profiles (Callaghan & Bower, 2012; ISTE, 2017; Trust, Krutka, & Carpenter, 2016).

According to the data, the participants preferred social media interactions and resources that were engaging, relevant, and specific to their practice (ISTE, 2017; Zepeda, 2012). Social networking sites provide a digital environment in which educators can create or join online groups, pose questions, read feeds from other teachers, and exchange messages and resources (Goodyear & Casey, 2015; Sumner et al., 2014). Each subject had unique interests, backgrounds, skill-sets, and preferences, and they are at the reins of their own social media experiences (Carpenter & Krutka, 2014b). In turn, the subjects in this study turned to social media to personalize their social media experiences in a number of ways. First, the subjects used the features of social media venues by organizing their online resources through creating unique Pinterest boards based on categories or retweeting information they intended on using. They also selected who they followed on Facebook, Instagram, LinkedIn, Pinterest, and Twitter. In choosing who and what organizations they followed, the subjects were able to personalize the continuous flow of information generated through their social media feeds on multiple platforms.

As identified in Chapter 4, each subject was also unique in which boards or topics they followed on Pinterest, which social networking sites they chose to utilize, and how they chose to utilize them. For instance, educators can transition from one-sided communication strategies to exchanges with like-minded peers and experts across the globe (Carpenter, 2016; Ferriter & Provenzano, 2012; Wejr, 2014). Moreover, the personalization of each subject's engagement was also evidenced on Facebook,

Instagram, and Twitter, thereby clearly demonstrating a uniqueness and customization of their social media experiences. In turn, the ways each participant personalized their social media experiences also speaks to this study's underpinning theory of constructivism (Huang, 2002). As discussed in the next section, the theory of constructivism is a philosophical viewpoint that knowledge building is an active process with a personalized interpretation of experiences, whereas social constructivism focuses on knowledge building within a social context, such as within social media experiences (Churcher et al., 2014; Keengwe et al., 2013).

Building knowledge to enhance practice. It is important for teachers to have a depth of content knowledge in order for their instruction to lead to student understandings, and a number of studies show that educator expertise is associated with higher levels of student achievement (Ball, 1996; Darling-Hammond & Ball, 2000). According to the data, the subjects in this study demonstrated they used social media networks as part of their knowledge development through modeling others, finding learning resources that build upon prior understandings, creating new ideas, and modifying understandings (ISTE, 2017; Loucks et al., 2010). In other words, these participants engaged in social media networking experiences to improve their Pedagogical Content Knowledge (PCK) which involves knowledge development of the most appropriate teaching strategies for a specific content area (ISTE, 2017; Loucks-Horsley et al., 2010; Shulman, 1986; Sparks, 2002; Su et al., 2017).

According to Darling-Hammond and Ball (2000), having strong content knowledge is essential to effectively learning how to deliver information in ways in which students will learn and understand. Engaging teaching practitioners in learning

experiences that focus on content is important, but it is more effective when it is paired with the manner in which students learn it (Desimone, 2009), as demonstrated by the participants in this study who found and integrated social media and technology based resources based on students' learning needs (ISTE, 2017).

It was also evident that the participants purposefully turned to social media venues to learn and grow within socially constructed networks (ISTE, 2017). As constructivism and social constructivism undergird this study, it was essential to analyze the data through these theories (Huang, 2002; Vrasidas & Zembylas, 2004).

Constructivism theory focuses on knowledge building as an active process and that it is non-existent without the presence of a learner (Huang, 2002; Vrasidas & Zembylas, 2004). Thereby, knowledge is created as individuals take in new information and try to make sense of their learning experiences (Driscoll, 2000; Woo & Reeves, 2007), which was clear in the data from participants' interviews, lesson plans, observations, and artifacts (Yin, 2014).

Complementing constructivism, the fundamental belief of social constructivism is that knowledge is generated through dialogue and social interaction (Churcher et al., 2014). Moreover, learning is viewed within a socio-cultural context and humans look for understanding of the world in which they reside and interact (Huang, 2002; Woo & Reeves, 2007). Furthermore, Churcher et al. (2014) emphasizes that learning through dialogue and social exchanges is essential to the construction of knowledge as the subjects in this study demonstrated through their Pinterest boards, re-Tweets, Blog posts, and integration of social media content into the classroom.

