ELEMENTARY PRESERVICE TEACHERS' DESCRIPTIONS OF
THEIR USE OF SOCIAL MEDIA

By

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This dissertation is dedicated to Momo and Erma, and Grandmother and Granddaddy for teaching me the value of life-long learning.

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"For I know the plans I have for you," declares the Lord, "plans to prosper you and not to harm you, plans to give you hope and a future." Jeremiah 29:11 (New International Version)

This is a journey that could never have happened without the continued love and support of my family and friends. First and foremost, I can only imagine what went through their minds when I told my parents, Jerry and Gearline Eley, that at the age of #%*& I wanted to quit my job and sell my house in order to get yet another degree. Seemingly without batting an eyelash, they pledged to be there to support me in whatever ways were necessary. I know I put that to the test often, and time and time again, they were there for me. I'm sure they could never have imagined everything this journey would entail. There is neither time nor space to say how much their love and faith have meant to me, so I will simply say "thank you."

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ELEMENTARY PRESERVICE TEACHERS' DESCRIPTIONS OF
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By

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The use of social networks and other forms of social media have grown
exponentially in America over the span of a few years. Using social media can help to
promote communication, collaboration, and creativity – all skills that are highly valued in
the 21st Century. Since today's children and teens are already avid users of social
media in their personal lives, it is important for educators to be able to utilize these
same technologies in the classroom.

The purpose of this qualitative research study is to discover how elementary
preservice teachers describe their use of social media. Data about social media habits
was collected using a survey, text messages, and personal interviews. A summative
content analysis, as well as a Zoom Model Analysis (Pamphilon, 1994), was conducted
on the data. Results of the study show that elementary preservice teachers' informal
use of social media far outweighs their formal use. Other findings include: the degree to
which students multi-task while they are using social media, how often and from how
many different locations students access social media, and the priority preservice
teachers place on their privacy.

In light of the study's findings, a discussion of the implications and suggestions for further research into preservice teachers and their use of social media are also included. The study's primary findings suggest that it is important for the discipline of teacher education to become better informed about different ways preservice teachers use social media. Doing so will enable teacher educators to do an optimal job of preparing preservice students to use social media.

CHAPTER 1
INTRODUCTION

Background

"One could not step twice into the same river." (Hericlatus, 5th century B.C.)

Never have the words of change attributed to the Greek philosopher Hericlatus been as true as they are at this time. College campuses today look the same as always, aesthetically speaking, but a more knowing look reveals a drastically different infrastructure: wireless-enabled dorms, cafes, and common spaces; students engaged in mobile texting and instant messaging, campus libraries that loan electronic books; study centers without books; students who live thousands of miles apart enrolled in the same online course; and cell phones more powerful than the average computer was a generation ago. Connectivity is everywhere.

Students on those campuses have changed also. Those born into a world where they have always been exposed to technology have been termed "Digital Natives" (Prensky, 2001), "Millenials" (Howe & Strauss, 2000; Keeter & Taylor, 2009) or "The Net Generation" (Tapscott, 1998). Much debate has occurred over the validity of how and why these labels have been applied (Selwyn, 2009) and there is disagreement even among supporters about which birth years to include (Carlson, 2005, Oblinger & Oblinger, 2006; Palfrey & Gasser, 2008). No matter what label is applied, the basic expectation remains the same: these students are (or will be) media literate and embrace the use of technology in all parts of their lives.

However, studies suggest that the Net Generation may not be as savvy as first thought (Bennett, Maton, & Kervin, 2008; Gray, Thompson, Sheard, Clerehan & Hamilton, 2010; Hargittai, 2010). Even in cases where Net Geners are shown to be

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more proficient with technology than others, there is still a gap between said proficiency and effective use in the classroom (Helsper & Eynon, 2009; Kapitzke, 2001; Kennedy, Dalgarno, Gray, Judd, Wacott, Bennett, et al, 2007). In other words, the former does not automatically ensure the latter.

In today's digitally-enriched society, students learn differently than they did 50 years ago. Today's Internet-savvy students expect instant gratification in their personal lives and in the ways they are taught in the classroom (Berk, 2009; Prensky, 2006). According to Frand (2000), visual communication is high on the list of skills for these students as they are adept at processing disparate elements such as sound, video, text, and images in cohesive, meaningful ways. In addition, they move seamlessly between the real and virtual worlds (Frand, 2000; Manuel, 2002). Virtual worlds such as Second Life® and connected gaming systems such as Nintendo Wii™, Microsoft Kinect™, or Sony PlayStation™ provide fully immersive environments that they navigate with ease.

These characteristics have significant implications for the classroom. Learners today are no longer content to sit and watch the computer screen, but want their experiences to be interactive. Students expect to be constantly connected and engaged; they are discovery learners; they need social interaction and collaboration; and they have limited attention spans (Berk & Trieber, 2009; Brown, 2002; Jenkins, 2006; Junco & Mastrodicasa, 2007; Oblinger & Oblinger, 2006; Tapscott, 1999 & 2009). They make quick decisions and expect others to provide quick responses (Carnevale, 2006; Frand, 2000; Junco & Mastrodicasa, 2007). They are drawn to activities that place an emphasis on conversation, collaboration, and teamwork (Howe & Strauss,

2000; Junco & Mastrodicasa, 2007; Manuel, 2002; Ramaley & Zia, 2006; Windham, 2005).

In the past few years, these tech-savvy learners have begun entering K-12 classrooms as educators. As 21st century teachers, they are expected by students and parents to excel at communicating and collaborating in our wired, interconnected, media-immersed world. In addition to mastery of social media, it will be just as important for classroom teachers to help students find ways to use various technologies in productive, collaborative ways, all while encouraging them to be creative problem solvers (Trilling & Fadal, 2009).

In her speech at the 2009 Microsoft Research Tech Fest, Danah Boyd, Senior Researcher at Microsoft Research said that social media "enables individuals and communities to gather, communicate, share, and in some cases collaborate or play." This perspective makes it easy to see that the technology habits of today's students are the very ones being cultivated by the use of social media. According to a 2010 report from the U.S. Department of Education (DOE):

> To prepare students to learn throughout their lives and in settings far
> beyond classrooms, we must change what and how we teach to match
> what people need to know, how they learn, and where and when they learn
> and change our perception of who needs to learn.

Knowing the types of activities students want and how their engagement with social media helps to meet those needs, it is not surprising that, as the DOE suggests, these new realities can help to promote learning.

According to several cognitive researchers, the following conditions need to be present to support student learning: active engagement, participation in a group, frequent interaction and feedback, and connections to real world contexts (Bransford,

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Brown, & Cocking, 1999). Social media, in its various formats, can help satisfy the criteria of all four components. Moreover, the use of social media in the classroom extends possible teaching methods beyond traditional lectures and books and helps those who might benefit from a combination of teaching styles (Gardner, 1993). Having the capability to connect from any place at any time may help increase and encourage lifelong learning and expand learning horizons. "Learning can no longer be confined to the years spent in school or the hours spent in the classroom: it must be life-long, life-wide, and available on demand" (Bransford et al., 2006). Technology can help students learn by fostering engagement with the subject matter, encouraging collaboration with others, offering more opportunities to experience real-world contexts, and providing the potential for instant feedback and communication (Roschelle, Pea, Hoadley, Gordin, & Means, 2000).

During the past five to seven years, the first groups of these supposed technological savants have entered the K-12 classrooms as 21st century educators. They are entering classrooms as teachers that look much like they did when they were in them as students. In addition to student and parent expectations, there are other pressures on all teachers (not just the Net Generation educators) to bring the use of technology into the classroom. The National Education Technology Plan 2010 highlights the importance of teachers being connected to resources 24 hours a day, seven days a week (Atkins, 2010). It also states that an aspect of a teacher being connected includes motivating students and personalizing instruction. The framework of The Partnership for 21st Century Skills adds the requirements of media and information literacy, as well as fundamental technology skills, into the development of critical thinking and problem

solving skills, collaboration, communication, and the need for creativity and innovation (Partnership, 2004).

Although the need for using social media in the classroom is advocated by educational organizations through written standards such as these, and students and parents are expecting social media to be used in the classroom, perhaps the greatest justification for using social media in the classroom is that it can help support the ways in which students learn.

Statement of the Problem

Scholars have begun to look at how learners are leveraging their constant connectivity and what it may mean in terms of student engagement (Dede, 2009; Greenhow, Robelia, & Hughes, 2009; Selwyn, 2010). One issue that has arisen is how to identify the ways students are using different types of social media for learning, both in and out of the classroom. In order to establish clearer lines of identifying student behaviors, researchers have begun to use the descriptors of *formal* and *informal* learning (Bull et al., 2008; Lucas & Moreira, 2009; Selwyn, 2007).

Formal learning is considered by most to be highly structured, and is usually associated with learning that takes place in classrooms. In the confines of this research project, the formal use of social media includes any use of social media required by the instructor, either in or out of the classroom. Informal learning may also be structured, but the learning dynamic is in the control of the learner. During this time, learning may take place in the "in-between" spaces, or the times when the learner is between two or more tasks and is not aware of learning that is taking place. Not only can informal learning be planned or unplanned, it often occurs without the learner recognizing it.

