

*Exploring how teachers use social media to interact within a
Community of Practice for their self-directed professional development*

by

Rebecca Quinn Hall

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Abstract

Educators make a commitment to continually advance their knowledge and skills throughout their careers by engaging in teacher professional development (PD). In recent years, teachers have started to participate in dynamic social media networks to connect with their peers and expand their opportunities for professional learning. In this study I set out to explore how teachers are currently interacting with others in the education community on social media in order to develop their practice. Furthermore, I wanted to examine these self-directed interactions in order to determine whether they could be described as a Community of Practice (CoP). An exploratory case study was conducted and semi-structured interviews were held with four educators who are considered to be technology stewards in their social media environments. The dataset was analyzed using qualitative content analysis. It was determined that teachers use social media to 1) have brief information exchanges, 2) build a shared understanding of their practice, 3) to showcase and document their practice, 4) gain emotional support and 5) network. Based on the findings, it was determined these educators are participating in a complex and evolving online CoP. Teachers interact with a diverse set of peers in order to accelerate good practices. As a result, they are well positioned to be recognized as leaders in their field, gain access to innovative teaching approaches and shape emerging practices. Consequently, recommendations for those who develop policy around teacher PD have been made.

Keywords: teacher, professional development, social media, Communities of Practice

Introduction

In order to meet the complex demands placed on them by modern education reform, classroom teachers make a commitment to develop their skills by engaging in professional development (PD) throughout their career (Garet et al., 2001; Borko, 2004). The overall objective of teacher PD is to “develop, implement, and share practices, knowledge, and values that address the needs of all students” (Schlager & Fusco, 2003, p. 205). Teacher PD is necessary in order for educators to be able to critically examine ideas related to their practice and adjust their teaching practice to increase positive learning outcomes in their students (Wright, 2010).

As a resource-rich province, Alberta has undergone significant economic changes in recent years and, consequently, expectations from the public for a high-quality education system have significantly increased (Alberta Teachers Association, 2010). It has been recognized that if Alberta’s teachers are to lead the informed transformation of the province’s school system, it is imperative that they are able to reflect upon their current teaching practices and develop new ones (Alberta Education, 2011).

It is evident that effective teacher PD is becoming increasingly sought after in order to meet the changing needs of Alberta’s classroom. However, a 2010 study found that teachers in Alberta are facing significant barriers to obtaining rich PD experiences (ATA, 2010). Funding and access to most forms of PD is declining and workloads have increased such that teachers have “less time than ever to engage in reflective practice and growth” (ATA, 2010, p.3).

Traditionally, teacher PD requires a significant investment of time and money because they occur in a face-to-face setting within a school or district, often consisting of seminars, conferences, inter-school visits or collaborative meetings. Online PD opportunities have shown to be a viable, more accessible alternative to these traditional in-person experiences (Hough, 2004; Hartnell-Young, 2006; Hirtz, 2008; Paulus & Scherff, 2008).

In recent years, educators around the world have been motivated to engage in self-directed PD using various online social media networks. These lightweight platforms allow teachers anytime, anywhere media by which they can gain rapid feedback, brainstorm, learn new ideas and hear best practices from a wide audience of the educational community – affordances not typically associated with traditional teacher PD (Elliott, Craft & Feldon, 2010).

Research strongly suggests that engaging in Communities of Practice (CoPs) is necessary in order for teachers to be able to attain the effective and sustainable PD that is required for education reform (Schlager & Fusco, 2003). CoP is a term used to describe an informal social learning environment where “newcomers to the community learn from old-timers as they are allowed to undertake more and more tasks in the community and gradually move to full participation” (Hildreth & Kimble, 2008, p. ix). Taking this into consideration, along with the recent phenomenon of teachers interacting through social media, I wanted to better understand whether these new technologies could support the

dynamic and complex social system inherent in the CoP framework (Wenger, 1998).

This study is an exploratory case study to examine how members of the education community, specifically kindergarten to grade 12 classroom teachers, in Alberta are using social media to develop their practice by engaging with their peers. A main objective of this study is to provide a foundational understanding of the tools and the various activities teachers are participating in to further their practice. Secondly, it is important to assess whether the dynamic interactions facilitated by these tools would qualify as a CoP in order to improve understanding of how these technologies are capable of advancing teachers' professional goals.

The findings of this research will have implications for administrators in the education community who seek to design professional development programs to effectively respond to the future needs of Alberta's education system. Lock (2006) notes that "at the organizational level, decisions through policy and practice gauge the degree to which teachers determine their own professional development as compared to mandated opportunities" (p. 665). Because this study largely focuses on self-directed teacher PD, the findings could serve to inform these decisions.

Moving towards using online communities for PD requires a significant culture shift amongst stakeholders in the education community as the transition "alters current beliefs, practices, and routines and transforms current notions of professional development" (Lock, 2006, p. 675). This study could help to contribute towards this shift

by providing insight into the opportunities available to teachers by engaging in this type of learning environment.

My research questions for this study are:

- How are teachers using social media to interact with each other for their self-directed professional development?
- Can these interactions be described as occurring within a Community of Practice? If so, what implications might this have for professional development policy in Alberta schools?

This paper will begin with a literature review to provide insight into the existing research that is relevant to my area of focus. This section will expand upon the foundation and requirements of effective teacher professional development, along with the current understanding of learning through CoPs. A methodology section will detail how I carried out an exploratory case study by collecting data from interviews with key informants. Next, the findings of the study will be given, with sections devoted to the technologies adopted by the teachers, the types of activities the teachers engage in, along with some other interesting findings. The discussion section examines these findings within the framework provided by Wenger's (1998) dimensions of a CoP. Finally, a conclusion section will summarize the key findings of the study, as related to my research questions, and make some suggestions for future research. In this section, I propose how education administrators might leverage the personalized and innovative learning

opportunities available through CoPs hosted on social media to their current PD programs.

Literature Review

In order to better understand how new technologies support teachers in their career-long pursuit of enriching their practice, it is necessary to first examine the existing literature on teacher PD. A selective literature review was performed on teacher PD in order to gain a better understanding of its theoretical basis, the main advantages it provides teachers, the factors that contribute to its effectiveness and how it has recently been shaped by new technologies. Next, I will give an overview of the CoP literature and examine this concept in the context of teacher learning. Finally, I will investigate the research that has been performed on social media as it relates to the PD of members of the education community.

Teacher Professional Development

There is a considerable body of literature that examines the evolution of teacher PD, both in theory and in practice. Teacher PD is defined in the literature as a process of daily personal and professional growth whereby an educator advances their knowledge, skills, abilities and strategies related to teaching students (Jovananova-Mitkovska, 2009). The development occurs as a teacher researches, reflects, and then makes appropriate changes to their practice (McGee & Lawrence, 2009). This career-long process commences when a student prepares for the profession, and continues until their retirement. Advancing a teacher's professional practice is vital, as research suggests that

teacher effectiveness is directly related to positive outcomes in student achievement (Darling-Hammond, 2000).

There are several studies that attempt to connect PD approaches to actual - or perceived - advantages to one's teaching practice. Effective professional development has been shown to provide teachers with an array of benefits including: a sense of renewal in a career (Beatty, 2000), confidence building (Paulus & Scherff, 2008), effective problem resolution skills (Saka & Saka, 2009), preparedness for teaching diverse student populations (Nevin, Thousand & Villa, 2009), an increased sense of control (Beatty, 2000), increased job satisfaction and motivation (Beatty, 2000), reduced feelings of isolation (Paulus & Scherff, 2008) and increased likelihood of remaining in the profession (Paulus & Scherff, 2008). It is important to point out that there is a current lack of research that directly connects general PD to actual student outcomes. There is, however, evidence that strongly links teacher efficacy to positive outcomes in student achievement (Darling-Hammond, 2000).

Elliot et al. (1998) developed a model for effective teacher PD, where practice can be transformed. The model includes five stages of progression that teachers undergo: stimulation (reflecting on their practice), modification (seeking alternative ideas), amplification (envisioning implications to their own practice), reconstruction (working these ideas into a new framework) and finally, transformation (incorporating the ideas into practice).

Literature surrounding contemporary approaches to teacher PD regards it as a learning process of enculturation into the practice, whereby the teacher is an active

participant (Garet et al., 2001; Borko, 2004; Jovanova-Mitkovska, 2010). This view is rooted in social constructivist theory, the lens under which several modern authors use to study teacher PD (Schlager & Fusco, 2003; Hough, Smithey & Evertson, 2004). This theory proposes that our understanding of the world is shaped through our social interactions, where one is able to make sense of the world from their past and present experiences (Gunawardena, 2009).