As active participants in their learning, the subjects engaged in social media to have meaningful conversations, plan for lessons, observe other educators, and reflect on practice (Guskey, 2003; Kassner, 2014; Sparks, 2002; Youngs, 2013). This engagement was demonstrated through subject blogs, lesson plans, interviews, and artifacts. Reflective practice, in particular, is important because the educator is the active learner engaged in continuous inquiry, which promotes professional growth and provides support (ISTE, 2017; Osterman & Kottcamp, 2004). Analysis of these data reveals the subjects used social media to engage in reflective practice, which is to engage in self-examination as a means to explore solutions for professional improvement (ISTE, 2017; Osterman & Kottcamp, 2004).

Moreover, the subjects demonstrated utilizing social media to learn in ways that have the potential to be sustainable over time. The subjects in this study spoke to and demonstrated daily and weekly engagement. When professional learning activities occur over longer periods of time, teachers have more time to apply what they have learned (Garet et al., 2001). Research supports teacher learning that broadens the scope of professional development as it promotes more time and opportunities for educators to deepen Pedagogical Content Knowledge (PCK) (Loucks-Horsley et al., 2010; Sparks, 2002). In turn, duration in terms of contact hours emerges as a key characteristic of effective professional learning (Garet et al., 2001; Wei et al., 2009).

Self-Care and support. For the purpose of this study, self-care refers to ways in which the subjects engaged with social media to find motivational quotes, emotional support, to inspiration, and validation; to offset feelings of complacency; and also as an outlet for creativity. Within the changing context of educational reform, support is also

needed for learning, teaching rigorous standards, and meeting the expectation for all students to be college and career ready. Support is an important factor to ensure initiatives are being translated into practice (Goodyear & Casey, 2015; Zepeda, 2012).

Educational use of blogs, Twitter, and other tools fostering online community environments reveal users turn to these platforms seeking others with shared interests for help and emotional support (Hur & Brush, 2009; Trust, et al., 2016). Moreover, creating connections for a common purpose is an essential component of social media networking (Churcher et al., 2014; Trust, et al., 2016). Through these connections, educators can build mentoring relationships and find personal support (Trust, 2012). In turn, social media networks provide ways for educators to make connections and find ideas to learn, grow, and instantly access support (Trust et al., 2016).

Thorough analysis of data from the interviews, observations, artifacts, and field notes revealed these subjects found support through finding resources for inspiration, classroom management, working with students with disabilities, classroom organization ideas, classroom effectiveness, instructional strategies, subject-specific content, and how to avoid teacher burnout (Trust et al., 2016). Moreover, these subjects were able to connect with like-minded individuals and experts in the field as sources for real-time self-care and support (Alderton et al., 2011; Trust et al., 2016).

Research question #1. Why do teachers engage in social media networks?

The subjects in this study accessed social media networks to engage in on-going professional improvement through building their Pedagogical Content Knowledge (PCK) (Shulman, 1986; Bransford et al., 1999; Schroeder et al., 2007; Sparks, 2002). PCK is “knowledge of subject matter for teaching” (Schroeder et al., 2007; pp. 1438; Shulman,

1986). As discovered through the data, these subjects engaged with social media to find answers, ideas, resources, and strategies to increase engagement through meaningful and challenging content aligned to students' learning styles.

Schools face many challenges, including continuing demands for reform from No Child Left Behind (2001), adoption of the Common Core State Standards, implementation of new nationally recognized standardized tests, and the linkage of student performance on these tests to teacher evaluation systems (Desimone et al., 2006; Elmore, 2002; Knapp, 2003; Youngs, 2013). The focus of these reforms is to increase student achievement and close the achievement gaps between socioeconomic classes and between underrepresented students of color and White and Asian students (Loucks-Horsley et al., 2010; Rock & Wilson, 2005; Zepeda, 2012). Moreover, teachers need to be equipped with the necessary knowledge and skills to deliver information in ways that students learn and understand (Darling-Hammond, 2000). Furthermore, effective teachers are expected to possess the knowledge, skills, and dispositions that improve student outcomes through facilitating digital learning experiences, modeling expectations, and engaging in continuous professional learning (ISTE, 2017).