Recent years have seen increasing acknowledgment of the importance of socially-based, informal modes of learning that occur outside of the classroom (Jamieson, 2009; Livingstone, 2001). These modes are characterized by their unplanned nature, happening anywhere, at any time, and without the presence of a teacher. These informal, out-of-class learning experiences and interactions with peers are reported to have a positive impact on student satisfaction and learning and are also known to build students' sense of self-worth and confidence (Krause, McInnis, & Welle, 2003; Kuh, 1993). While informal learning can also refer to self-directed study, in the context of this paper, informal learning is predicated on the informal use of social media by students. Such a frame is justified by Lucas and Moreira's description of informal learning as a "vital and continuous process, along which people gain skills, attitudes, and knowledge that derive through their daily activities as well as from the multiple contexts they experience" (2009, p. 327).

The use of social media in education has also been referred to as being part of a "convergence culture" (Jenkins, 2006), labeled as "participatory media" (Bull et al., 2008), or simply referred to as Web-based learning technology (Chen, Lambert, & Guidry, 2010). Each label refers to the use of Web tools that allow for creating, sharing, and collaborating with others across an interconnected online network. Noted media scholar Clay Shirky talks about the "cognitive surplus" in society that has emerged because of increased engagement between individuals as they become creators of media rather than passively consuming forms of media already existing (2008). This cognitive surplus is what takes over in the in-between spaces mentioned earlier and helps to propel informal learning forward.

There is a great deal of interest in social media and research supports claims that myriad people are on social networking sites daily (Lenhart, Purcell, Smith, & Zickuhr, 2010; Nielson, 2011). With so many activities taking place in cyberspace, and with social media in particular, it is important to examine how preservice teachers are interacting with social media. Previous studies have focused on how computers in the classroom have impacted student achievement (Barrow, Markman, & Rouse, 2009; Muir-Herzig, 2004; Wenglinsky, 1990) and numerous studies have explored the attitudes of students and teachers regarding the use of computers in the classroom (Chiu, Chen, C.H., Wu, & Chen, S.W., 2010; Ertmer, 1999; Ertmer, 2005; Hermans, Tondeur, van Braak, & Valcke, 2008; Wood, Mueller, Willoughby, Specht, & Deyoung, 2005). While it is important that all schools finally have Internet access (Ringstaff & Kelley, 2002; U.S. DOE, 2006), it is vitally important to look at how this connectivity is being used.

Other studies have investigated how often teens are creating video or sending text messages (Bull et al., 2008; Lenhart et al., 2010) and assessed the impact of games/gaming in the classroom (Gee, 2005; Pastore & Falvo, 2010). Each of these studies is important and has helped to further inform the field of educational technology. However, little research exists that looks at the informal use of social media *outside* of the classroom (Furr, McFerrin, Horton, & Williams, 2010; Jacobs, Egert, & Barnes, 2009). Recent publications in the field of educational technology highlight the need for studies to look at how video and other types of social (or participatory) media are being used by teens and teacher education students to assist with their education-related

assignments (Bull, et al, 2008; Dede, 2009; Greenhow, Robelia, & Hughes, 2009; Kumar, 2009; Lei, 2009).

There have been numerous research agendas suggested by educational technology scholars during the latter part of the 20th century and the first part of the 21st century (Clark, 1989; Driscoll & Dick, 1999; Kozma, 2000; Richey, 1998; Roblyer & Knezek, 2003; Schrum et al., 2005; and Windschitl, 1998). Each proposed agenda was in response to newly-perceived needs in the research community, and the knowledge generated in response to these needs contributed to the field and informed future research and practice. For example, based upon the interconnectivity and creativity encouraged by new Web 2.0 technologies, the May 2009 issue of *Educational Researcher* contained a sizeable list of research topics for scholars wanting to explore the issue of social media's relationship to learning (Dede, 2009; Greenhow, Robelia, & Hughes, 2009; Leu, O'Byrne, Zawilinski, McVerry & Everett-Cacopardo, 2009; Owston, 2009; Zhang, 2009). Topics included focusing on what learners do with social media, including in both formal and informal settings; exploring types of access to (and equitable experiences with) different types of media while gauging how participation with Web 2.0 technologies is experienced; and the need to work toward "building theory and corollary practice and policies" based on determining the educational value for learner engagement with social media (Greenhow et al., 2009).

The same 2009 issue of Educational Researcher also considered how to approach such research, not just the foci of the research itself. Different research strategies included framing the use of the Internet as a literacy issue rather than a technological one (Leu et al., 2009); the use of design-based research for the

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development of Web 2.0 environments that allow for the exploration and testing of theory across multiple users, locations, and for increased periods of time (Greenhow et al., 2009); and the use of social media itself as a research tool for investigators (Dede, 2009).

In this same spirit, and in response to previously identified gaps within the field of technology and teacher education, the present study uses innovative methods, to examine preservice teachers' use of social media outside of the classroom.

Purpose of Study

The purpose of this study is to explore the ways preservice teachers use social media and their reasons for doing so. This research is a response to calls from the field of technology and teacher education to provide more information about how social media is being used by preservice teachers to aid in their own learning. Examining how preservice teachers describe their own use of social media can help to determine how prepared they will be to use these same technologies in their future classrooms. The further hope is that the results of this study will contribute to the ongoing dialogue in the field of technology and teacher education about how social media is being used by preservice learners for both formal and informal learning.

Research Question

The guiding question for this study is: How do preservice elementary teachers describe their use of social media?

Significance of Study

When examining the points of significance for this study, I looked at the research that has already occurred around the topic of social media and preservice teachers, as well as the needs that have been uncovered by others while conducting their studies. I

also explored the different types of research methodologies used for previous studies and methods of data collection and analysis reported on in prior research. After a thorough examination of existing research, I determined that this study is significant in three ways:

1.   The subject matter of the research question.
2.   The methods used for data collection and analysis.
3.   The use of qualitative methodology.

Significance of Question

By asking preservice teachers to describe their own experiences with social media, I am responding to those scholars who have requested more information about how teacher education students experience social media – namely the need to focus on what learners are doing with social media for both formal and informal learning as well as the desire to understand and describe their experiences working with these same technologies (Greenhow et al., 2009). Though not expressly addressing teacher educators, Cornelius-White suggested that in order to design learner-centered teaching that results in student success, university instructors should be willing to adjust their teaching methods to better meet the learning styles of 21st century learners (2007). I anticipate that by finding out more about how social media already fits in the lives of 21st century preservice students, teacher educators will be better informed to help them succeed in the classroom.

Significance of Methods

By using an online scheduling program that is a form of social media, and text messaging for data collection within the Experience Sampling Method (ESM) (Csikszentmihalyi, Larson, & Prescott, 1977; Csikszentmihalyi and Schneider, 2001; Kubey et al., 1996), this study responds to Dede's suggestion to use social media as a

tool for the actual research study, rather than as just an object of research (2009). The use of text messaging for this study is of particular significance because it will allow me to have around-the-clock access to participants and provide further insight into how they make use of social media for both formal and informal learning. This has more meaning when viewed from the perspective of Greenhow, Robelia, and Hughes: "If learners, teachers, and schools harness Web 2.0 for educative purposes, research is required to understand the technological, ethical, educational, and social practices across the life span, including technology use across a whole day (e.g., home, work, school, mobile devices)" (2009, p. 248). There is added significance when considering what the Zoom Model of Analysis (Pamphilon, 1999) contributes to the study. The use of the model's four levels of exploration for each participant provides the ability to gain a richer understanding of the experience and perspective of each individual subject.

Significance of Qualitative Research

This is a qualitative study that uses a theoretical framework of constructivism to guide the research. Being able to highlight the importance of each individual story is significant for this study because of the dearth of social media research that relies on self-reporting and the co-constructed story between the researcher and the participants. In fact, the John D. and Catherine T. MacArthur Foundation is unique for its approach to research and their commitment to "have a meaningful impact in the fields in which we work by being strategic and focusing on outcomes" (MacArthur Foundation, 2012). Granted, not all research is conducted in such a way, but the funding available for their research allows them to publish quality findings of their studies.

The tradition of qualitative research

Qualitative research gives voice to the myriad of parts that comprise the whole story. One of the compelling characteristics of qualitative research is that it strives to understand the depth of a person's experience, not just surface-level metrics or descriptive statistics. The signature characteristic of qualitative research is that the researcher is studying things in their natural settings to grasp the meaning the individual is bringing to it (Denzin & Lincoln, 2000). The qualitative researcher seeks to make sense of the data collected – something best done by considering the data in context.

Research has shown that the use of technology by teachers in the classroom is influenced by how much value they see in the technology (Bitner & Bitner, 2002; Ertmer, 1999; Franklin, 2007). Therefore, in order to positively influence teachers to use technology, it is important for teacher education programs to provide positive experiences using social media in the classroom and in their field experiences. This study will help teacher education programs identify ways to provide positive experiences with social media. By using qualitative research for this study, I gained a deeper understanding (see Creswell, 2007) of how preservice teachers are using social media.