Social constructivism theory, attributed to the research of psychologist Vygotsky (1962), recognizes the importance of social interaction and collaboration in learning. It is this theoretical framework that provides the foundation for the majority of contemporary research on learning and education. It is important to note that Vygotsky acknowledged that valuable learning occurs not just in a top-down manner from a teacher, but more importantly from interacting with a diverse set of fellow learners (Hartnell-Young, 2006; Powel & Karina, 2009). “A social constructivist environment includes activities where students experience their level of understanding and seek assistance to get to the next level...Social constructivism will engage students in activities creating relationships that will directly affect what they learn” (Powel & Karina, 2009, p. 246).

Many studies have examined teacher PD using this constructivist notion that knowledge is socially constructed (Lock, 2006; Yildirim, 2008; He, 2009; McGee & Lawrence, 2009; Barak et al., 2010). From this perspective, teacher learning is regarded as a “process of increasing participation in the practice of teaching, and through this participation, a process of becoming knowledgeable in and about teaching” (Adler as cited in Borko, 2004, p.4). Lock (2006) states that “by using a social constructivist approach, teachers’ learning is based on constructing meaning from experience and

interpreting the world through the social environment” (p. 669). Further to this, Barak et al., 2010 study teacher PD and contend that “understanding knowledge as dynamic and negotiated, rather than as a set of decontextualized rules to follow, shifts the focus from the individual’s mind to social practices and processes of negotiation of meaning” (p. 277).

Yildirim (2008) proposes that high-quality teacher PD should be designed based on what is known about adult learning through Vygotsky’s social constructivist theory. Accordingly, teacher learning should be an active process, driven by the learner, experimental in nature and fostered by rich and diverse sources of information. Furthermore, learning is a highly social endeavor where teachers have much to gain working with their peers in similar roles.

A consistent theme in the literature is that effective teacher professional learning is continuous and can occur in the context of everyday activities, even informal ones, rather than in periodic formal workshops and learning settings (Garet et al., 2001; Peacock & Rawson, 2001; McGee & Lawrence, 2009; Barak et al., 2010). This *in-situ* approach of professional development “is not constrained to time-defined, intentional activities meant to achieve specific goals or standards; rather, it is a way of life based on the complementary relations between practice and inquiry” (Barak et al., 2010, p. 276). Garet et al. (2001) found in their study that professional development that provides teachers with the opportunity to do hands-on work that is aligned and integrated with everyday school life is more likely to lead to the enrichment of knowledge and skills. Furthermore, these authors found that PD programs that are sustained over long periods of time are more successful than shorter learning opportunities.

Another theme that is widely mentioned in the literature is that educators benefit and develop professionally when they are able to reflect on their practice (Beatty, 2000; Peacock & Rawson, 2001; Hough, Smithey & Evertson, 2004; Saka & Saka, 2009; Jovanova-Mitkovska, 2010; Wright, 2010). Hiebert (1999) argues that one key factor for learning new teaching methods is the ability to have “access to alternative ideas and methods and opportunities to observe these in action and to reflect on the reasons for their effectiveness” (p. 15). In order to be able to be genuinely reflective in one’s practice, an educator can best accomplish this through the regular interaction with their colleagues in the education community (Peacock & Rawson, 2001).

The ability to gain exposure to a diverse group of professionals has also been shown to be very valuable. Barak et al. (2010) used a narrative self-study to look at teachers’ experience within a PD team and found they valued hearing different perspectives from their peers. The exposure to a diversity of voices also served to be an effective learning tool as “the blend of different backgrounds and fields of expertise constantly demands that we questions taken-for-granted routines and beliefs, thereby creating different possibilities and alternative ways of action” (p. 279). DuFour and Eaker (1998) echo this by contending that tapping in to the collective wisdom of these diverse educators is key to fostering professional growth in our schools.

Teacher professional development is recognized in the literature to be a collaborative and social endeavor, where teachers participate in a network consisting of their peers, administrators and other experts within the education community (Garet et al., 2001; Barak et al., 2010). Some of the factors that have contributed to professional development positively impacting teaching ability through the interaction with peers

include coaching and support (Peacock & Rawson, 2001; Borko, 2004; Saka & Saka, 2009), the ability to have collective inquiry (Dufour & Eaker, 1998; McGee & Lawrence, 2009, Barak et al., 2010), collaboration (Dufour & Eaker, 1998; Betty, 2000), the ability to gain feedback (Schlager & Fusco, 2003), promotion of new ideas and innovation (Dufour & Eaker, 1998), the ability to ask questions in an environment of trust (King, 2002) and development of a professional culture (Garet et al., 2001).

Several authors have suggested that there is significant value gained when teachers practice professional development with a larger network, beyond their own school and district (Hawkins, 1996; Schlager & Fusco, 2003; Forte, Humphreys & Park, 2012). It has also been shown that there are learning benefits to engaging with a wide variety of professionals in the larger education community (Nevin, Thousand & Villa, 2009).

The literature points out several factors that prevent teachers from accessing high quality PD. One study found that, despite the strong desire to form mentor and mentee partnerships within schools, teachers were unable to effectively and regularly learn from each other because their busy schedules did not allow for it (Saka & Saka, 2010). The high cost of coordinating in-person learning experiences has also been cited as a major hindrance to continuous professional development, as school districts have a large number of teachers to reach (Garet et al., 2001). It has also been found that teachers have often felt isolated in their classrooms and are rarely afforded any opportunity to collaborate professionally in an authentic way (Beatty, 2000). Teachers often must rely on others to provide PD opportunities for them, but they are left unsatisfied as the content often has gaps and redundancies and does not address their specific learning needs

(Schlager & Fusco, 2003). Finally, Garet et al (2001) found that PD activities are often criticized from being too disconnected from each other and that teachers want to take part in a more cohesive program.

Lock (2006) goes into more detail identifying some of the deficiencies of traditional face-to-face teacher PD. She points out that PD has often been ineffective largely because it does not address the individual needs of the teachers, it uses a traditional transmission of knowledge from expert to teacher and it does not allow teachers to plan or learn new strategies for their practice.

Given some of the above identified shortcomings to traditional, in-person learning opportunities, the field of education has also moved towards using online platforms to help support a large and diverse community in their learning (King, 2002; Schlager & Fusco, 2003; Jovana-Mitkovska, 2010). Some benefits to online professional development are that participants can: engage in just-in-time interactions anytime and anywhere (Schlager & Fusco, 2003), create deeper understandings without the constraint of time (King, 2002), feel a sense of togetherness (Lock, 2006), gain feedback in a personalized environment that supports trust and insight (Lawler & King, 2000), participate in timely and relevant learning opportunities (Nadolny, 2011) and provide new teachers with unique learning opportunities (Paulus & Scherff, 2008). Additionally, several authors comment that online communication allows teachers to have conversations that span institutional structures and hierarchies, with a more colleague-like style to the interaction (Hough, Smithey & Evertson, 2004; Forte, Humphreys & Park, 2012).

It has also been suggested that professionals can take a more self-directed approach to their learning when it is online. Self-driven PD has been shown to “promote the sense of agency and personal causation that can build teacher self-efficacy, and in order to promote the total engagement and renewing energy of flow” (Beatty, 2000, p. 90). This affordance of online PD to provide personalized learning offers a much-desired advantage over the traditional PD approach of “one-size-fits all” (Lock, 2006, p. 665). As Peery (2004) argues “Teachers must invest in their own growth by posing their own questions and studying topics of their own choice. *This personalization is the essence of development*” (as cited in Lock, 2006, p. 666).

One particular study by King (2002) showed that online teacher professional development had the ability to foster critical thinking, dialogue and peer-to-peer interaction. The participants of the research study cite the ability to share their ideas and relate to other teachers as a major benefit. Where teacher-to-learner dialogue tends to dominate traditional PD experiences, the learner-to-learner dialogue in the online format was valued by the teachers. In addition, “the online format seemed to breed independence, self-directedness, and interdependence all at the same time” (King, 2002, p. 240).

Paulus and Scherff (2008) found that computer-mediated PD offered – in addition to instructional support - many psychological benefits to student teachers. The online interaction lessened feelings of isolation, increased self-confidence and facilitated coping with stress. During their online dialogues, the new teachers shared thoughts with their peers they would not have felt comfortable sharing with their supervisors and professors. Interestingly, this study found there were also some challenges to online learning

including that it is difficult to establish trust and that the interaction isn't as beneficial if participation among members is low.