This is important in light of professional learning opportunities that are in relatively short supply. In order to improve student achievement and close the gaps as standards and curriculum expectations change, a change in teaching and learning is needed (Darling-Hammond & Ball 2000; Guskey, 2002). In comparison to other countries, however, the United States provides fewer opportunities and supports for teachers (Wei et al., 2009). Moreover, school districts have attempted to assist teachers in acquiring new knowledge and skills through intermittent professional development

workshops. This approach is often disjointed and fails to improve student achievement and teacher practice (Ball & Cohen, 1999; Yoon et al., 2007). Thus, these subjects engaged in social media networks to improve through building knowledge and enhancing practice to increase their effectiveness and student achievement (ISTE, 2017).

As discovered through data analysis, the accessible nature and numerous learning opportunities embedded within social media venues are convenient and conducive to personalized learning experiences that can occur anytime and anywhere. Social media venues are easy to utilize and allow educators to exchange ideas and information with like-minded individuals at their convenience (Burns, 2013). As also identified by these participants, teachers prefer professional learning time that is relevant, supportive, and that improves their practice (Zepeda, 2012). These attributes often emerge from non-traditional forms of professional learning, such as social media engagement (Bayar, 2014; Sparks, 2002; Zepeda, 2012).

Another theme emerging from this study is that the subjects were engaging with social media as a venue for self-care. Self-Care refers to ways in which the subjects engaged with social media to find motivational quotes, emotional support, to seek inspiration, and validation; to offset feelings of complacency; for pedagogical renewal; and also as an outlet for creativity. This theme also refers to finding resources and exchanging ideas with others to off-set feelings of isolation (Alderton et al., 2011; Kamalodeen & Jameson-Charles, 2016; Lieberman & Mace, 2010). In terms of self-care and support, Hur and Brush (2014) identified that K-12 teachers participated in online communities to “share emotions, combat teacher isolation, and experience a sense of camaraderie” (pp. 279).

These subjects engaged in self-care through the use of social media networks to find support from like-minded individuals and experts in their field (Alderton et al., 2011; Carpenter & Krutka, 2014b; Hur & Brush, 2009). Social networking sites and other social media venues provide opportunities to ask questions, share emotions, and engage in meaningful conversations relating to education. Results from a 2012 survey of K-12 educators revealed that 87% found value in using social network sites for peer support while 83% of the participants found value in terms of gaining PD (MMS Education, 2012). When teachers find a supportive and collaborative community of peers who share similar interests and expertise in their field of practice, they feel valued and less isolated (Byington, 2011), as also demonstrated by these participants.

In Proposition 1a, I stated that traditional forms of professional development, such as district in-services and workshops fail to meet the needs of teachers as learners (Sparks, 2002), and social media venues provide opportunities for learning in ways that traditional forms of professional development have not addressed sufficiently (Alderton, et al., 2011; Bartow, 2014; Chen & Bryer, 2012; Sie et al., 2013). Therefore, many educators see social media as an opportunity to bridge a gap in their professional learning (Forte et al., 2012).

The evidence supporting this proposition was unearthed through observing the subjects' daily engagement with social media venues. While all of these subjects hold one or more college degrees and successfully completed educator preparation programs, they were all seeking information to learn and grow on a daily basis. Moreover, they were looking for others in their field of expertise to gain insight into effective teaching and classroom management strategies, increase student engagement, find ways to connect

with students, and find venues for self-care and support (Alderton et al., 2011; ISTE, 2017).

Moreover, these subjects are exploring the new opportunities afforded by social media technologies as a means to bridge gaps in their own learning experiences from traditional PD and to continue to build their PCK through engaging in social media networks (Alderton et al., 2014; Chen & Bryer, 2012; Sie et al., 2013). Several studies have shown that student learning is strongly influenced by a teacher's effectiveness (Schroeder et al., 2007; Nye et al., 2004; Wright et al., 1997). Correspondingly, professional learning experiences play an important role in enhancing teacher quality and subsequently increase student-learning (Sparks, 2002).

When infusing digital tools into everyday practice, professional learning can occur naturally within the classroom and beyond (ISTE, 2017; Morpew, 2012). This was clearly evidenced by these subjects. On a daily basis, the subjects were capitalizing on the access and opportunities found within social media venues to customize their learning experiences as a means for improving instruction and student outcomes.