There are stories to be told

Every person has a story that needs to be told, and the use of qualitative research makes this narrative approach feasible. In fact, qualitative research insists that the stories be told. It is easy to look at facts and figures and say that, for example, over 47% of Americans (Lenhart et al., 2011) are involved with some kind of social networking site (SNS) while noting that several larger school systems have banned social media interaction between teachers and students – and in so doing conclude that social media has no place in education. However, just having these bits of information

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do little to shed light on the underlying narrative. Stories can be told with simple facts, or stories can be full of rich descriptions. Qualitative research attempts to get to the core of why things are the way they are. While quantitative research deals more with numbers or other metrics, qualitative research uses words and pictures to describe the phenomena being studied. When a person has their story told, it decreases their sense of isolation and increases their sense of power (Lamott, 1990). Yet, the stories that arise from qualitative research go beyond simple storytelling for a "feel good" moment; the stories must be based on empirical evidence assimilated by a researcher who remains open to what can be learned from others without forcing his or her own beliefs into the storyline. Life stories evoke emotion and it is important that we allow the writing to teach us about life (Goldberg, 1986). In order for a story to draw the reader in, it must engage the reader in conversation and create a dialogue between the reader's mind and the words on the page, and help to bring an understanding of others life stories to the world.

Delimitations and Assumptions

The target group for this study is fourth and fifth year preservice elementary teachers at a large university in the southeastern United States. These students have already completed two required courses related to technology: a skills-based course and a course focused on technology integration. The study assumes the students use social media outside of the classroom, both for academic and non-academic purposes.

Definitions

The following definitions will be useful in guiding the reader through the study:

CONSTRUCTIVISM   focuses on the meaning making of an individual (Crotty, 1998).

FORMAL LEARNING   occurs in the classroom or as required by the course instructor.

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INFORMAL LEARNING	describes learning and engagement that occurs outside formal school settings (National Science Foundation, 2009).
PRE-SERVICE TEACHERS	are students enrolled in a plan of study leading to a degree in teaching who may or may not be involved in a classroom internship.
SOCIAL MEDIA	is any online website or mobile application where the line between creating and using resources is blurred; and open dialogue between creators, users, and observers is encouraged (adapted from Boyd & Ellison, 2007).

Organization of the Study

This study is organized into six chapters. Chapter 1 has defined the problem and stated the purpose for the study. Chapter 2 reviews the related and relevant literature. Chapter 3 outlines the design of the study, provides an overview of the methodology, and describes the data-gathering process and how the participants were selected for inclusion in the study. The content analysis of the preliminary survey and text messages can be found in Chapter 4, and the Zoom Method analysis of key informant interviews is described in Chapter 5. Chapter 6 contains the study synopsis, conclusion, and suggests future directions in this line of research. The references and appendices can be found following Chapter 6.

CHAPTER 2
LITERATURE REVIEW

An examination of existing research is necessary to better understand this study of elementary preservice teacher's descriptions of social media. The chapter begins with a description of six different types of social media, with examples of each. To become more familiar with the use of social media within the classroom context, a brief overview of technology use in K-12 classrooms, from the development of the microcomputer to the present day, is included. This overview is followed by an exploration of the status of teacher education. Last, recent studies describing college students' use of technology will be discussed. Chapter 1 provided a broad overview of this qualitative research study and the examples provided in Chapter 2 will add depth to the understanding of the issues surrounding preservice teachers' descriptions of their use of social media.

Information Consumers Become Content Producers

In order to gain a better understanding of social media, one must first be familiar with terms used to describe the online environment. Once this vocabulary lesson is complete, it is productive to consider how the functions of these various tools allow them to be classified as "social media." Finally, current research involving social media technologies that are part of the online environment will be put into context.

Web 2.0 Technology

Despite being used interchangeably, *Web 2.0* and *social media* are not synonymous. Rather, social media is a subset of Web 2.0. The term Web 2.0 was first introduced to mean a futuristic view in Darcy DiNucci's 1999 article "Fragmented Future." The use of the term became more widespread after the 2005 conference on

Web 2.0 produced by Tim O'Reilly (O'Reilly, 2007). Prior to that, people did not use the term "Web 1.0" when referencing sites on the Internet, but rather "the Web" or the "World Wide Web" (WWW). Previous uses of the Web were considered much more static than the dynamic ways it is currently being utilized (Click & Petit, 2010). The Web that had become familiar to everyone was full of information to be consumed. During the early days of the Web, not much thought given to where information was coming from, how its veracity or authenticity could be determined, or even how it was being produced. Simply because the information was on the Web gave it sufficient credibility for many (Flanagin & Metzger, 2000). In fact, those who published Web pages were seen as subject experts by the majority of Internet users (Burgess, Gray, & Fiddian, 2004; Cline & Haynes, 2001; Nicholas, Huntington, Williams, & Dobrowolski, 2006; Savolainen, 2002). Due to its recognition as a vast storehouse of knowledge, the World Wide Web gained the moniker "Information Superhighway." (The origin of this label is still debated, but it is widely accepted that then Vice-President Al Gore popularized the term in 1994.)

Producers of Content

The new Web, sometimes referred to as the Read-Write Web, provides an opportunity for everyone, not just those who are viewed as experts, to communicate, interact, collaborate, and create content (Maddux & Liu, 2005; Xu, Ouyang, & Chu, 2009). It is this theoretical capability for everyone to contribute or participate that helps to define phenomena such as social media (Jenkins, Clinton, Purushotma, Robison, & Weigel, 2005). Technically speaking, in order to be classified as social media, a website or mobile application must provide the opportunity for users to view, create, or exchange information. In addition, users must be able to communicate with others about the content that is present. The de facto result is the blurring of the lines between what

in the original Web era would have been the clearly defined roles of *producers* and

consumers. This ability to connect with others has contributed to the explosive growth of

social media in the past five years.

Types of Social Media

Social media may be divided into six distinct categories:

- blogs and microblogs
- collaborative projects such as social bookmarks and wikis
- content sharing communities
- social networking
- mobile social networks
- virtual worlds
    - virtual social worlds
    - virtual game worlds
    - virtual learning worlds.

While most prior research excludes mobile social networks (Kaplan & Haenlein, 2010;

Scialdone, Rotolo, & Snyder, 2011), with over 50 million people around the globe using

mobile social networks (Shannon, 2008), the use of these mobile technologies can no

longer be glossed over. This is of particular consequence since one of their primary

functions is to help build and reinforce social ties. Definitions and examples of various

social media categories are described in Table 2-1.

Table 2-1. Definitions and examples of social media

Category	Definition	Major Vendors
Blogs, Microblogs	A blog is an online journal or diary that is updated regularly; displayed in reverse chronological order. Blogs can include text, images, videos, and links. The ability for blog readers to leave comments is determined by the author. Microblogs allow small snippets of information to be shared.	Tumblr, Wordpress, Blogger, Twitter
Group Collaboration	Group collaboration sites allow multiple authors and sharing of information.	Wikipedia®, Google Docs

Table 2-1. Continued

Category	Definition	Major Vendors
Content Sharing	Content (original, curated, or mixed) may be posted for others to view and comment upon.	YouTube, Vimeo, Flickr, Pinterest
Social Networks	Social networks allow users to create a profile, share information, and make connections (Boyd & Ellison, 2007).	Facebook, Google+, LinkedIn
Virtual [Game] Worlds	Users, through an avatar, micro-control elements inside a simulated environment (Gee, 2008). Most multi-player games have a chat feature that allows players to communicate.	World of Warcraft, Runescape
Virtual [Social] Worlds	A 3-D simulated environment that allows interaction between avatars.	Second Life®
Virtual [Learning] Worlds	Online environments created especially for education. Most of these spaces are controlled by a CMS, or Content Management System	Moodle, Desire2Learn, Vista
Mobile Social Networks	Mobile social networks consist of multiple apps (applications) that enable sharing of information without a web-based browser.	Foursquare, Gowalla, Tweetdeck, Facebook (which now includes a text messaging option)

Blogs and Microblogs

Blogs and microblogs give everyone the opportunity to be a published author on the Web. Blogs began as lists, or a log, of other websites in the early 1990s, thus leading to their original name of *web logs*, or *weblog.* As people began to share more personal information online – and the weblog became more like an online diary or personal journal – the name was simplified to *blog.* In their early stages, blogs only included the author's original text as entered and edited by him or her; blogging did not

permit comments or two-way communication. Current blogs, by contrast, may include text, images, video, audio, links to other websites, or various electronic documents.. Blog entries are typically displayed in reverse chronological order and may be the "brand" of an individual, business, news media, or other entity. In addition, the blog's author decides whether visitors can leave comments or not, thus giving blogs the ability to be considered as social media.

The first significant increase in blog popularity occurred during the Iraq war in 2003 as journalists and soldiers created personal blogs that provided a deeper insight into battlefield events. Next, journalists began to present breaking news in their blogs during the 2004 Democratic National Convention in Boston (The New York Times, 2004). Thus blogging became a way to disseminate news ahead of newspapers or television newscasts. The free, anytime access to blogs on the Internet allowed those interested in American politics (be they here or abroad) to quickly know what was taking place at the convention in Boston (Petersen, 2004). Once the capability to capture a widespread audience was recognized, many more non-journalists began publishing their own blogs. At present there are numerous blogging platforms available for those interested. The authoring sites with the most popularity in the United States include Blogger and WordPress.