There are several key insights drawn from the teacher PD literature that are important to consider for this study. Relying heavily on Vygotsky's ideas on social constructivism, a significant amount of the research on teacher learning proposes that teachers construct their knowledge by engaging in social interaction with their peers. In order to leverage the substantial benefits offered by PD, the literature also suggests that successful programs should provide learning opportunities that are continuous, learner-driven, hands-on, personalized, within the context of everyday practice and should expose teachers to a diverse group of professionals. Recent studies suggest that online PD offers teachers a practical venue to foster valuable learning. In addition to providing relevant, just-in-time learning, it is important to note that online platforms afford teachers with the ability to take leadership and direct their own learning.

Communities of Practice

Given that Vygotsky's framework of social constructivism heavily informs contemporary research on teacher PD, it is fitting that we might also assume a CoP approach to examine teacher learning. There is a significant body of literature that examines how professionals work and develop their practice within a CoP arrangement and this next section will give an overview of this work.

Much of the literature in the field of education suggests that participating in a CoP has significant benefits to addressing the learning goals of teachers (Garet et al, 2001; King, 2002; Hough, Smithey & Evertson, 2004; Schlager & Fusco, 2003; Hartnell-

Young, 2006; He, 2009). CoPs enable “teachers to act as co-producers of knowledge, which requires a greater personal responsibility for professional growth” (Sobrero & Craycraft, 2008, p. 8). Other cited benefits of this participating in a CoP include intellectual renewal and gaining an avenue for cultivating leadership (Grossman, Wineburg & Woolworth, 2001), access to continuous inquiry, self-directed learning and lifelong learning (King, 2002) and an increased focus on student learning and achievement (Vescio, Ross & Adams, 2008).

The term CoP was originally coined by Lave and Wenger (1991) and draws from Vygotsky’s theory of social constructivism in order to describe a modern perspective on learning and knowledge. Wenger explains CoPs “are formed by people who engage in a process of collective learning in a shared domain of human endeavor” (para. 3). The members of a CoP have a mutual interest in a topic, self-organize and interact with each other on an ongoing basis in order to deepen their understanding (Wenger, McDermott & Snyder, 2002). The result is a complex and dynamic social system where members participate and find value in a shared practice. As Schlager and Fusco (2003) describe:

Communities of practice are viewed as emergent, self-reproducing, and evolving entities that are distinct from, and frequently extend beyond, formal organizational structures, with their own organizing structures, norms of behavior, communication channels, and history. (p. 204)

It is important to point out that CoPs tend to emerge out of necessity, often stemming from an environment where learners are dissatisfied with traditional models of learning (Johnson, 2001).

Informed by Wenger's framework, Johnson (2001) distinguishes CoP by the learning opportunities available by 1) different levels of expertise that are present, 2) the ability to participate in the periphery and move to the centre of the community and 3) the ability to take part in authentic tasks and communication. Another prominent feature of a CoP is that the learning is situated in rich contexts of the practice, where the learner can make sense of the application and use of the knowledge (Hung & Chen, 2001). Lave and Wenger (1991) used the term *situated learning* to describe this experience.

Several authors examine the potential of CoPs to operate in an online capacity (Hung and Chen, 2001; Johnson, 2001; Gunawardena, 2009). Hung and Chen (2001) stress that, in order to be vibrant and sustainable online communities, digital CoPs require infrastructure that will support the processes the learners are engaged in. They propose several important requirements of an e-learning environment, including that they should: employ portable technologies that can be physically used within the context of a practice, leverage the capacity for collaboration of the CoP and should be designed to take advantage of the diverse expertise within the community.

Smith, Wenger and White (2009) advance the CoP literature by providing a new perspective in light of new communications technologies. They describe a "digital habitat" (p. 11) as the point where CoP and technology intersect and they are concerned with examining how the technology impacts learning opportunities for the community. They note the affordances of provided by technology:

Technology extends and reframes how communities organize and express boundaries and relationships, which changes the dynamics of participation,

peripherality and legitimacy. It enables very large groups to share information and ideas at the same time as it helps smaller groups with narrower, more specialized and differentiated domains to form and function effectively. It allows communities to emerge in public, opening their boundaries limitlessly, but it also makes it easy to set up private spaces that are only open to members. (p. 11)

Wenger (1998) describes a CoP using three main dimensions: the domain (what it is about), the practice (the capabilities it has produced) and the community (how it functions). Smith et al. (2009) reframe this concept with their digital habitat perspective, examining both the demands placed on technology by the needs of the community and how technology is able to enhance each dimension.

The ability for teachers to build and maintain relationships with colleagues has significant implications as Dufour and Eaker (1998) claim “the most promising strategy for sustained, substantive school improvements is developing the ability of school personnel to function as a professional learning community” (p. xi).

Social Media

Online teacher learning communities have been an important new development in recent years. Computer systems provide a valuable space to teachers to gather with like-minded professionals, interact in an intellectual exchange and learn from each others’ work (Lock, 2006). Until now, much of the current research that has been done on online teacher PD was conducted in order to inform the planning, design and implementation of new technologies to facilitate teacher learning (Schlager & Fusco, 2003). However, creating a new technology, from the ground up, poses a challenge as the newly designed

platforms can often feel disconnected and lacking in flexibility, ultimately leaving users frustrated (Lock, 2006). There is the need for tools and processes that are “purposeful and fluid in nature and in meeting the personal ongoing professional development needs of teachers” (Lock, 2006, p.663).

While there has been some research on designing online teacher learning platforms to be more structured (Hough, Smithey & Evertson, 2004), Paulus and Scherff (2008) found that an instructor-imposed structure might inhibit the open discussion. In their study, new teachers appreciated the freedom they had to engage about the topics that most suited their needs in an unstructured forum.

In recent years, educators have moved towards modifying their use of popular social network sites in order to engage in informal PD opportunities with peers, presumably because they are ongoing, collaborative, highly accessible and free (Rutherford, 2010). There has been a considerable amount of research on the learning opportunities available through the unique affordances of social media networks, like Twitter, Facebook and blogs. The informal nature of these sites ensures that PD is participant driven, and it has been found that users “directed the discussions and were clearly in control of the learning process” (Rutherford, 2010, p. 67).

Some of the other unique properties of social media interactions that contribute to an environment ripe for learning include the ability for: rapid exchanges and brainstorming with others (Elliot, Craft & Feldon, 2010), open and fluid dialogue (Mills & Chandra, 2011), an informal learning setting without grades (Roh, 2008), lightweight with flexible access (Honeycutt & Herring (2009), richly documented interchanges

(Dede, 2009) and emotion to be evoked through colloquial language (Wright, 2010).

Mills and Chandra (2011) wrote: “the increased dialogue and rapid interactivity between multiple authors and readers is coupled with a need to acknowledge differing viewpoints” (p. 44).

There is an extensive amount of research examining the various ways teachers fulfill their learning goals using the microblogging tool Twitter. As one author describes, teachers use Twitter in order to “seek feedback on troubling issues they face, share insightful ideas, post valuable resources, and in engage in brief, yet thoughtful, conversations about issues ranging from pedagogy and content to the use of technology in the classroom” (Rodesiler, 2011, p. 52).

Grosseck and Holotescu (2011) examined teacher learning on a Twitter-like platform using a SWOT analysis. Although they did find that there were some drawbacks, the authors recognized microblogging to be an efficient way to obtain continuous learning and professionalization for an education professional. Wright (2010) investigated how teaching practicum students undergo a process of self-reflection when interacting with each other on Twitter. The research found that the platform reduced the feeling of isolation, created a sense of community and had merit in supporting a collaborative social network. Elliot, Craft & Feldon (2010) were interested in the content teachers shared with each other through their tweets; their finding was that the content shared was not research-based and could lead to misinformation. Hsu and Ching (2011) found that Twitter was successfully used to strengthen a virtual learning community of teachers. The authors found that the members felt a strong sense of community and were very satisfied with using the technology to learn from connecting with their peers.

In a recent paper Forte, Humphreys & Park (2012) performed an exploratory study aimed to broadly examine how teachers are using Twitter for learning. Through analyzing actual tweets, questionnaire responses and interviews from teachers, the authors were able to better describe the nature of teacher participation on a global level. They found that teachers are effective at bridging information gaps in their networks in order to facilitate learning. As a result, they concluded teachers who are very active on channels like Twitter are well positioned to transform today's classrooms.

Blogging is another form of social media that has been relatively well-studied. Participating with blogs allow teachers an easy, flexible tool with which they can share insights and reflect on others' experiences (Byington, 2011). It has been acknowledged that blogging supports professional identity development, it has also been found to be a substantial commitment for teachers due to the amount of time and energy it requires (Luehmann, 2008).