In Theoretical Proposition 1b, I stated that although collaboration has been found to be a critical aspect of professional development (Birman et al., 2000; Bransford et al., 2000; Desimone, 2009; Garet et al., 2001), the teaching profession can be isolating (Alderton et al., 2011), and educators turn to social media venues to find like-minded individuals to communicate with and exchange ideas (Carpenter & Krutka, 2014b; Ferriter et al., 2011; Martinez, 2010; MMS Education, 2009).

As evidenced through the data, the subjects within this study utilized social media venues such as Facebook, Instagram, Pinterest, and Twitter to engage in self-care through

following other teachers; finding resources and motivational quotes; to reflect; and through reading articles, blogging, and researching articles to stay current with today's standards for education. Additionally, they cited modeling strategies after others in the field. In turn, social media platforms provided a virtual environment in where these participants found support for their professional growth by joining online communities of practice, such as Facebook groups, as well as posing questions, reading feeds from other teachers, and exchanging resources (ISTE, 2017; Sumuer et al., 2014).

Research question #2. In what ways do teachers construct knowledge and make meaning from their social media experiences?

The subjects were clearly active learners who continuously sought to connect with like-minded individuals, experts in industry, educational organizations, and virtual content as part of their professional learning process. As evidenced, subjects were also building knowledge from observing and modeling the best practices of others in their field through YouTube videos, reading current articles and research, implementing new ideas and strategies, and reflecting on practice. Through the lens of social constructivism, knowledge is generated through dialogue and social interaction (Churcher et al., 2014), as found with these participants.

Additionally, learning is viewed within a socio-cultural context and humans look for understanding of the world in which they reside and interact (Huang, 2002; Woo & Reeves, 2007). The accessible nature and continuous flow of information allowed the subjects to connect daily, at their convenience, engage in reflective practice, and personalize their experiences based on their interests and learning styles. Moreover, these subjects engaged in reflective practice as active learners, further promoting their own

professional growth (ISTE, 2017; Osterman & Kottcamp, 2004; Trust et al., 2016). They also accessed social media to find lessons, instructional models, resources, and organized preferred content as they created personalized Pinterest boards and retweeted noteworthy information. As evidenced during the interview, through lesson plans and artifacts which I photographed, and during the classroom and online observation phases of the study, they integrated what they learned from their experiences into the classroom.

In Theoretical Proposition 2a, I stated that knowledge building is an active process and is created as individuals take in new information and try to make sense of their learning experiences (Driscoll, 2000; Woo & Reeves, 2007). Therefore learning in this context is a meaning-making process in which individuals form their own interpretations of knowledge building experiences with social media (Keenwe et al., 2013).

While the subjects took in new information and strategies, they also applied it to their instructional practices and overall classroom environments (ISTE, 2017). While the theories of constructivism and social constructivism undergird this study (Huang, 2002; Woo & Reeves, 2007), it is clear that these subjects used social media platforms to construct knowledge and make meaning of their experiences within the socially constructed networks such as Facebook, Instagram, Pinterest, and Twitter (Keenwe et al., 2013).

In terms of constructivism and social constructivism theories, it is important to discuss the notion of self, as the participant engaged in personalized learning experiences. The essential elements of self, one's schema(s) are mental concepts that inform a person about what to expect from a variety of experiences and situations (King, 2014; Sneed &

Whitbourne, 2001). Within the role of self, there are two roles that include self-schemas and scripts, also known as event schemas. In terms of self-schemas, a person feels the need to modify their own behavior, to be better, or to be an idealized, projected, or possible self (King, 2014).

Why is this important? Throughout the study, there was a common thread of seeking ideas and resources to improve, to be better. The participants sought improvement through the access and opportunities that social media venues offer. Moreover, these subjects were active learners. It was evident they were constructing knowledge by observing and modeling after others through socially connected networks. Speaking specifically to learning, schemas were modified through assimilation, where new information was integrated into their pre-existing schemas from observing and modeling others (King, 2014; Sneed & Whitbourne, 2001). Through those new experiences, existing schemas were modified and reflective changes in practice occurred (King, 2014; Schuck et al., 2007). These changes included modified lesson plans, classroom management, depth of content knowledge, and related instructional strategies as a means to improve student outcomes.