Blogs have been used by both teachers and students in elementary classrooms for communication, reflection, and collaboration purposes. Classroom blogs may be a place for teachers to present content to students, dispense news to parents, showcase student work, allow students a place to reflect, or provide an authentic audience for student writing (Baker, 2007). When used collaboratively as literature response forums,

teachers can solicit responses from students about a specific book or story they were assigned to read (Barton, Boling, Castek, Nierlich & Zawilinski, 2008; Zawilinski, 2011).

Microblogs are similar to blogs with one major exception: they are limited to between 140-200 characters, depending upon the platform. Microblogs began in the mid-2000s and may include text, single images, or links to audio, video, or websites. Due to their short nature, they have been compared to texting or instant messaging. Much like blogs, microblogs may be open and participatory or private, disallowing commentary. Just as blogs first gained popularity through widespread use by news media, the extensive popularity of microblogs is often attributed to celebrities who post personal information for their fans (Efron, 2011; Schmidt & David, 2011). In fact, three current pop icons in the United States – Lady Gaga, Justin Bieber and Katy Perry – have a combined Twitter following of almost 90 million people. Launched in 2006, Twitter is currently the most popular micro-blogging platform in the United States, boasting over 140 million registered users (Twitter, 2012). Tumblr, another popular microblog sharing platform, logs over 50 million posts daily (Tumblr, 2012).

Group Collaboration Sites

Giving each team member the opportunity to have equal input is an advantage of social media collaboration tools such as wikis, social bookmarks, and Google Docs. In true collaborative fashion, wikis allow multiple users to access and edit the same information from multiple places at different times. The creator of each wiki determines who has permission to edit or comment on the pages created. Wikis maintain an archive of edited data and give the user the ability to restore the page to its pre-revision state. There are many private wiki sites, but the most popular large group collaboration wiki is Wikipedia®, created in 2001. Wikipedia® continues to grow and has over 21 million

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articles in 280 languages. Out of these, four million entries are in English (Wikipedia:Statistics, 2012).

As a collaborative tool, social bookmarks allow users to become ad hoc curators of web-based information that can then be retrieved at a later time. Social bookmarking sites function just as bookmarks, or favorites, on a local computer – they allow the address of a specific website to be retained and accessed at a later time. The difference is that social bookmarks allow all links to be saved in one place and accessed from any location with an Internet connection. Most social bookmarking sites allow for the use of tags, or keywords, to organize information. Being able to share sites with others and having the option to include user comments place social bookmarks squarely in the category of social media. Delicious and Diigo are popular text-based social bookmarking sites. Pinterest, while marketed as a "virtual pinboard" with the goal of "connecting everyone in the world" ("What is Pinterest," 2012), is considered by many to be the first true image-based social bookmarking site (eBiz, 2012).

With a company goal of being able "to organize the world's information and make it universally accessible and useful" (Google, 2012), Google first made a name for itself as an Internet search engine. In keeping with the latter part of its mission, it has also developed a number of online tools that allow collaboration among users. Google Docs is a free tool that allows multiple users to create, share, comment upon, and edit the same document, spreadsheet, or slide presentation. The ability to connect asynchronously with others and easily collaborate on projects has helped to make Google Docs popular.

Content Sharing

Other social media categories are a bit different from *content sharing* sites because additional programs or applications may be needed to create content before it can be shared. Blogs, microblogs, and group collaboration sites allow for the creation of content within their pages—but only after images, sounds, or videos are uploaded. YouTube, a free video hosting site, is one of the most widely recognized content sharing sites on the Web. Theoretically, anyone with a video camera and access to the Internet can become a movie producer. Over four billion hours of video are watched each month on YouTube, with the production quality ranging from the work of young children using a Fisher Price video camera to that of expert production companies and multi-billion dollar studios. Videos are currently being uploaded to YouTube at the rate of 72 hours of viewable material per minute, including three of those hours coming just from mobile phones (YouTube, 2012).

Social Networks

Social networking sites (SNS), are the most widely used category of social media. They may be defined as any web-based location that allows users to create a personal profile, interact with people they chose to allow, and then access or exchange information with people in that selected circle (Boyd & Ellison, 2007). There is a great deal of interest in social networks in America, and indeed, research supports claims that millions of people are on social networking sites daily (Lenhart, Purcell, Smith, & Zickuhr, 2010; Nielson, 2011).

With the proliferation of social networking sites, the larger question becomes not "who" is in a social network, but what activities are taking place in the network. With the ability to post status updates on current activities, store and display pictures, play online

games, chat with other users and more, SNS have options for everyone. Facebook, MySpace, and Google Plus are currently three of the most popular social networking sites in the United States (eBiz, 2012).

Mobile Technologies

The term *mobile technology* frequently invokes the idea of a cell phone. However, any technology that is easily *portable*, whether it is a smartphone, netbook, e-reader, or tablet computer, is also considered a type of mobile technology. Mobile devices allow users to complete a multitude of tasks, including shopping, work, playing games, reading books, studying, browsing the Internet, and obtaining news. Mobile social networks such as Foursquare, Nextdoor, or roamz go beyond Facebook and MySpace insomuch as they allow users to connect to and share with others based not only on similar interests, but also on geographic location. Remarkably, more people connect to social networks through their mobile devices than with a desktop computer (PRNews, 2012), therefore it is important to consider them in any study of social media.

The use of gaming applications (or apps) on mobile phones has become very popular over the last few years. A 2011 study of mobile phone users in the United States and United Kingdom discovered that 44% of mobile phone users in the US had played an online game in the previous year. In addition, 28% of US mobile phone owners were identified as someone who had played a game on their phone within the past month. Avid users, or 21% of those in the US, were identified as those who had played games on their phone within the past week (Information Solutions Group, 2011). As of May 2012, *Angry Birds*, *Draw Something*, *Temple Run*, and *Words with Friends* were among the most popular gaming apps (FreeGamesLike, 2012; Ionescu, 2012).

Virtual Worlds

Not all researchers agree on the definition of a virtual world (Schroeder, 2008; Bell, 2008). However, many virtual world scholars (Ang, Zaphiris, & Mahmood, 2007; Vosinakis, Koutsabasis, & Zaharias, 2011) reference the definition given by Richard Bartle in his seminal 2003 work, *Designing Virtual Worlds*. "Virtual worlds are real-time, automated, persistent, shared, imaginary places you can visit through the vehicle of a character" (as cited in Bartle, 2008). The last has become more popularly known as an avatar, or an onscreen representation of the user. Virtual worlds are make-believe spaces that can be accessed at any time via an online connection. The avatars of virtual world users can move about and perform different tasks, depending upon the characteristics of a given virtual world. Two different environments are possible: open and less open. Open worlds allow the user to literally create and follow their own path, while avatars in less open environments must travel the path presented to them based on the choices they make inside the virtual world (Bartle, 2003). The more open environments are often referred to as *sandboxes* (an analogy related to the freedom of movement in the playground sandbox) while the less open are labeled *structured*.

There are three main categories of virtual worlds – social worlds, game worlds, and learning spaces. One distinguishing factor of social worlds and other virtual worlds is that in a social world, things continue to happen even when a member of the community is not present, whereas in a virtual game world, the avatar must be present for the passage of time to occur (Ducheneaut, Moore, & Nickell, 2004; Eladhari & Lindley, 2004). Avatars in social worlds have very few constraints and are able to move around at will. Nanopets, Club Penguin, and Barbie World are social worlds marketed

specifically to children, while Sims World and Second Life® provide virtual living spaces to a general audience.

Virtual game worlds allow avatars to compete in a world of fantasy, science fiction, sports, or even a virtual depiction of the real world. The most popular category of game worlds is the massively multiplayer online role-playing game (or MMORPGs), where large numbers of players are connected together in a shared gaming environment (Ang, Zaphiris, & Mahmood, 2007; Ducheneaut, Yee, Nickell, & Moore, 2006). Not only does the action in many of these virtual games take place in real time, players are also able to communicate with each other.

Virtual learning spaces allow for multiple users to access content and interact in an environment designed to facilitate learning. Most virtual learning environments are controlled by a course management system that allows students to communicate synchronously or asynchronously. Popular course management systems include Moodle, Sekai, Vista, and Desire2Learn, many of which require licensing fees.

Summary of Social Media Descriptors

Whether through the use of blogs and microblogs, group collaboration tools, content sharing, social networks, mobile social networks, or virtual worlds, the functions of social media are seemingly limited only by the user's imagination. 21st century teachers must be prepared to learn *with* 21st century students as they explore the benefits of social media for the development of 21st Century Skills such as collaboration, communication, creativity and innovation, and critical thinking and problem solving (Framework for 21st Century, 2004). This proposition requires a brief accounting of technology's history in the K-12 classroom followed by an exploration of

how social media tools can benefit the teaching and learning process in today's classrooms.

Technology Use in K-12 Classrooms

Technology in schools has changed greatly since the introduction of the first classroom microcomputer in 1977 and now includes much more than just PCs. Technologies in classrooms today include digital clickers, tablets, laptops, digital cameras, and interactive whiteboards. This section will present an overview of how technology use in the classroom has evolved and accompanying educational standards that can promote the use of technology—and social media in particular—in the classroom.