These studies give strong evidence to support the potential for social media to facilitate valuable self-directed PD for teachers. The examination of this literature highlights an emerging practice that I am interested in studying in greater detail. While the aforementioned studies provide some insight into specific benefits or dynamics of teachers participating on social media, they are still too early to provide a broad understanding of the activities teachers participate in order to develop their teaching practices. It was my intention with this study to provide an overview of the specific types of interactions teachers have chosen to engage in for their own learning. Using the existing CoP literature, this study applies a new lens with which to examine these interactions.

Methodology

Overview

In order to better understand how teachers appropriate social media for their PD - both the nature of the interactions and the resulting community - I conducted an exploratory case study. The goals of the study were to gather descriptive qualitative evidence directly from teachers about their personal experiences using social media for their self-directed PD. I wanted to gain some insight into the different ways they are currently using social media for learning and, ultimately, to determine whether the social media are currently sustaining a CoP.

Since its initial development as a theory, the understanding of CoP has developed significantly, extending its application to a wide variety of contexts of practice. As mentioned, the work of Smith et al. (2009) expands on previous CoP literature to describe the complex relationship between digital technology and the communities that are supported by this technology. The design of this study was informed by the work of these authors as it provides a framework of how technology potentially enhances the dimensions of a CoP. The findings of my study are examined against this framework in order to make a judgment about whether there is, in fact, evidence of a CoP in progress.

I became interested in this topic as I started using social media for my current role as a Communications Manager for an education related charity in Alberta. Over the past two years I have regularly witnessed many of the online interactions between teachers and became curious to understand more about how they are leveraging the tools and the online community for their own learning. While I did have some familiarity about the PD that was taking place through social media before this study, it was merely as a casual

observer from outside the community. This study is my attempt to gain an insider's perspective on this phenomenon and to provide insight to the education community on using social media for self-directed PD.

Research Design

My study aimed to understand the complex social phenomena of teachers engaging in different types of interactions using several different tools for their learning. Accordingly, I determined that a case study was the most appropriate design for the study. According to Yin (2003), a case study design is best employed 1) when a study is seeks to answer “why” or “how” questions, 2) when the behaviour of the individuals studied cannot be manipulated and 3) when the study is focused on contemporary phenomena. This methodology was chosen in order to help me explore a dynamic and evolving community within the context it already operates in, a characteristic Baxter and Jack (2008) attribute to case studies. Moreover, case study research has a tendency to provide rich data that “bring[s] to life the complexity of the many variables inherent in the phenomenon being studied” (Hancock & Algozzine, 2006, p. 16).

In order to address my research questions, I decided to collect data by conducting interviews with teachers who use social media activities for their own PD. Because a comprehensive overview of how teachers engage in PD activities on social media does not appear in the literature, I wanted to gain rich, personal and descriptive data from key members of the community. As McCracken points out that the interview “gives us the opportunity to step into the mind of another person, to see and experience the world as they do themselves” (McCracken, 1988, p. 9).

Study Participants

Yin (2003) writes that “human affairs should be reported and interpreted through the eyes of specific interviewees, and well-informed respondents can provide important insights into a situation” (p. 92). I chose to interview four teachers from one particular school district in Alberta. This group of educators was selected because I was familiar through my work that the district has started to set goals for incorporating social media as a regular practice of its teachers. The district itself, along with several administrators, is very active on sites like Twitter and hosts blogs for their staff. These teachers have been provided with the initial training to enable them to explore how social media can enrich their teaching; this was confirmed to me during the interviews. From my understanding, the teachers who are currently active on social media for professional purposes form a minority. However, by focusing the study on the early adopters, I was able to obtain rich data from teachers who are already both highly motivated and comfortable using several of the technologies.

This study aimed to gather as much insight into the online learning communities of teachers as possible. Rather than performing an overall survey of the many levels of participation that occur within the community - or trying to understand the typical user – I believe that studying the most invested users will help me best understand my research questions. Therefore, the interview subjects were purposefully selected (Creswell, 2009, p. 178) for the prominent role they play in their online community.

Smith et al. (2009) identify *technology stewards* as the members within a digital community who take responsibility for the group’s technology resources. “Technology

stewards are people with enough experience of the workings of a community to understand its technology needs, and enough experience with or interest in technology to take leadership in addressing those needs” (Smith et al., 2009, p. 25). Because of their significant investment, these leaders often have a considerable impact on the direction and the development of the community. In his work, Von Hippel (1986) argues using these “lead users” (p. 791) is important, as their needs often forecast those of a general audience in the future. Accordingly, the data collected from our technology stewards will be telling of a larger teacher audience as adoption of social media becomes more widespread.

Four technology stewards were identified and recruited to be subjects for the interviews. Drawing from the work of Smith et al. (2009, p. 26), these technology stewards had the following criteria:

- They are actively involved in the community and engage in observations and conversations with community members (*community understanding*).
- They have a regular commitment to scanning the social media landscape (*technology awareness*).
- They make informed choices about new social media channels to use (*selection and installation*).
- They help others to adopt and transition into using the technology (*adoption and transition*).
- They integrate the use of social media into the everyday practice of the community (*everyday use*).

In addition to the above criteria, I required the participants to be classroom teachers, teaching at the K-12 level at the time of the study. Potential technology steward participants were identified because of their active online presence; they each had their own blog and tweeted regularly (at least five times per week). In addition, their tweets noticeably contained replies to other educators, education related hashtags and evidence of using other social media networks. The teachers were contacted directly through email and asked to take part in the phone interviews.

The Interviews

The interviews for this study took place over the phone between May 12 and 21, 2013, and were between 25-45 minutes long. The interviews were semi-structured, an approach well suited to case study design (Hancock & Algozzine, 2006). I asked some predetermined, open-ended questions and then followed up with questions that probed deeper into the specific interests of each participant. Hancock and Algozzine (2006) contend that this manner of questioning is effective because it “invite[s] the interviewees to express themselves openly and freely and to define the world from their own perspective, not solely from the perspective of the researcher” (p. 40). This method was especially appropriate because of the exploratory nature of the study.

Before the interviews, I developed an interview guide to help me structure some of my questions. This type of protocol is a reference tool often used by researchers in order to keep their questions aligned to their fundamental research questions (Hancock and Algozzine, 2006). My interview guide (found in Appendix A) was informed by Wenger’s (1998) original postulations on CoPs and the more recent work of Smith et al.

(2009) on digital habitats. I decided using the digital habitats approach was appropriate for this study because it sets forth a very structured perspective with which to explore how communities and technology influence each other.

Specifically, questions were developed using the three main dimensions of a CoP: the domain (what the community is about), the practice (the capabilities it has produced) and the community (how the community functions). I adapted my potential questions directly from those asked by Smith et al. (2009, p. 10) and from the definition of domain, practice and community found in Wenger (2006, para 5).

The initial background questions I asked the participants were designed to allow me to gain a better sense of the context of the subjects' participation in both social media and PD in general. These questions followed McCracken's (1998) advice and were nondirective, meant to get the respondents to guide the direction of the interview. Examples of my initial questions were "Tell me about how you currently use social media," "What are your thoughts on PD in general?" and "How did you get started in social media."

Throughout my interviews, I was very aware to allow the participants to tell their story from their own perspective, an essential characteristic of a qualitative interview (McCracken, 1988). Approximately half of my questions arose directly from answers given by the participants, allowing me to clarify answers and sometimes move deeper into the stories they were telling. The remainder of my questions were pre-determined from the interview guide and were designed to give the interviewees a chance to consider

certain ideas and respond with their own viewpoints, a method McCracken (1988) refers to as using “planned prompts” (p. 35).

I took comprehensive notes during the interview in the event there were technical issues with the audio recordings. I also used these notes in order to highlight key terms (ie. that I recognized from the literature or that I wanted to explore further) that arose during the conversation or in order to form relevant questions for follow-up.

Data Analysis and Interpretation

In order to address my first research question, it was necessary that I determine the different activities teachers were engaging in on social media through my analysis.

Data analysis was conducted concurrently with data collection. This approach is thought to increase reliability and validity of a research study (Morse et al., 2002). As each interview was completed, I prepared the raw data for coding by transcribing the conversation verbatim. I listened to the audio recordings a second time while verifying my transcripts to ensure accuracy. It was also at this time that I began to make notes in the margin, writing down topics.