In Theoretical Proposition 2b, I stated that social experiences and individual interactions within social media environments are important components of knowledge growth; knowledge can be generated through dialogue and social interaction (Churcher et al., 2014); such as social media exchanges.

As evidenced through the data and mentioned above, it is clear the subjects embraced learning through social media engagement. They connected with like-minded individuals and field experts to learn within socially constructed frameworks (Callaghan

& Bower, 2012; Luehmann & Tinelli, 2008; Trust, 2012). Subjects used blogs for improving communication and collaboration to engage students and reflect on their own practice (Callaghan & Bower, 2012; Goodyear & Casey, 2015; Luehmann & Tinelli, 2008; Prestridge, 2014). Within these socially constructed networks, the subjects believed their daily engagement helped them to stay up to date with current events, new strategies, and the latest research in the field of education (Gerstein, 2011; Trust, 2012).

Research question #3. In what ways, if any, does social media use influence their teaching practice?

Through the evidence, the subjects brought new ideas and what they learned from social media engagement back to the classroom, re-constructed knowledge and meaning, and applied it to their classroom practice to improve student achievement outcomes (ISTE, 2017; Morphew, 2012). Through the data, it was observed that the subjects were blogging, implementing social media into instructional strategies and integrating newly found methods to connect with students and families, such as blogging. As an extension of their learning, subjects used their new knowledge to enhance student learning, ingenuity, and innovation (Goodyear & Casey, 2015; Luehmann & Tinelli, 2008; Trust, 2012).

It is clear that the subjects utilized what they learned to foster learning environments where students can learn, apply, and practice expectations in new and authentic ways (ISTE, 2017; Marzano & Toth, 2014). Through engaging with social media, subjects shifted away from traditional paper and pencil methods, providing more hands-on and project based learning experiences (ISTE, 2017). Moreover, they integrated more technology into the classroom such as Web Quests and Internet Scavenger Hunts.

Due to the frequency of engagement and demonstrated through observed implementation, these practices were clearly a shift from their previous teaching methods.

In Theoretical Proposition 3, I stated teachers need to be equipped with the necessary knowledge and skills to deliver information in ways that students learn and understand (Darling-Hammond & Ball, 2000), and it is important for teachers to build new knowledge to improve their practice through professional development experiences (Desimone et al., 2006); such as social media exchanges.

As evidenced through the data, the subjects within this study utilized social media venues such as Facebook, Instagram, Pinterest, and Twitter to develop new knowledge and skills to provide learning experiences that were meaningful and more conducive to digital learning such as Web Quests, integrating Twitter into Google classroom, and finding new projects on Pinterest. As with these subjects, teachers with a constructivist mindset understand the importance of integrating meaningful experiences and interactions through digital tools that are relevant to student learning (ISTE, 2017; Morphew, 2012). This approach assists learners in accessing prior knowledge and connecting ideas, as well as in constructing new knowledge and meaning (Morphew, 2012).

Through the data, it became evident that the subjects also engaged with social media to acquire the necessary knowledge and skills to model virtual collaboration and learning with digital tools, such as blogging. It is important for educators to understand how to use multiple technologies in order to effectively integrate them into their daily practice (ISTE, 2017; Morphew, 2012). Through this research, it is clear that these

subjects utilized a variety of resources from social media to influence practice as a way to increase student engagement and achievement.

Research question #4. What changes, if any, have they made as a result of using social media?

As evidenced through the data, the subjects were continuously seeking support in the form of new information, resources, and strategies with social media rather than solely relying on traditional forms of professional development. They altered their instructional practices to involve digitally enhanced and interactive mediums for their students. The participants also modeled digital citizenship by integrating social media tools and resources into their daily practice. They organized resources in new ways, by creating Pinterest boards and retweeting useful articles. Participants also integrated blogging exchanges as a way to connect with students and to communicate with families about what their students were learning. When teachers combine technology with successful instructional strategies, students gain content knowledge and innovative skills that transfer to increased student achievement (Pitler et al., 2007).