Evolution of Classroom Computing

Computer use in classrooms has gone through stages correlated with variations of behaviorist, cognitivist, and constructivist learning theories. For example, drill and practice programs and teacher-directed learning were each supported by the behaviorist theory (Niemiec & Walberg, 1987; Skinner, 1966). For its part, software like LOGO emerged as a result of Papert's views on constructionism and using computers for problem solving (Papert, 1980). Anchored instruction was a type of situated cognition explored by Bransford and the Cognition and Technology Group at Vanderbilt (1990). Hypermedia, which advanced views on the learner as producer, had its basis in Vygotsky's theory of constructivism (Chung and Yuen, 2003; Vygotsky, 1978). This development was followed closely by productivity tools and the concept of learning from computers supported by Jonassen's cognitive-constructivist theory of Mindtools (2000).

The most significant change in the use of technology in the classroom over the last decade is that learners are no longer passive users of technology. Web-based

social media tools encourage user socialization and collaboration (Behrstock-Sherratt & Coggshall, 2010; Hicks & Graber, 2010). Learners now embrace their new role as content creators rather than mere consumers of information (Halverson & Smith, 2009). This creation and exchange of user created content helps learners take ownership of their own learning (Kaplan & Haenlein, 2010). In addition, when this ownership happens, they become more empowered (Anderson, 2007). The use of social media provides a sense of empowerment to those who are collaborating, authoring, and sharing content across the Web (Lietsala & Sirkkunen, 2008; Nevalainen & Hannunen, 2009).

Teachers in the classroom were the lynchpin for each of the previous stages of computer use in the classroom. It was the individual teacher's educational philosophy that determined the types of computer interaction that transpired in that space. It was the teacher that made all the decisions pertaining to the types of activities that students would engage in for learning. In the digital age, however, classrooms have moved from a more teacher-centered approach to a student-centered approach that allows students to have more control over their own learning (Dunn & Rakes, 2010; Peters, 2010). The advent of online networked learning, for example, has seen the emergence of new ideas. One of the concepts currently being discussed is connectivism – the notion that knowledge is distributed across connected networks, and learning occurs during the construction and connection of those networks learning (Bell, 2009; Ravenscroft, 2011; Siemans, 2005).

Connectivism was introduced as a learning theory by George Siemens in 2005. While it has yet to garner widespread acceptance as a learning theory, the principles

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associated with connectivism provide educators and other instructional designers a way

of looking at the relationship between learning and social media. Understanding this

relationship may help deepen the understanding of ways in which informal learning

occurs. Siemens' major principles of connectivism are:

- Learning and knowledge rests in diversity of opinions

- Learning is a process of connecting specialized nodes or information sources.

- Learning may reside in non-human appliances

- Capacity to know more is more critical than what is currently known.

- Nurturing and maintaining connections is needed to facilitate continual learning.

- Ability to see connections between fields, ideas, and concepts is a core skill.

- Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities.

- Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality. While there is a right answer now, it may be wrong tomorrow due to alterations in the information climate affecting the decision (2005).

The *connectivism* of social media puts 21st century students in control of their own

learning and empowers them to make their own choices about what is important to their

learning.

Expectations for 21st Century Student Learning

Students are already using many forms of social media *outside* the classroom,

and state and national standards set an expectation for social media use *inside* the

classroom. As access to the Internet has grown in homes and schools, the capability

now exists for K-12 students to use social media ubiquitously. Since the expectations

for 21st century student learning reflect directly on what the 21st century teacher needs

to be able to plan for in the classroom, it is wise to look at requirements for student learning.

National Educational Technology Plan

Much of the current focus in education is being placed on the need for students to learn to use new technologies to engage in learning. The National Education Technology Plan (NETP), *Transforming American Education: Learning Powered by Technology* was designed by the United States Department of Education in 2010. The NETP draws attention to around-the-clock access students have to resources and information, their proficiency in creating and sharing content, and the ability to connect with others through the use of online social networks. According to the Executive Summary of the NETP, since this ubiquitous access to resources has become part of the new normal, the challenge for educators is to use the technologies to "create engaging, relevant, and personalized learning experiences for all learners that mirror students' daily lives and the reality of their future" (2010, p. 4).

National Educational Technology Standards for Students

Expectations for students' use of technology in the classroom are described in the *National Educational Technology Standards for Students* (NETS*S), developed by the International Society for Technology in Education (ISTE). The six categories of student standards are:

1. Creativity and innovation
2. Communication and collaboration
3. Research and information fluency
4. Critical thinking, problem solving, and decision making
5. Digital citizenship
6. Technology expectations and concepts

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The original NETS*S, published in 2000, focused on learning to use technologies but placed little emphasis on the thought processes that using those technologies required. In contrast, the 2007 update to the NETS*S, in drawing attention to the need for technologies such as social media, focuses too on the thought processes that enable students to create content, communicate, and collaborate with others.

Common Core State Standards Initiative

Other expectations for students are set forth in the *Common Core State Standards Initiative* (CCSSI). The CCSSI sets forth both Language Arts and Mathematics standards that emphasize the need to use social media in the classroom. The purpose of the CCSSI is to help all students receive a high-quality and consistent educational experience, no matter where in the United States they may attend school (Draft K12 Common, 2010). As of June 2011, all but six states had voluntarily adopted the Common Core State Standards. Much like the NETS*S, the CCSSI addresses the need for students to access resources and select the best technology to create and publish content, communicate ideas, and collaborate with others – not simply for students to know how to use the various forms of technology. If 21st century students are to achieve learning in line with the Common Core State Standards, their teachers will need to be prepared to plan authentic experiences in the classroom that will allow them to successfully meet and exceed the standards.

One of the expected impacts of the Common Core State Standards Initiative is to help colleges and professional development programs better prepare teachers to help students achieve these goals. Several common themes run throughout the NETP, the NETS, and the CCSSI. Not only does each set forth basic expectations for what 21st century students need in order to achieve success in the new digital age, but these

expectations make it clear that 21st century teachers are also responsible for engaging with the technologies to make a difference in their own learning, as well as with student learning. This means that teacher education programs must find ways to connect the use of social media to teaching and learning for 21st century teachers.

Expectations for 21st Century Teacher Education

With the explosion of social media over the last five years, it is important to look at how this new phenomena is impacting teacher education, including how educational standards and policies emphasize the need for teachers to incorporate social media in the classroom.

National Education Technology Plan

In examining the *National Education Technology Plan 2010* (NETP) earlier, we noted the ubiquitous access students have to resources and information. In addition to the focus on what students need to be able to do, the NETP emphasizes the need for teacher education programs that enable teachers to better understand how their daily teaching practices can be improved through the use of technology. This progress, the Plan argues, should come in the form of ensuring that educators have continual access to resources needed to help improve their teaching practices. Such resources include learning to use social media and social networks as well as creating their own communities of practice.

In February 2011, Karen Cator, Director of the Office of Educational Technology at the United States Department of Education, provided a video response to questions concerning student learning and the NETP. According to Cator, in order for classrooms to enable students to compete on the global stage, it is important for educators to learn to leverage the activities that students are involved with outside of school to help with

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accomplishments inside school. Cator suggests that this challenge should be addressed by encouraging educators to take advantage of the use of widespread mobile technologies, make better use of digital content, and help learning inside the school to become more powerful by using social networks for learning. Cator further stated that education in the 21st century needs to transition from a predominantly print-based classroom to a digital learning environment (Edutopia, 2011).

National Council for Accreditation of Teacher Education

The National Council for Accreditation of Teacher Education (NCATE) provides a framework that all colleges and universities with teacher preparation programs must meet in order to receive accreditation. The latest NCATE unit standards make it clear that teacher education candidates should be able to present content clearly to students – and be well equipped to integrate technology in the classroom (NCATE, 2008). Among the 22 national organizations that help develop standards for NCATE are the Association for Educational Communications and Technology (AECT) and the International Society for Technology in Education (ISTE). While the AECT contributes to standards for secondary computer education, elementary education programs rely on the National Educational Technology Standard from ISTE.

National Educational Technology Standards for Teachers

The National Educational Technology Standards not only describe expectations for students (via the NETS*S), they also lay out guidelines for teachers in the NETS*T. The NETS*T published in 2000 emphasized learning how to use the actual technology as a tool, while the 2008 updated NETS*T focused more on how emergent technologies, such as social media, can help with creating content, collaboration, and communicating with others. The five categories for teacher standards are:

1. Facilitate and inspire student learning and creativity.
2. Design and develop digital age learning experiences and assessments.
3. Model digital age work and learning.
4. Promote and model digital citizenship and responsibility.
5. Engage in professional growth and leadership.