Ryan and Bernard (2003) note that themes can arise both inductively from the data (emergent) and/or are applied to the data from a researcher’s prior understanding of the research topic (a priori). Because one cannot predict the themes that may arise before analysis, codes are most commonly discovered through a process of emergent or open coding, where codes emerge from analysis of the data. Because of the exploratory nature of this study, I chose to arrive at the codes related to the teachers’ activities inductively from the data in this manner. It is necessary to point out that, while I did not apply an

existing a priori coding frame to my data, the final wording I decided on for a few of the categories was borrowed from Smith, White and Wenger (2009, p. 6).

After making initial notes in my data, I began an iterative process of reviewing the data as per the coding process suggested by Creswell (2009). I then wrote out the codes for the sub-categories for activities I found within the transcript and started to cluster them together in similar topics and note the relationships. Overarching categories started to become apparent from these clustered topics. I then went back into the transcripts and applied these coded categories to the data for comparison. Finally, I mapped out my main overall categories into columns and organized the data according to the category and subcategory it belonged to. It should be noted that this process took several iterations to organize and arrive at the final list of codes. As McCracken (1988) recommended, I was very much focused on the fine detail of the transcripts initially and, through the coding process, was able to zoom out and formulate more general categories.

Cresswell (2009, p.186) points out that codes often arise because they are expected, based on common sense and their prominence in the literature. This was the case with some of the subcategories I decided on. For example, I was aware from the literature that a very important part of PD for teachers was being able to engage in a reflective process. I flagged this topic in my notes early during data collection because I knew it would very likely be a consistent theme. However, there were several unexpected codes that consistently arose during the interviews. This will be discussed in more detail in the discussion section.

Once my analysis was complete, I started to examine my findings using Wenger's (1998) notions of the three overarching dimensions of a typical CoP (domain, practice and community). Using this lens, I was able to interpret the findings to better understand whether the phenomenon I studied did indeed fit into a theoretical understanding of a CoP in order to address my research question.

Ethical Considerations

Several measures will be taken to ensure the confidentiality of the participants of this study.

The interviews took place on a private phone call and the audio was recorded using two portable digital recorders. The raw files were transferred immediately to a USB drive and the original files were erased from the recording devices. The files on the USB drive were encrypted to ensure security. As I was working with the files, the USB drive was always kept with me or stored in a locked drawer at my residence. Additionally, the participants were not named during data collection and files were labeled with participant pseudonyms (of T1, T2, T3 and T4), rather than participant names, to ensure they remain anonymous. I transcribed the data myself and the only other individual who could potentially listen to these audio files is the supervisor of this research project. The original audio files will be stored and locked in my supervisor's office for a total of five years after the final research paper has been submitted.

Before each phone interview, I read a consent form verbally. The participants also had the chance to read the form over before the interview, through an emailed

version on the letter. The interviewees verbally agreed to the terms of the consent form at the start of the interview. The Information Letter and Consent Form can be found in Appendix B.

Findings

This section highlights my findings of how teachers are currently using social media in their practice. First, I briefly review the different technologies mentioned in the interviews and then present the various activities teachers are engaging in, as discovered through the coding process.

Technologies adopted into practice

The predominant social media channel discussed by each of the four teachers, in terms of their professional learning, was Twitter. Twitter appeared to be the central network that connected the educators with other professionals and the topics they were in need of learning. While blogs were the next most discussed tool, it was mentioned that relevant blog posts were still mainly discovered through Twitter. Other secondary social media sites teachers mentioned using in their professional practice were Pinterest, Google Apps, YouTube, Edmodo and Skype. Facebook was mentioned by two of the teachers; however, they both stated they use it solely for connecting with friends in their personal networks.

Interactions through Social Media

Analysis of the coding of the data revealed five main categories of interactions in which educators participate in to learn through social media (as shown in Table 1 below).

These main categories, along with their sub-categories, will be outlined below and specific excerpts from the interviews will be given to illustrate the concepts. It is important to note that - while these categories stood out as the main uses for social media - educators do not engage in these activities in isolation. Their participation is complex and dynamic, often incorporating several of the interactions.

Table 1.

Categories and sub-categories for the types of interactions through social media

Categories	Sub-categories
Exchanges	1. Asking/answering questions 2. Sharing/finding information 3. Sharing/reading stories and experiences 4. Benchmarking
Building Shared Understanding	5. Collaborative projects 6. Collaborative documents 7. Specific topic discussions 8. Developing innovative practices
Showcasing the Classroom	9. Documenting practice 10. Revealing student learning
Support	11. Reflection 12. Encouragement and motivation
Professional Networking	13. Initiating offline relationships 14. Broadening connections

Exchanges

This category is used to describe the simple reciprocal interactions the teachers described.

1. *Asking/answering questions*: Teachers seek specific information or feedback from peer experts as they need it. They are often looking to apply the information immediately. Example:

I think my first question [asked through Twitter] was for Language Arts. I asked for [samples of] “picture prompts.” Within like five minutes I had 10-12 responses...Normally it’s so hard because you’re on the Internet searching and you don’t know what is really good. So, to have professionals give you links and pictures was just astounding... and I think after that, I was hooked! [T2]

2. *Sharing/finding information:* Practitioners share the ideas, website links, tips and other resources they find valuable with the community. Examples:

I will go on Twitter a couple times a day and if something that someone has tweeted about a link – if it catches my eye – I’ll read it and read further. I’ll save ideas and go back and look at them later. [T1]

3. *Sharing/reading stories and experiences:* Participants describe detailed experiences of their practice to share with their counterparts. Example:

I haven’t really seen some of the drawbacks of that until I read a few blog posts about people who had some experience with it or were concerned about rolling it out in their own systems...you reap the benefit of people’s knowledge...especially if there are newer things you want to try. [T3]

I have connected with [another teacher] and we’ve been Skyping probably at least once a month and we found out we are doing the same projects that I learned about through Twitter. Then we said, hey, why don’t you show us what you did and we’ll show you what we did. [T3]

4. *Benchmarking.* Educators seek out and provide examples of best practices to which they can compare their own with. Examples:

More so [my participation] is to confirm my ideas of why I don’t give homework....Certainly when I was developing my explanation to parents on why I don’t use homework I used blogs to get the wording to do with it. Part of the reason I have these opinions is because I see the research, I see what people are discussing on Twitter. [T1]

For example, even yesterday, we’ve been starting to get ready for posting a job to hire for next year and I read an article [through social media] about qualities to look for when hiring candidates, interview techniques....[T4]

Building Shared Understanding

Within this category, teachers described how they work together to further a project or collective understanding of a topic.

5. *Collaborative projects*: Educators work together on specific projects with shared goals. This sometimes involved the participation of the entire class.

Example:

We participated in a global read aloud that one teacher in the States does every year, so we were paired with a class in Ohio. We were reading the same novel and the teacher and I worked together to develop questions for the kids to answer on Edmodo. [T1]

6. *Collaborative documents*: Participants use social media to co-create a shared document. Example:

Why are we all inventing unit plans for science units when we could be sharing it?...I put my stuff into Google Presentations or Google Docs...I'm sharing them out with people and they can do whatever they want with them...but if they make any changes, share it back with me! [T1]

7. *Specific topic discussions*. Users identify and engage in ongoing conversations related to a particular topic. The participants gather around their shared interests and the discussion evolves over time. Ideas and solutions are generated through discussions. Examples:

One of my favorite [Twitter]hashtags is #edtech, so lots of amazing examples of technology on there – everything from developing student portfolios and blogs, how to leverage Youtube, [use] Edmodo....[T4]

There's a huge, huge group on Twitter of teachers who love books and believe in finding the right book and share good books all the time...there's just so many good suggestions now. And that affects the kids because then I have better books to match them with. [T3]

Sometimes I'll participate in the chats [on Twitter]. There's a fourth grade chat. I'll participate in that and they'll have a topic each week. [T1]

8. *Developing innovative practices.* Together, educators develop and define a new teaching practice. Example:

[Genius Hour] is definitely a topic right now that there's quite a bit about...there's a chat that goes along with it and it's growing all the time. So definitely, you see those kinds of themes develop. [T3]

Showcasing the Classroom

Teachers contribute to a collection of ideas that serves as reference material for other educators. This activity makes a teacher's practice more transparent to other members of the online community.

9. *Documenting Practice.* Participants record their practice, through photos, videos or writing for others to refer to. Examples:

Lots of people were taking pictures of their [class]rooms and different ideas they had...There were definitely a few things in my class that were inspired by what I saw on Pinterest. [T3]

The last two weeks the math I've been teaching is following a process that this lady from #4thchat was talking about – what she's doing with division- and I've just been following exactly what she's blogged about. [T3]

10. *Revealing Student Learning.* Educators share concrete examples of what their students are learning in their classrooms. Examples:

Teachers are doing classroom blogs as well and so they're using video as a medium to show what's going on...and showcase the kids' learning. [T4]

Most from what I see are teachers sharing stuff their students are doing. I am seeing quite a bit of "check out what we thought about technology this year in our class"...[Sharing] usually has to do with student work, student reflections or it could be "these are their art projects" so it's a lot showcasing student work. [T2]

Support

Teachers seek emotional support from their peers in the online community.