In Theoretical Proposition 4, I stated that teachers are inclined to change when they are supported. Additionally, support is associated with improved practice and student outcomes (Banilower et al., 2006). It is clear that while there is a need to change teacher practice, and current PD is not adequate even though characteristics of effective PD are well known. In turn, a new way to enhance teacher learning and practice is through social media (Bartow, 2014).

Through the data, it became evident that the subjects modified their teaching strategies as a result of social media engagement. They cited the instant access and

learning opportunities that offered new ways to teach, and they valued their ability to customize their learning based on their interests, subject area, and pedagogical needs. In support of this conclusion, advocates for digital learning claim innovative technologies have the potential to improve teacher practice and increase student engagement with a more personalized experience (Darling-Hammond, et al., 2014; Dede et al., 2005). With this in mind, the following limitations were identified.

Limitations

There were a number of limitations embedded within this study. While five subjects are appropriate for a case study, their experiences may not be generalizable to the experiences of other high school educators. RCIT is a Career and Technical (CTE) High School where technology integration and innovation is prioritized, and thus the participants may utilize technology more than most teachers do. Another limitation of this study is that administration was not a focal point of this inquiry. Administrators play an essential role in creating professional learning opportunities for their teachers and professional staff.

An additional limitation involves where this high school is located regionally. While RCIT is rich in diversity, it is also situated in an area with a high percentage of people living in poverty. In turn, this location, teachers, and the student body may not be reflective of other high schools in the country. Another limitation is that schools block sites, and thus teachers may have difficulty utilizing social media while at school. Moreover, there can be negative uses of social media, such as bullying. Lastly, RCIT is a new high school to the county where cultural norms are not deeply rooted among the professional staff.

Implications for Future Research

While it is clear that educators are using social media as part of their professional practice, the findings of this study generate a need for further research. The first recommendation would be to research a larger sample size of teachers. As RCIT is a CTE high school, further research could be conducted in a traditional high school. Moreover, as the review of the research demonstrated, K-12 educators are engaging in social media networking for professional purposes (Callaghan & Bower, 2012; Carpenter, 2016; Goodyear & Casey, 2015; Luehmann & Tinelli, 2014; Trust, 2012). Therefore, research could expand into middle and elementary schools throughout the country. Another recommendation would be to examine how educational leaders can harness the power of social media to provide quality professional development opportunities to improve teacher practice and ultimately, student achievement (Carpenter, 2016; Goodyear & Casey, 2015). Lastly, due to recent establishment of this high school, research could be conducted in schools with deeply established cultures and norms (Donsky & Witherow, 2015).

Implications for Teacher Practice

It is clear there is a need for the reconceptualization of teacher practice and professional learning to improve 21st century student performance outcomes (Carpenter, 2016; ISTE, 2017; Sparks, 2002; Trust, 2012). In light of this research and as expectations for student achievement change, it is important for teachers to continue to build new knowledge and improve their practice through professional development experiences (Carpenter, 2016; Desimone et al., 2006; Goodyear & Casey, 2015).

Therefore, this section provides implications for teacher practice as a result of this case study.

As identified throughout this dissertation, it is essential to prioritize identifying teachers as learners (ISTE, 2017). The participants demonstrated the ways they engaged with social media networks to find new pedagogical strategies (ISTE, 2017). Moreover, their active participation in these globally-based learning networks gleaned ideas, resources, and content to stay up to date with current educational trends and discover ways to improve student engagement and learning experiences on a frequent basis (Carpenter, 2016; ISTE, 2017; Trust, 2012).

The participants also demonstrated leadership qualities through infusing virtual tools within their learning environments as ways to model the use of digital resources through blogging and incorporating content to connect with the personalized needs of their students (ISTE, 2017), thus, demonstrating that engaging in social media networking can be used as a learning resource. Moreover blogging also served as a communication tool to reach out to families and stakeholders in new ways (Byington, 2011; Powell & McCauley, 2012). In turn, they modeled digital citizenship through demonstrating how social media tools could be used for learning and reflecting (Gao et al., 2012; Hanuscin et al., 2014; ISTE, 2017; Morphew, 2012; Prestridge, 2014).