A visual perspective of the combined NETS*S and NETS*T is depicted in Figure 2-1.
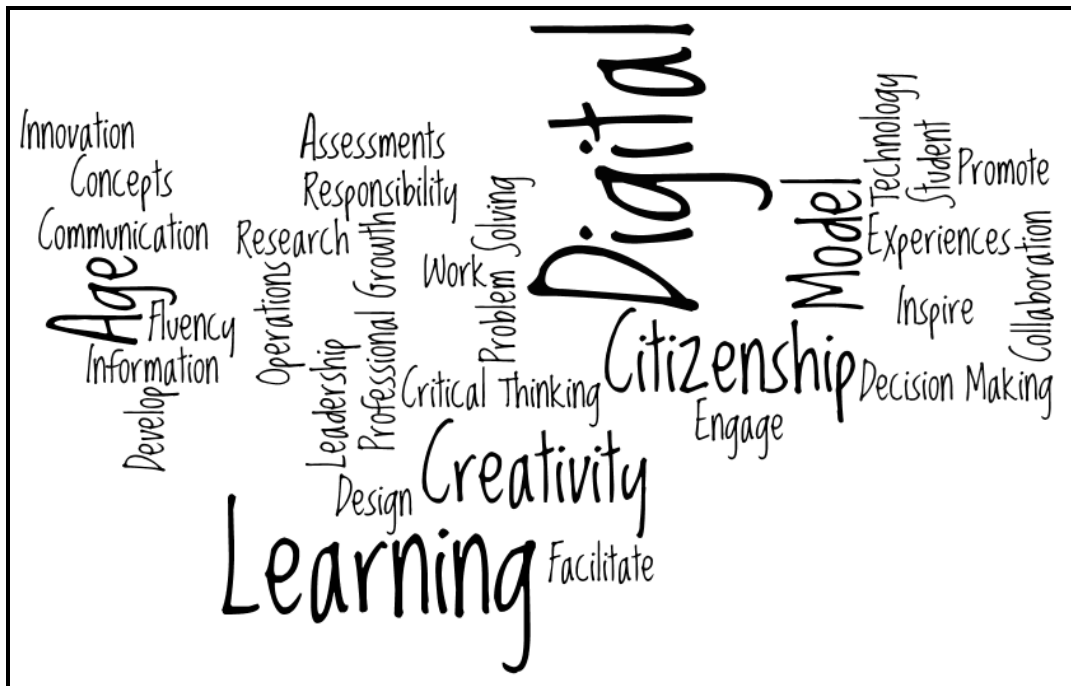
Figure 2-1. Keywords from NETS*S and NETS*T

When looking at the keywords from the two sets of technology standards, it is evident

that 21st century teachers will have their hands full. Not only will they need to be

equipped to meet the expectations for teachers, but they will also need to model

behaviors connected to the standards for 21st century students.

Having discussed different types of social media, and the need for 21st century

teachers to become versed in how to use them appropriately in the educational

environment, it is time to examine what is already known about how undergraduates are

using social media.

Preservice Teacher Learning

Educational technologists have long stressed the importance of integrating technology in the classroom for the purpose of enhancing student learning (Dede, 1996; Gardner, 2000; Jonassen, 1999; Tunison, 2002). As seen earlier, computing in the classroom has an established history, going back to the development of the first microcomputer in 1977 (Braun, 1981). Just as the types of technology available in the classroom have changed, so too must the focus of teaching and learning become more in sync with new technologies. If 21st century teachers are going to be able to harness the power of social media in order to benefit student learning, they must learn how to use it effectively.

Research indicates that intervening in preservice teachers' educational training has shown promising results for influencing teachers' use of technology in the classroom (Ertmer, 2003; Grabe, 2001; Roblyer, 2003). 21st century teachers need to gain insight into how technology can be used as a potent cognitive tool to help students understand and manage the information that is presented to them (Tunison, 2002). In addition, the attitude of the classroom teacher toward technology can positively or negatively affect the experiences their students have with technology (Bai & Ertmer, 2009; Ertmer, Addison, Lane, Ross, & Wood, 1999; Judson, 2006.) Educational researchers have also discovered that most teachers are going to teach the way they themselves were taught (Metros, 2008; Czerniak & Lumke, 1996; Borko & Mayfield, 1996; Willcoxson, 1998). Since many of these teacher attitudes are developed through personal experience with technology, either as a student or a teacher (Albion & Ertmer, 2002), it is important to provide opportunities for positive experiences with social media in relation to teacher education courses.

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There have been several studies conducted on how and where learning takes place that confirm the benefits of informal learning (Bull et al., 2009; Gerber, Cavallo, & Marak, 2001; Greenhow et al., 2009; Selwyn, 2007). Informal learning, or any learning that takes place outside of the structured learning environment, occurs whenever a student encounters a real problem in an authentic setting (Kuh, 1993; Madge, Meek, Wellens, & Hooley, 2009). According to Lave (1988), some teachers are so insistent that students must solve a problem in one specific way that students have actually created faux examples of their work so that their teacher would think they did it the way they had been instructed in the formal learning environment. 21st century teacher and students must be prepared to embrace learning in both formal and informal settings.

Undergraduate Students' Use of Technology

Up to this point, I have described different forms of social media, how K-12 computer use has evolved, and expectations for 21st century students and teachers. The focus now turns to the ways in which undergraduate students are engaging with social media.

Informal use of social media

Additional studies of classroom instruction incorporating the use of social media indicate that they have the potential to help transform a shift in the teaching and learning process. The 2008 ECAR study made the bold claim that students have already integrated social networking sites into their academic lives, using it as a "tool for communicating with classmates about course-related topics, coordinating study groups, and collaborating on assignments" (Salaway, Caruso, Nelson, & Ellison, 2008).

The growing popularity of social media and digital technologies has given rise to a number of studies conducted by private media or research firms. A 2009 examination

of social networking use by Lenhart indicated that, of the teens and young adults on social networking sites,

- 83% added comments to friends' pictures
- 77% posted public comments to friends' pages
- 71% sent private messages to friends
- 66% commented on friends' blogs
- 54% participated in instant messaging or chat features

Not only is young adult ownership of mobile devices increasing rapidly, but ownership of multiple devices is also on the rise. The Pew Research Center's 2012 *Report on the State of the News Media* found a record number of young adults with mobile devices. Based on a comparison of surveys conducted in November 2011 and May 2012, the report stated that while desktop and laptop ownership had remained stable, smartphone ownership increased from 35% to 44% and tablet ownership almost doubled, going from 11% to 18%. The most significant finding concerned the number of owners with more than one mobile device. Results indicated that 52% of all laptop owners also owned smartphones, 33% owned tablets, and 13% of the laptop owners owned all three devices. In addition, over 17% of the smartphone owners included in the survey used their smartphone as the primary device for Internet browsing.

While the above studies provide insight on social media habits of young adults, it is important to note that they draw from the complete population of young adults, not just undergraduates. On the other hand, the 2012 ECAR Annual Study of Undergraduate Students and Information Technology was administered on over 195 campuses and resulted in responses from over 100,000 undergraduates. Information gathered from students revealed:

- 62% own smartphones

- 37% use smartphones for academic purposes
- 70% use e-books
- 15% own a tablet device; 67% use it for academic purposes
- 12% own a digital e-reader; 47% use it for academic purposes

In addition, the 2012 ECAR study found that 58% of the students prefer to keep their academic and social lives separate and therefore use social media more for connecting with friends than for academic purposes. While they text, instant message, and chat online with their friends, they prefer email for communicating with their instructors. The 2012 study also specified students' preferred method of interaction with instructors:

- 28% - instant messaging or online chat
- 27% - text messaging
- 24% - Internet-based phone or video
- 21% - Course Management System (such as Moodle)
- 20% - social studying sites

Another notable result of the study was that 87% of the undergraduates surveyed – even those enrolled in online classes – considered face-to-face interaction with the instructor as either very important or extremely important. The Pew Research studies provide data gathered from the mainstream population and the ECAR studies provide information applicable to undergraduates. Although the target population for the current research project is encompassed within these larger studies, the need remains to find research that looks specifically at elementary preservice teachers and how they engage with social media informally.

Formal use of social media in higher education

Facebook, wikis, mobile technologies, Second Life®, Twitter, and even MMORPGs have steadily found their way into the higher education classrooms during the last few years. There are limited numbers of studies specifically involving

preservice teachers' use of social media technologies in formal learning settings, and even fewer that examine the impact of social media on informal learning.

Blogs and microblogs

Blogs were first introduced into teacher education classrooms in 2003 (Kajder & Bull, 2004). Requiring a low level of technological prowess, blogs have been used by teacher educators to encourage preservice students to become reflective, to increase writing skills, and as a form of assessment (Chan & Ridgway, 2005; Shabb, Stonehouse, Smart, & Gourneau, 2009; West, Wright, Gabbitas, & Graham, 2006; Yang, 2009). While once seen as an innovative approach to bringing technology into the higher education classroom, blogs have so oversaturated the classroom that, in a poll asking undergraduates what one technology they wished their instructors used more often, only 7% responded that they wanted more blogs – while the majority of respondents indicated blogs were overused in the classroom. This finding fits with results from the 2010 Pew Internet Study showing that blog use by those between 18-29 years of age actually decreased (drastically) between 2006 and 2009 (Lenhart et al., 2010).

Elsewhere, microblogging through the use of Twitter was used in a class for pre-Health Professional majors as a way of engaging students. One of the reasons cited for selecting Twitter instead of Facebook was that it allowed the convenience of ongoing dialogue away from the classroom, thereby maximizing instructional time. Research into the experience indicated that students were engaged in ways that were meaningful for their educational and psychosocial development. In addition, the increased motivation and sense of community led to improved grades (Junco, Heibergert, & Loken, 2010).