11. *Reflection.* Educators discover or create material that causes them to reflect on their practice. Examples:

I've learned more than I think ever before....Not just learned but thought and reflected. There's so many different points of view and so on any given topic there's a number of opinions and just to take a look at what other people think and just think "Oh yeah, I do think about it from that perspective." [T3]

[Blogging] is a tangible way to make sure reflection is happening in practice. [T4]

12. *Encouragement and motivation.* Users support each other through social media. Feelings of isolation are reduced. Example:

There's been a couple times where I know other people have tweeted things, then [others] have tweeted messages of support and that means a lot too....Whether it be a teacher in Manitoba or...a teacher in Texas, that's okay. [T3]

Professional Networking

This last category describes the interactions teachers have to make connections and establish a network of like-minded colleagues.

13. *Initiating offline relationships.* Educators become familiar with colleagues online and have the opportunity to meet them in person. Example:

I wouldn't have met these people otherwise, even though they're [in my school division] and then we've been able to meet in person and the connection's already formed and so we were able to extend further from that....[T4]

14. *Broadening connections.* Teachers make connections within the larger network in the education community to learn from. They are seeking diversity. Examples:

I'm able to communicate with people who aren't necessarily working in our school or school division...someone could be halfway across the world...I know teachers that work in [my area] that I barely see but through things like Skype and Twitter we're able to communicate...on a more regular basis. [T2]

[An author we studied] saw the tweet and then went to the blog and commented on it which was just absolutely thrilling. That kind of snowballed and other people got involved with it and so [my student] ended up with people commenting on her blog from Australia and all over. [T3]

Other Findings

Technology Stewardship

The participants of this study were selected because of the active role they have taken in social media. There were many examples offered that showed the technology stewardship displayed in their offline and online community:

Example of everyday use and technology awareness:

Everyday I try to find at least one thing that I can learn from. And then anytime, any work I do...I try to share open and transparently on those platforms. [T4]

Example of community understanding:

Our administrators and even the superintendent is on Twitter...Our division principal is setting goals as to what our school division wants to do so I think it's trickling down through schools. [T2]

Examples of assisting with adoption and transition:

Teachers will say "Oh, I don't have time, what's the purpose of it?" and things like that. I try to tell them, just give them a little idea of what sorts of things they could be doing. [T1]

I spend a lot of the year inviting people into my classroom at lunch hour once a week to come and try Twitter and I got some buy in for it. [T3]

Overall Social Media Adoption

In the school division I studied, social media channels are relatively popular and teachers have been given some basic training to help get started. Still, the teachers I interviewed feel as though they are in a minority of educators who have adopted social media and are very connected.

Discussion

Coding revealed the several different activities teachers are using social media for in their professional practices. This section will use these findings as the basis of a discussion on the CoP that supports the teachers in their PD activities. Similar to the interview guide for this study, this discussion will be framed around how social media interact with the three dimensions Wenger (1998) assigns to a CoP: *domain*, *practice* and *community*. As Byington (2011) puts it, “interest in the domain brings the group together, the community keeps the group connected, and the practice moves the group to action” (p. 290). It is important to note that the CoP, along with and these three dimensions, is constantly evolving and is negotiated and sustained in the process of participation (He, 2009). This discussion intends to give a better understanding of this particular CoP at the time of this study.

Joint Enterprise: The Domain Dimension

Exploring a common identity

Learning together in a CoP depends on how the members define the shared domain; the learning agenda is continually renegotiated through their interactions (Smith

et al, 2009). This domain “provides an identity for the community – a set of issues, challenges, and passions through which members recognize each other as learning partners” (Smith et al., 2009, p. 5). My interviews provided some insight into how social media enabled teachers to explore common identities through interaction.

A successful online CoP, according to Byington (2011), exists when members have a clear purpose for their participation and “topical issues are discussed within the context of member’s interests and expertise” (p. 289). In this study, the community certainly appeared to fit this measure of success. Teachers spoke about their social media participation as being closely related to the specific topics they were most passionate and invested in as educators. Certain properties of social media made it easy to identify like-minded educators and interact with them on a continuous basis. The most prominent example given was educators organizing around specific topic discussions using Twitter hashtags. The teachers mentioned the various hashtags they followed and examples included: #4thchat (grade four teachers), #edtech (education technology), #cpchat (connected principal), #mathchat (math teachers) and the hashtag for their specific school division. Discussions are ongoing using the hashtag and weekly scheduled Twitter chats take place to give the opportunity to build a shared understanding by having deeper, more focused conversations.

As a result, teachers are able to participate in interactions where there are very well defined domains of inquiry in the CoP. Social media also affords them the ability to self-organize into as many different topic-related sub-groups as they desire. Some groups have a broad domain – such as the general education chat (#edchat) - and some zoom into very specific classroom practices. As revealed in one interview, “Daily 5” (a specific

curriculum framework used in elementary classrooms) is a very popular topic on social media. Teachers document their own interpretations of the framework in their practice using photos posted to Pinterest and Twitter and have co-created a catalogue of ideas for teachers to refer to. In such an instance, the shared domain is very clear.

Whether the topic area of focus tends to be quite broad or very specific, it appears that an overarching shared goal the educators have for their interactions on social media is to have access to the most current information on topics in education. As one teacher describes:

I feel very much that I hear about things as they're coming up...I feel like I'm pretty up there on the wave and can find out about new ideas and can take what I need for my classroom and adjust my teaching practice to include them. [T3]

Emerging individual identities

As social media participation evolves, some educators begin to develop a reputation within the community for being associated with their areas of interest (Lock, 2006). As a result, their roles and responsibilities within the community change. Users start to follow fellow members because they feel aligned to their interests and their teaching style. One teacher described to me how they have stopped sending their questions out to a general audience. Rather, they have become acquainted with peer experts over time and send their queries directly to those individuals they are confident can answer them. Another teacher also spoke about how social media participation offers a window into each other's practice:

If you start communicating with others, you build up an identity and I think people start to know who you are... It's really neat how you know so much about someone else's teaching practice and what they do in the classroom. [T2]

This idea - that one starts to emerge in the CoP with a certain identity, and even sub-identities - is supported in the literature (Weisgerber & Butler, 2011). This study was perhaps too limited to capture this, but I think it is valuable to point out that one study even found that a teacher's actual classroom practice and vision can be enriched from building up a particular identity through specific domains of interest on social media (Luehmann, 2008).

A Shared Repertoire: The Practice Dimension

Accelerating Good Practice

Within the practice dimension, Smith et al. (2009) question how new technologies may have the capacity to “accelerate the cycle through which members explore, test and refine good practice” (p. 10). My interviews revealed the teachers were using social media in such a way that did support this acceleration. I would contend that this occurs due to the increased efficiency afforded because the learning that occurs is 1) personalized and 2) situated within everyday teaching practice.

Personalized learning was noted as a significant factor of using social media during my interviews with the teachers. Teachers are easily able to seek the answers, follow topics and connect with the individuals they need – particularly through Twitter - to satisfy their specific needs in the classroom. One teacher revealed their perceived benefit of taking part in a simple exchange of finding information through social media:

Lots of times, I've gone to a [in-person] PD session and I've walked away with only a couple of things and – to me – that was worth it. That's all I needed to make it worthwhile, one or two things. But it's taken me the whole day to get them. And so this way [using social media] I sit down for five or ten minutes – and get what I need – and I'm done. [T3]

Learning through traditional face-to-face learning opportunities often limits the learner because everyone must learn the same thing at the same time. However, online CoPs increase the efficiency of learning by allowing users to “interact based on their varying needs, expertise (knowledge and skills), perspectives and opinions” (Hung & Chen, 2001). The flexibility of social media is appealing to educators as well:

I could do it when I want to and I can get how much I want or how little I want.
[T1]

Lave and Wenger’s (1991) notion of situated learning – in most simple terms – means learning takes place within the context of one’s practice. As they explain, “learning is an integral part of generative social practice in the lived-in world” (p. 35). Hung and Chen (2001) argue that meaningful learning takes place in rich situations, where the meaning makes sense within the context of application and use.