The ways the participants engaged in these practices also demonstrated their role as a collaborator within their professional practice (ISTE, 2017). Each day, the participants dedicated time to learn new ways to enhance their own learning as well as their students' learning (ISTE, 2017; Sparks, 2002; Poulin, 2014; Trust, 2012). Moreover, their online interactions through blogging and Google Classroom served as a way to

empower students through giving them a voice as part of their learning experiences (ISTE, 2017). Additionally, the participants utilized what they learned within their personalized virtual environments to design and facilitate authentic and innovative lessons involving technological tools as well as hands on projects promoting deeper levels of engagement while meeting the needs of diverse learners (ISTE, 2017; Morpew, 2012).

As discussed in the literature, traditional methods of professional development, such as district in-services and workshops often fail to meet the needs of teachers as learners (Sparks, 2002). Additionally, it is important to recognize that teachers need substantial time to enhance their levels of expertise in order to increase student achievement levels (Wei et al., 2009). In turn, emerging research discussed throughout the literature review and supported by this study reveal benefits for educators who are turning to social media platforms to build knowledge and enhance their learning (Schrader, 2015).

As a result, the additional underlying themes that became apparent were that these participants were focused on students' learning experiences and engagement. They found benefit in social media's features of convenience, accessibility, and professional opportunities embedded within the socially constructed networks. Another implication for practice is using social media as a communication tool to increase connections with internal and external stakeholders. Lastly, each subject's ability to personalize their own learning experiences was an essential component as to why social media is a venue that supports their professional development. In turn, this is a method for educators who are

seeking knowledge, self-care, and new instructional strategies to improve their practice as a way to increase student achievement.

Implications for Leadership

School leaders are faced with the challenge of preparing teachers and students for the 21st century global marketplace. In light of these challenges, educational leaders are required to balance the increasing demands of the profession that are focused on increased accountability, innovation, and work with teachers in preparing students for jobs that do not yet exist (Barnes et al., 2010; ISTE, 2017). Both district and school leaders are an integral to teacher professional development (Desimone et al., 2006; ISTE, 2017). Newman et al. (2000) find that when principals are involved in PD, their leadership positively influences the comprehensiveness of that PD. They also purport that principals in higher performing schools prioritize PD through building a shared vision and culture of high expectations, fostering trust and collaboration, and emphasizing open communication within their educational environment (ISTE, 2017; Newman et al., 2000).

Sparks (2002) describes principals as those who lead a school's learning culture are an essential determinant of school success. Sparks argues (2002) that principals must also have the capacity to provide a clear vision for continuous improvement and be able to give teachers guidance on effective practices. Social media venues offer innovative ways to do model learning and digital citizenship (ISTE, 2017). Therefore, it is important to examine teachers as learners, and the extent to which school leaders play an essential role in teacher development (Sparks, 2002; ISTE, 2017).

As research abounds in terms of quality PD and leaders' roles in design and implementation, I propose that school leaders explore how social media venues can be

incorporated into professional learning experiences. Moreover, as a school leader, I will model digital citizenship in this area through creating a school blog, and utilizing social media venues such as Facebook, Pinterest, and Twitter for communicating, sharing best practices, and exchanging ideas with school community stakeholders (ISTE, 2017).

Additionally, I would provide professional development opportunities to other administrators and teaching staff about using social media as a professional tool in a series of workshops. Moreover, I would create a blog, Pinterest page, Twitter, and Facebook accounts to model and interact with other administrators and teaching staff to share ideas, resources, and exchange content. Therefore, a change in the way I lead is required.

Reflection and Conclusion

The convergence of man and machine has been a focal point of research and innovation for decades (Keming & Jianguo, 2016; Weizenbaum, 1983). In turn, this study adds to the growing body of research that seeks to identify ways educational leaders can harness the core tenets of social media for the benefit of improving teacher practice and student achievement (Darling-Hammond et al., 2014; Dede et al., 2005). As reviewed in the literature, meaningful learning involves on-going learning experiences (Rock & Wilson, 2005; Loucks-Horsely, 2010). The more learning experiences we have, the more inclined we are to exhibit professional growth. Therefore, on-going social networking engagement offers educators the potential to bridge learning gaps between informal and formal professional learning experiences (Buus, 2012; Chen & Bryer, 2012; Hew & Hara, 2007; Kassens-Noor, 2012; Lieberman & Mace, 2012; McCulloch et al., 2011). With student achievement at the heart of this inquiry and my professional pursuits, I can

use what I have gleaned to incorporate these new understandings into my leadership as I formulate professional development for my teachers to improve their practice.