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Collaborative learning sites

Wikis have been used in teacher education classrooms to aid preservice teachers with language acquisition, increase their understanding of instructional approaches to the teaching of reading, and to promote student reflection (Kessler, 2005; Solvie, 2008; West, Wright, & Graham, 2005). In one study, wikis were used with preservice teachers at a Mexican University who were experiencing language difficulties. Although the object of collaboratively using the wiki was to allow students to engage with each other and practice their grammar, students were seen to spend more time focusing on the form of their wiki than the content (Kessler, 2005). One classroom activity that focused on helping elementary preservice teachers understand instructional approaches to the teaching of reading through the use of a wiki took into account individual learning styles. Student recognition of the use of wikis in the construction of knowledge was one result of the study. In addition, the preservice teachers realized that scaffolding was necessary in order to assist students in using the wiki for the construction of their knowledge (Solvie, 2008).

Social bookmarking is another form of collaborative projects undertaken with social media in the preservice teacher classroom. As part of an ongoing classroom assignment, preservice teachers were instructed to add bookmarks to their account, using pre-determined categories, over the span of ten weeks. During this time, the instructor noted that although the number of logins to the bookmarking site increased the day before class met, the total number of logins decreased weekly (Abbitt, 2009). One possible reason for the decrease could be attributed to the fact that preservice teachers were not allowed to select their own categories and thus did not claim ownership of the bookmarks they were submitting.

Social networking

Meanwhile, several studies have been conducted on the use of Facebook as a component of the classroom, each with similar results. In settings where students used Facebook as an assigned activity for class, they reported an increase in their confidence level, more motivation to participate, and a positive attitude toward sharing information. They also mentioned that the use of Facebook helped to create a less restrictive learning environment (Hoban, Loughran, & Nielsen, 2011; Lin, 2011; Roblyer et al., 2010; Warschauer, 2009). When teachers and students involved in a Spanish language project using Facebook were questioned about what could be done differently, they recognized the need to make more use of the multimedia options that are now part of the Facebook platform (Terantino & Graf, 2012).

Content sharing

Podcasting and digital video have also been seen to engage learners in higher education classrooms. However, the majority of research conducted on the use of podcasts in the classroom indicates that instructors have not taken advantage of the medium's social media characteristics, such as student creativity and collaboration. Rather, these studies found that podcasts are more often used as an alternative form of delivery for traditional classroom lectures (Lonn and Teasley, 2009; Walls, Kucsera, et al, 2012). Other research has delved into the use of student-created video in the classroom. Results of these studies indicate that students viewed the assignments as meaningful, were more engaged in learning, and perceived that learning as a deeper experience (Gehringer & Miller, 2009; Greene & Crespi, 2012), confirming the participatory nature of the experience.

Virtual worlds

Few studies exist that sought to engage preservice teachers in learning through non-instructional virtual worlds. The virtual world Second Life® was used with first year preservice teachers in Australia to gain insight into the use of virtual worlds for learning. Preservice teachers were engaged in face-to-face learning for one module of a workshop and then participated in learning through the virtual world for an additional module. Course designers prepared the virtual world environment with a classroom, playground, library, and other spaces related to school settings. Students were observed in both learning situations and were requested to complete a survey following each. Responses regarding learning and engagement were similar for each setting. However, due to the perceived level of difficulty navigating in the virtual world, investigators determined that more scaffolding was needed in how to travel through the virtual world setting (Gregory & Masters, 2010).

Summary of formal learning studies

Many of the examples of social media used in formal classroom experiences cited the use of different tools for doing previously existing types of traditional activities. For example, the use of blogs for reflection simply transferred student journaling to the computer. Also, the way students contributed bookmarks to categories already defined by the instructor, and yet didn't take advantage of the ability to access the account from multiple locations at multiple times, turned the assignment into the mere creation of an online database. Using social media tools in these ways negate the collaborative components that are strengths of social media.

Although using wikis for language acquisition had the potential to provide students with a unique way to engage in learning, a student focus on form instead of

content weakened student engagement. The use of Second Life® as a virtual classroom prevented some learners from engaging with the content due to their lack of familiarity with the use of avatars in the virtual world. Each of these ideas held the promise of transforming the learning experience for students and instructors. Unfortunately, the lack of experience with the social media and the lack of scaffolding in the new environment prevented the assignments from becoming as powerful as once thought.

The sharing of digital video increased in power when students were allowed to create and collaborate together. The classroom infusion of the use of Facebook as a learning tool helped to meet students' desires for meaningful learning in part because of the amount of motivation learners felt to visit with others on the social network. However, the main success of the project was due to the fact that they became engaged in the learning experience. This engagement was attributable to student familiarity with the learning environment as well as the fact that it presented them with the opportunity to continue their learning outside of the classroom environment by become engaged in dialogue through Facebook. Social media helps to support student engagement in learning if the activity is designed correctly. As with any activity brought into the classroom, the instructor must make sure that the capabilities of the tools match with the goals of the assignment. These examples of formal learning and how students were motivated to continue using the tools for communication and collaboration outside of the classroom also serve to confirm the need for studies of preservice teachers informal use of social media.

Conclusion

Not only do students desire continual access to each other, they are also beginning to demand the same from their instructors. On the other side of the spectrum, they continue to take advantage of social networks for personal use, but they still claim to want to keep their academic lives separate. As these lives grow closer together, however, student engagement in informal settings will continue to be aided by social media.

The exploration of different forms of social media, computer use in K-12 classrooms, and expectations for 21st century students and teachers provide a basis for further examination of preservice teachers' formal and informal use of social media. Further, the lack of studies specifically highlighting preservice teachers' informal use of social media to engage in learning further establishes the need for the current study that asks elementary preservice teachers to describe their use of social media.

CHAPTER 3
DESIGN OF THE STUDY

This purpose of this study was to find out how elementary preservice teachers describe their use of social media – of significance because of the expectation for teachers to use social media in their classrooms and the need for teacher education programs to help equip them to do so. By learning how preservice teachers are already using social media and for what purposes, this study will help contribute to the ongoing dialogue surrounding the use of social media in the classroom.

This chapter will look first at the pilot study and the lessons learned that contributed to the design of the present research. A review of the pilot study is followed by an examination of the current study, including the theoretical perspective, context, participants, and the methods of data collection and analysis. This first portion is followed by a discussion of the validity and reliability of the study, and concludes with a look at potential limitations and ethical considerations associated with the study.

Description of Pilot Study

This section describes how the Pilot Study was conducted and the participants that were involved followed by a discussion of the results obtained. It concludes with a look at the lessons learned from the pilot and how those lessons influenced the present study's overall design.

Purpose and Design of Pilot Study

During the semester prior to the start of the current research study, a pilot study was conducted with 18 elementary preservice teachers enrolled in a technology integration course at a large public university in the southeastern United States. The question posed for the pilot study was "How are elementary preservice teachers using

social media in and out of the college classroom?" During the span of two days, students were asked to respond to hourly text message prompts that asked if they were using social media, what they were using, and their purpose for using it. There were a total of 864 text messages sent to the students involved in the study. Due to constraints associated with text messaging plans, and my desire to not eliminate anyone from participating, two students chose to participate by email.

I used Gmail and the email scheduling program Boomerang to send messages and organize responses. Using Gmail enabled me to create folders for each student and set up filters so that received messages would go directly into that folder without cluttering up the Inbox. This design simplified the process of recording information for each individual student and allowed the creation of a complete archive of data.

Results of Pilot Study

While students were encouraged to give detailed descriptions about what they were doing, fewer than 10 percent of responses were longer than one word. Of the 864 total inquiries sent, there were 533 total responses received. The number of responses from any given individual ranged from as few as 23 to as many as 49, but the number of responses that indicated any use of social media at the time they received the message ranged from 3 to 13, for a total of 103 confirmations that various social media were being used. Fifty of the 103 responses indicated that the student was on Facebook, and another 39 responses indicated the use of either Pinterest or Twitter. Only 14 of the 103 responses weren't linked to one of these three applications.

Lessons Learned from the Pilot Study

The lessons gleaned from the pilot study greatly informed the design of the full research study. First, it was encouraging that over 60% of the inquiries received a

response. Although 80% of the responses received were counted as empty data sets, the technologies being used were in fact working as expected. For example, each participant was asked for their cell phone number and the name of their mobile provider to ensure that email messages could be sent as a text message. When emails were received via cell phone as a text message, students simply had to reply as they normally would when texting.

Aside from the positive outcomes yielded by the pilot, there were several results that served to reshape my approach to the full study. One of the most disappointing results was the lack of detailed information in the text responses. In order for a qualitative study to be able to tell a story, there needs to be a sufficient supply of data from which to interpret. However, the short one- or two-word responses prevented the formulation of a narrative to explain why students were doing what they were doing with social media. In the end, three lessons presented themselves:

1. Study participants needed to understand the value of their participation in the study.
2. The need for detailed explanations was mission-critical.
3. There needed to be way to gather more information than text-messaging itself could provide.

Since the aim was to get a sense of what participants were doing with social media in context (i.e., while they were using it), I still regarded the hourly text messages as an optimal way of acquiring this information. However, to gather enough descriptive data to inform a qualitative narrative, I needed a way to ask questions about some of the student responses. The addition of an interview component to the design of the research study seemed to address this concern.