My interviews with the educators support the value of this learning as I found their activities on social media to be highly contextualized where learning is accessed on demand. Social media has become infused into their classrooms and daily routines, allowing them to access a rich learning environment – anytime and anywhere – within the context of their everyday practice. As a result, their practice evolves by a process Hung and Chen (2001) refer to as “learning through doing and reflection-in-action” (p. 8). In terms of putting the learning into action, one teacher described their activity of asking a question through social media:

I get the answer when I want, when I need the answer in the moment....You get [content] in bite-sized chunks so you learn it and implement it almost seamlessly.
[T4]

Ramondt (2008) echoes this idea by noting that a new immediacy and responsiveness is possible when a CoP is able to support what he calls *action inquiry*.

It is interesting to me that each teacher often spoke less in terms of what they were learning, instead choosing to talk about how they had recently applied the learning in their classrooms. It was clear from the interviews that this just-in-time learning afforded by social media has also started to transform the way they teach as they continuously discover and experiment with new teaching ideas.

Joinson (2003) observes that communication tools must do more than just make tasks easier for practitioners in a CoP, for they should “change your way of thinking, or approaching a task (and indeed the nature of the task itself), and can reap unimagined wider social changes” (p. 2). From the data collected, it was apparent the teachers have found social media to be useful for simple exchanges for finding tips, tricks and workarounds to make a task easier. An example of this was an educator who sought a quick answer for how to remove advertisements from YouTube videos before publishing. However, there was also some indication that the interactions through social media went deeper than this and innovative new teaching approaches had been introduced. The Genius Hour concept – where students are encouraged to explore their passions at school – is an example of an actual shift in thinking that is currently emerging and being shaped collaboratively by the online CoP. Through many different social media activities, teachers are giving meaning to this concept as they use various social media channels in combination to discuss the adoption of and experience of using this modern practice.

Because the learning through social media is situated, I found it very interesting to hear more about how the students are able to learn alongside their teachers during class time. The teachers mentioned several instances where the students themselves were directly involved with learning projects and interactions through social media with their teachers. In fact, the teachers sometimes did not distinguish between their learning and that of their students. Examples of the classroom participation included making a connection with a person of interest (example: an author), collaborating on projects with other classrooms, finding new ideas to try, blogging and tweeting as a class, and seeking practical solutions to problems.

I discovered the students were very much a part of this CoP, which was quite unexpected to me. There is some indication in the literature that teachers who participate in a larger education community are more likely to incorporate collaborative instructional strategies for their students in the classroom (Schlager and Fusco, 2003). However, I found there was very little research that was able to infer the direct effects to students from the professional development of their teacher. While it is still a perceived benefit by the teachers, my interviews suggest that the student engagement and learning has been impacted by the ability to learn with their teacher from others beyond their classroom through social media. One teacher describes:

I look at our kids and I think, wow, they can see what they can do can make a difference and they know they're part of the bigger picture...the kids are just so much more engaged and there's so much more that comes out of them. [T3]

Mutual Engagement: The Community Dimension

Leveraging Diversity in the Community

In most traditional professional development learning situations, expertise is a limited resource (Schlager & Fusco, 2003). Experts are assigned to teach a group of learners in a top-down manner in both formal contexts, such as workshops, and informal contexts, such as one-on-one mentoring assignments. Professional development through social media has reconfigured this relationship and created considerable diversity in learning opportunities. This study revealed the social media network enables access to diverse set of expertise by 1) offering every user the opportunity to become an expert to their peers and 2) allowing members of the education community to interact with a diverse set of individuals.

“Environments that support communities of practice should enable any member of the community to have the technical capabilities and social support required to take on leadership roles in a given context” (Schlager & Fusco, 2003). It was found that social media provides teachers with relatively low cost ways to act as experts such as creating, publishing and sharing their own content such as sharing a photo of their classroom setup, editing a collaborative document or sharing a video of their students learning. Cumulatively, these low cost interactions construct a diverse and rich set of tools and resources teachers have to refer to and learn from in their practice. As the users make use of each other’s abilities in the community over time, the knowledge gaps between them will narrow (Hung & Chen, 2001).

There is strong support in the literature to suggest teachers have much to gain from learning from other educators beyond their own schools (Hawkins, 1996; Schlager & Fusco, 2003). My interviews revealed the teachers were interacting with a very diverse set of individuals in the education community. Their social media participation spans both hierarchical and geographic boundaries with teachers, administrators and even policy makers interacting from around the world. One example that demonstrated this diversity was a teacher who tested out a “quad blog” project where her class joined with classes in New Zealand, England and Wales to share ideas through blogging.

The ability to access a range of perspectives outside of a teacher’s local community also produced another result, as suggested by my interviews. Two teachers I spoke with felt a sense of encouragement and motivation they could not receive in their own school. They were interested in experimenting with newer approaches to teaching and social media made them feel validated in their efforts. As one teacher described:

And so Twitter makes me feel...affirmed I guess. That even though I’m only one voice, that it’s an important voice and so that I shouldn’t just close my door and carry on but I need to keep trying to be the change I want to see happen. [T3]

Participation from the Periphery

The teachers I interviewed fit the requirements to be leaders or technology stewards and yet I got the sense most common activities would be considered to be lurking - scanning, searching and reading content created by others. Lave and Wenger (1991) coined the term *legitimate peripheral participation* to describe the process where members can access valuable learning from participating in the periphery of a CoP. As such, “learners inevitably participate in communities of practitioners and [the] mastery of

knowledge and skill requires newcomers to move toward full participation in the sociocultural practices of a community” (Lave & Wenger, 1991, p. 29).

If we were to accept this notion, it would imply the teachers I interviewed were in the periphery of the CoP and would eventually end up as more active contributors. Smith et al. (2009) suggest that people on the periphery take time to become familiar with the community before they are ready to fully participate. This is presumably not the case here as each teacher had revealed they had participated in more advanced ways in the community occasionally, such as engaging in collaborative projects and sharing experiences through blogging. From my findings, I would argue that the unique properties of social media offer teachers attractive benefits from peripheral participation, and that moving to central participation is not a given for everyone. These teachers demonstrated a combination of both central and peripheral participation. The significant convenience of being able to access others’ ideas anytime and anywhere on a channel like Twitter without investing too much time is appealing to teachers with their busy schedules. It is important to point out, however, that in teacher learning communities a participant may have central responsibility in one area of interest and peripheral participation in another (Glazer & Hannafin, 2006).

Conclusion

This case study and discussion provide insight into the ways teachers have been participating in self-directed PD through social media. Many of the unique learning opportunities they are participating in have not been possible with more traditional methods of teacher PD. While the social media technologies they use were not designed

specifically for educators, they have found original ways to connect with each other and reap the learning benefits afforded by social media tools.

Yin (2003) notes that interviews “are subject to the common problems of bias, poor recall, and poor or inaccurate articulation” (p. 92). As such, he recommends corroborating interview data with other sources. The findings in my study are limited in that I only used the data set I gained through the interviews. Additionally, this case study gave insight into a relatively small sample size and, because the participants came from a specific district setting, the findings are presumably limited in the extent they can be generalized. Yin (2003) notes that case studies do not lend themselves to statistical generalization but rather, theoretical generalization. Yin (2003) notes that “the appropriately developed theory also is the level at which the generalization of the case study will occur” (p. 31), thus the findings in this study can be generalized to the community level. With this understanding, I believe this study can serve as an important first step for future studies and practice into this new area of research as case study interviews “can provide shortcuts to the prior history of the situation, helping you to identify other relevant sources of evidence” (Yin, 2003, p. 92). I believe this paper has accomplished this, setting forth several implications in this field for both education practitioners and researchers.

This study contributes to the current understanding of teacher PD by examining their participation within a digital habitat, where the technology and community intersect. This particular study highlights how teachers who act as technology stewards leverage elements from both the technology and the community in order to interact based on their own unique needs. Important key findings from this study include:

- Teachers connect with each other on social media according to very well-defined domains of inquiry where they, together, explore a common identity.
- Social media gives educators access to innovative practices and exposes them to a diverse community of professionals.
- Educators are able to gain a glimpse into each others' practices through social media and, as a result, individual identities can emerge as teachers become viewed as leaders and content experts.
- Teachers are able to easily apply their learning in their practice by accessing the highly personalized and situated learning environment available through social media.
- Educators adapt their involvement in the community, participating from both the centre and from the periphery, based on their individual needs.

These findings are significant because they give insight into how teachers are interacting with each other when their PD is self-directed and unrestricted, not monitored or mandated from their administrators. The teachers have adopted inventive ways of using the technology to access the learning they require to improve their everyday practice. More importantly, there was some evidence to suggest that teachers not only improve how they perform their everyday tasks through their digital habitat, but they are also able to take a more active role in shaping emerging practices and contributing to a larger shift in thinking. This is significant as it is indicative that social media may provide teachers with a platform with which they can lead, and even accelerate, the transformation required for the continuous improvement of our schools.