If schools continuously expect higher levels of student achievement and improvements in teacher practice, educational institutions must create learning experiences beyond traditional models as a means to continuously improve and provide learning supports for their teachers. Therefore, my leadership practices must include providing ongoing and purposeful professional development opportunities to promote continuous improvement of teacher practices (Bayer, 2014; Birman et al., 2000; Desimone, et al., 2006; Desimone, 2009; Garet et al., 2001; Guskey, 2003; Hunzicker, 2010; ISTE, 2017; Knapp, 2003; Loucks-Horsley et al., 2010; Torff & Sessions, 2008; Wei et al., 2009; Youngs, 2013; Zepeda, 2012); and social media technologies offer teachers a variety of learning venues that can support professional growth (Sumuer et al., 2014, Trust et al., 2012).

When educators connect with social media, they are able to access new information through observing, collaborating, and communicating with other educators (Sumuer, et al., 2014; Trust et al., 2012). Moreover, social media provides teachers with unlimited access to new information and learning opportunities (Carpenter & Krutka, 2014b). As a result, teachers are equipped with new knowledge that can be used to improve their practice (Trust et al. 2012).

In conclusion, through the convenience that social media venues provide, there are no formalized gatekeepers to information and resources, and these subjects clearly engaged in social media networks on a regular basis to grow and learn. Moreover, these subjects were seeking new ways to improve student achievement within an ever changing

context. As the findings of this study revealed, the participants valued the access and opportunities embedded within socially constructed networks to enhance student learning and achievement, and for self-care and support. Moreover, they found ways to customize their professional learning experiences and in turn, to further build knowledge and enhance their practice in ways that may be sustainable over time.

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Appendix A
Interview Protocol

Participant “Name”:

Time of Interview:

Date:

Place:

Interviewer:

Interviewee:

Position of interviewee:

Purpose of project: Understand how teachers perceive their use of social media for self-directed professional development.

Opening Questions:

What is your position?

How many years have you been in education?

If any, what positions have you held prior to becoming a teacher?

Interview Questions:

How did you first get involved with using social media as part of your professional practice?

What forms of social media do you utilize?

(If multiple responses) In what ways does one site differ from another?

How often do you access social media venues?

(If multiple responses) Which one(s) do you visit the most and why do you access them more often?

Describe how you use social media within your profession.

What are the benefits of using social media in your practice?

What downsides have you found?

When utilizing social media, you have potential access to information 24 hours per day and 7 days per week. How do you balance your time?

Describe what you have learned as a result of using social media.

In what ways do you believe your use of social media has influenced your teaching practice?

Describe lessons or educational practices, if any that have been influenced from social media engagement?

Appendix B

Classroom Observation Protocol

<u>CLASSROOM OBSERVATION PROTOCOL</u>	
<ul style="list-style-type: none">• How do teachers perceive their use of social media?• Why do teachers use social media?• In what ways do teachers construct knowledge from their social media experiences?• In what ways, if any, does social media use influence their teaching practice?• What changes, if any, have they made as a result of using social media?	
Sketch of Environment/Design	
Participant's "Name": _____	
Location: Time Retrieved: Date (Time Period of Collection):	
Descriptive Notes	Reflective Notes

Appendix C

Online Observation Protocol

ONLINE OBSERVATION PROTOCOL

- How do teachers perceive their use of social media?
- Why do teachers use social media?
- In what ways do teachers construct knowledge from their social media experiences?
- In what ways, if any, does social media use influence their teaching practice?
- What changes, if any, have they made as a result of using social media?

Sketch of Environment/Design

Examination of each participant's online activity via social media sites (Twitter, Blogging, Pinterest, etc.) for a duration of 1 week. Tweets, interactions, and postings will be transcribed from social media sites during a specified period of time.

Observation notes will describe online location, description of the sites, actual Twitter feeds, interactions, and blog posts.

Participant's "Name": _____

Social Media Site Location:

Time Retrieved:

Date (Time Period of Collection):

Descriptive Notes

Reflective Notes