Based on the findings of the study, I would argue that there is strong evidence to suggest the teachers' interactions could be described using Wenger's concept of a CoP. As Smith et al. (2008) explain, "Communities of practice offer a useful perspective on technology because they are not defined by place or by personal characteristics, but by people's potential to learn together" (p. 11). This study provides a snapshot into how a CoP on social media is currently functioning in the early stages as a vehicle for meaningful teacher PD. As this CoP matures and evolves, the way in which they appropriate social media technologies will presumably also shift. Hibbert (2008) points out that "technology can and should be exploited in ways that allow unstructured teacher networks to thrive and support not only a sharing of resources and expertise, but a meeting of the minds over issues that matter to teachers" (p. 145). Moving forward, this study can serve as a starting point to learning more about how the education community can make use of the unique properties of social media technologies in order to build and strengthen the CoP.

In regards to practical implications from this study, it would first be advised that any efforts towards designing brand new online networks for teachers consider how teachers are currently connecting using the existing social media tools that have become so popular, like Twitter and blogs. Perhaps the newly designed technologies could, at the very least, borrow unique properties from these sites in order to foster a valuable learning culture. However, it is recommended that administrators consider how these popular existing social media technologies could even be integrated into the design of new networks. The ability to gain instant access to a global audience of diverse peers with

these social media is invaluable and more opportunities to appropriate them to meet their needs should be a priority.

From an administrator's standpoint, there are decisions to be made on the degree to which teachers can develop their own PD initiatives. Based on the findings of this study, I would highly recommend that teachers be given the freedom and support to lead their own learning through social media. It would likely be highly beneficial for administrators to become active on social media, not for the purposes of monitoring teachers, but to find ways to take full advantage of the learning that is occurring.

Lastly, this study has opened the door for future opportunities to consider students as valuable members of the learning community on social media. As a result, future studies and initiatives might seek to provide a better understanding into the direct benefit to students from their involvement with teacher PD activity. It was discussed earlier in the literature that it has proven to be difficult to determine the effects of teacher PD on students. Because the students may be more likely to engage with social media when their teachers are using it for PD, perhaps this will be an instance where this connection could be easier to draw.

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Appendix

Appendix A – Interview Guide

Please note the following outline has been selected to guide the interview is based on Smith, White & Wenger's (2009) theoretical framework of communities of practice. Themes and possible questions have been framed around their notions of the *domain*, *practice* and *community* of a digital habitat.

Background

- General thoughts towards role of professional development in their career.
- Personal history using social media for learning (when did you start, how has it evolved, where are they today, frequency of use, why do they engage in the community)
- Specific types of social media used today.
- Who do you interact with (geographic boundaries, teachers/administrators/students/parents, other experts)?
- Describe your personal role in the communities you take part in.

Domain (what is the community about)

- Common identity – what are teachers' shared challenges, passions, topics, interests?
- Examples of goals the teachers in the community are committed to.
- Example of a specific endeavor you've seen the community take on? How did it work out?
- How do the social media technologies help facilitate professional development? (advantages to you, to the overall community).
- Have you seen the nature of the communities change over time?

Practice (capabilities community has produced)

- Examples of how have you learned *from* other teachers' experiences? *with* other teachers?
- Examples of how you've accessed or seen shared resources, stories, tools, solutions, concepts, knowledge? How does technology facilitate this?
- Examples of projects, conversations, ideas that have resulted from the community.
- Examples of informal learning experiences, more formal learning experiences in social media.
- How does the community address a recurring problem faced by teachers through social media?

Community (how does the community function)

- Sense of togetherness/membership/trust felt?
- Examples of diversity seen? Reduces isolation? Support you've felt? Guidance you've received?
- Examples of relationships you have developed or witnessed in your community?
- How does the technology help you get to know each other?
- Level of engagement you've seen in members?
- Diversity of the community? Has this been an advantage?
- What is the relationship between experienced and new members of the group?

Conclusion

- Value/meaning of participating, benefits to your career?
- Memorable interactions? What have you learned most?
- What do you envision for the future of the community, based on your experience?
- Feeling towards learning online vs offline communities

Source:

Smith, J.D., Wenger, E., & White, N. (2009). *Digital habitats: stewarding technology for communities*. Portland, Oregon: CPsquare.

Appendix B - Information Letter and Consent Form

Study Title: *Exploring how Alberta teachers use social media to engage in a Community of Practice for their Professional Development activities.*

Research Investigator:
Rebecca Hall
c/o MACT Department, U of A
10230 Jasper Avenue
Edmonton, AB, T5J 4P6
bekki@ualberta.ca
780-298-1720

Supervisor:
Dr. Gordon Gow
MACT Department, UofA
10230 Jasper Avenue
Edmonton, AB, T5J 4P6
gordon.gow@ualberta.ca
780-492-6111

Background

You are being asked to participate in this study to provide information on your own experiences engaging in social media communities for your own professional development. Your name was obtained either through the recommendation from an administrator in your district or from the active participation you have demonstrated in public social media channels.

This study is in partial fulfillment of the Master of Arts in Communications and Technology degree for Rebecca Hall. In addition, the findings of this research could potentially be used in published articles and for academic presentations.

Purpose

This study will explore how Alberta teachers are using social media to engage in online Communities of Practice for their own Professional Development. This research will inform teachers and school administrators in Alberta more about the digital communities that exist and how they can be used to advance teaching practices.

Study Procedures

This research will first consist of examining documents, provided by your school division related to the social media use of teachers in the district. A school administrator involved in social media in your district will be interviewed (45-60 minutes long) over the phone by the researcher.

Four teachers from the same school division will be interviewed. The interviews will last approximately 45-60 minutes and will take place over the telephone. The audio of these interviews will be recorded by the researcher. Participants of the interview will be selected based on the leadership they have displayed in using social media for professional development. They will be recommended by a school administrator or will be selected based on their significant role displayed on social media channels.

After the interview, participants may be contacted if any clarification is required to their responses.

This study will be complete by August 31, 2013.

Benefits

Upon completion, findings from this study will provide teachers and school administrators information on how teachers are currently self-organizing into communities and actively engaging with each other in order to improve their knowledge and skills. This could serve to inform future professional development plans and initiatives.

Risk

There are no known risks to this study. If we learn anything during the research that may affect your willingness to continue being in the study, you will be informed immediately.

Voluntary Participation

Participation in this study is completely voluntary and you are not obliged to answer any questions you do not wish to answer.

You have the right to withdraw from this study at any point during the interview, without penalty. You also have the right to withdraw your collected data from the study. If you would like to request to have your data withdrawn from the study, please contact Rebecca Hall (by phone, text message or email) within four weeks of the date of the interview. Upon withdrawal, your collected data will be destroyed immediately.

Confidentiality & Anonymity

This research will be used for a capping project for the MACT program at the University of Alberta. There is also the potential for the findings to be published in another publication, either academic or non, or in a presentation. Participants will not be personally identified in any of these formats.

Your data will remain confidential and only myself, my supervisor and one other study researcher will have access to the data. The data will remain locked in my supervisor's office. We will do everything within our means to ensure your anonymity. The data we collect from your interview will be kept in a secure location and any electronic data will be encrypted. After a minimum of five years after the completion of the study, the data will be destroyed in a way that ensures your privacy and confidentiality.

If you are interested in receiving a copy of the final report of this study, please let the research investigator know by indicating on Page 3 of this form, or by contacting Rebecca Hall.

Further Information

If you have any further questions regarding this study, please do not hesitate to contact Rebecca Hall or Gordon Gow at any time.

The plan for this study has been reviewed for its adherence to ethical guidelines by a Research Ethics Board at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Participant informed consent

Please note you will be asked to confirm your consent at the beginning of your interview.

I acknowledge that the research procedures for this study have been explained to me, and any questions I have asked have been answered to my satisfaction. I understand that the audio will be recorded during my interview. I know that I may contact the researcher designated on this form if I have questions, either now or in the future. I have been assured that the personal records relating to this study will remain anonymous. I understand that I am free to withdraw from this study at any time and am not required to provide a reason.

DATE

PRINTED NAME OF PARTICIPANT

SIGNATURE OF PARTICIPANT

PRINTED NAME OF INVESTIGATOR

SIGNATURE OF INVESTIGATOR

Please indicate if you would like a copy of the research report after it has been finalized.

____ YES ____ NO