How the Design of the Current Study Evolved

Good research, whether it is quantitative or qualitative, starts with a plan for discovering information. The design of this plan is governed by the ontology of what can be defined as truth, or reality, for the researcher conducting the study. The knowing of this truth and how meaning is made are referred to as the epistemological stance. Those who approach research from an objective perspective believe that there is an absolute truth and meaning and that this truth is the same for everyone. For the most part, researchers will use a quantitative approach to analysis. Qualitative researchers, on the other hand, see truth as something that is malleable and changes with each individual. The two epistemological stances most often associated with qualitative research are constructionism and subjectivism. In constructionism, truth is dependent upon how each individual constructs meaning with the unique phenomena they are confronted with. For subjectivism, an individual assigns meaning to an object, rather than create meaning with an object.

This study design followed the suggested guidelines of Michael Crotty as described in the 1998 edition of *The Foundations of Social Research*. He presents four questions as the basis of any type of research, be it is qualitative or quantitative:

- What methods are proposed for use?
- What methodology governs the choice and use of methods?
- What theoretical perspective lies behind the methodology in question?
- What epistemology informs this theoretical perspective?

Finding the Appropriate Epistemological Stance

The goal of this study is to find out how elementary preservice teachers describe their use of social media, so constructionism will be the epistemological stance that guides this study as it is best suited to help determine how the stories are told. Each

individual will have the opportunity to tell their own story about different types of social media and how they interact with them. These individual descriptions will include information about how the social media came to have a specific meaning for them, not just what the meaning is.

From a Theoretical Perspective of Constructivism

A theoretical perspective of constructivism asserts that there is no absolute meaning or truth and that each person will construct their own meanings in different ways, based upon his or her background and previous interactions with the object. Meaning depends on what the person is thinking about it and what their experience with the object has been. I heard a story several years ago about the use of the word "coffee" and how it could be perceived. If someone said "I spilled the coffee on the floor, could you please help me clean it up?" what would a bystander use to help clean it up? If they thought the coffee had already been brewed, they would choose a mop or sponge or something that would absorb liquid. If their perception was that the grounds had spilled onto the floor, they would conclude that a brush and dust pan was called for. However, if they thought it was a barrel of coffee beans that had spilled, they would take a shovel with them to complete the task. This is why a person's perception matters! The varying experiences of each person cause the meaning-making process to be different for each of us. According to Crotty, constructivism is focused on "the meaning-making activity of the individual" (1998, p. 58). Reality changes for each individual and there is no truth except the one that is created by each person at a given moment. In other words, meaning or truth only exists when it is acted upon by an individual.

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Early beginnings of constructivism

The basic tenets of constructivism were first introduced by Giambattista Vico in 1710 (Miner, 1998; Kang, Choi & Chang, 2007). In his 1710 treatise, *De antiquissima Italorum sapientia* (On the Ancient Wisdom of the Italians), Vico argued that "the human mind can only know what the human mind has made" (in Simpson, 2001). This writing, along with his *Scienza Nuova* in 1725, was a response to the Cartesian idea that all truth was discovered through observation. For Vico, it was important to note that truth depended upon the self. Kant and Marx followed Vico's criticism of Descartes by also arguing that truth could not be taught, but must be constructed. Kant took it further than Vico and placed the emphasis on the cognitive structures with which a given person was born. In addition, the Kantian form of constructivism purports that individuals must come to some agreement based on what are seen as rational and reasonable principles (Rawls, 1980).

Modern era constructivism

Jean Piaget is widely considered to be the leader of the modern constructivist movement. According to him, all learning is based upon experience. Piaget is most noted for his "stages of development," yet it is his study of cognitive development that has most influenced constructivism. It is important to note that for Piaget, cognitive constructivism is a learning theory and not a teaching theory. There are other scholars who relate constructivism to teaching, and more specifically to a hands-on approach to teaching. However, according to Piaget, it doesn't matter how the teaching is shaped; what is important is that the learner is making sense of things on his or her own, based upon his or her own previous, personal experiences (Piaget, 1962).

The work of von Glasersfeld closely follows Piaget's theory and is more widely known as radical constructivism. With von Glasersfeld, knowledge is still constructed by the individual, but reality lies within, not outside of, each individual. According to David Jonassen, a prominent figure in educational technology and constructivism, "we all conceive of the external reality somewhat differently, based on our unique set of experiences with the world and our beliefs about them" (2000, p. 10). His belief that learning must be situated in authentic tasks is applied to the use of technology in learning, and more directly, to instructional design.

Piaget uses the terms *assimilation* and *accommodation* to describe how the learner makes sense of new experiences in a cognitive fashion. Piaget's theories on assimilation and accommodation were based upon his personal observation of his own children. When a person encounters new objects and tries to make them fit into their own environment based upon pre-existing interactions with other objects, this is called assimilation. On the other hand, when a person attempts to change their environment to encompass the new object, Piaget considered it accommodation. The experiences a person has is what enable him or her to create mental models, or schemas. The schemas of each individual are subject to changing, growing, and even becoming more complex structures based upon how a person processes information within that schema. For Piaget, constructivism is less of an instructional strategy and more about how meaning is made by the individual. In this way, it allows the focus of the research to be on each individual's unique description. It doesn't matter what someone tells them about social media, what matters is what they discover about it and how they make sense of it for themselves. Therefore, the use of a constructivist theoretical perspective

helps provide the perfect setting for discovering what the use of social media is like for each individual.

Study Participants

Determining Type of Sample Needed

Since one of the goals of qualitative inquiry is to provide a rich narrative description, participant selection differs from that of quantitative research studies that require a larger audience and a broader scope. Therefore, recruitment of study participants took the form of purposeful sampling. A purposeful sample was used to ensure that study participants would be able to provide rich information related to the topic that would help tell their stories. This approach is in agreement with Bernard's observation that "in judgment sampling, you decide the purpose you want informants to serve, and you go out and find some" (2000, p. 176).

According to Patton (1990), there are fifteen different types of purposeful sampling methods that can be useful in selecting which population to study. In this criterion sample, specifying that the participants would be elementary preservice teachers also cast it as a homogenous purposeful sample. It was homogenous because it was not merely people who were using social media and university students who were engaged with social media, but also the distinct population of elementary preservice teachers. This layering helped ensure that the participants had personal experience with social media. Therefore, part of the criteria for selection was that the students must have completed two technology courses required for elementary teacher education majors. The first class was a skills-based course and the second focused on technology integration in the elementary classroom. Both curricula included social media components. Since they had all completed the required technology courses, it could be

safely assumed that they had experience with a variety of social media resources. Another important criterion for participant selection was the regular use of social media, whether it was for formal or informal use.

Recruitment Procedures

A recruitment email was sent to 189 students, 187 females and 2 males, who had completed both courses and were still enrolled in the elementary education program. (See Appendix A for a copy of the recruitment email.) Out of these, 16 students expressed interest in participating in the study and were sent a brief survey asking about the types of social media they regularly used. Once the surveys were completed and returned, the information was compiled and ten elementary preservice teachers were identified as part of the purposeful sample based on their self-reported use of multiple social media tools.

Participants identified as part of the purposeful sample were sent invitations to an informational meeting by way of an online scheduling program. By virtue of the fact that the online program allowed each participant to see other responses and reply to them, the scheduling program was also a form of social media. The purpose of the meeting was to clarify the expectation of responsibilities during their participation in the study. (See Appendix B for a copy of the meeting agenda.) At the meeting, the informed consent, as well as the purpose, design, and anticipated timeline of the study were explained presented. In addition, the need for them to give detailed responses (the key shortcoming of the pilot) was stressed as being critical to the success of the study. The process of selecting key informants for the interviews was described. Finally, the study participants learned that each of them would receive a $30 Amazon gift card after all of the interviews were completed. In addition, they were told that the receipt of the gift card

would not be dependent on whether or not they were selected for an interview as a key informant.

Participants were given the opportunity to ask questions during the meeting. One attendee wanted to know what sorts of things might or might not be viewed as social media. In response, students were encouraged to include anything in their text message responses that they considered as social media. I explained that since this was a constructivist study that relied on their own description of what they believed to be social media, it was important that they understood that there was no right or wrong answer. They were encouraged to give detailed information about what they thought and not worry about whether someone else was using the same definition as they were. From this information session, the eight participants who continued to express an interest in participating in the study were selected.

Description of Participants

The study sample was comprised of elementary education students in the final phase of their studies at a large university in the southeastern United States. These teacher education students enter the five-year Elementary PROfessional TEACHer program during their junior year at the university. This program is designed so that students can complete both a Bachelor's and a Master's degree. Students who do not wish to pursue the Master's can graduate with their Bachelor's (but no certification) or they may separately complete the certification program as post-baccalaureate students. During the fourth year of their studies, each elementary education major is placed in a pre-internship which involves co-teaching with another student for 16 hours a week for one semester. Students who continue into the Master's program spend one semester

enrolled in a full-time internship. Both the pre-internship and the internship placements are in the classroom of a certified elementary teacher.

There were eight participants enrolled in the study, seven females and one male. All students in the sample population indicated that they used between four and eleven different types of social media tools. Each participant was between the ages of 21 and 24 and seven of them were pursuing their Master of Arts in Education, leading to certification. The eighth student was scheduled to graduate at the end of the semester in which the study was conducted with a Bachelor of Arts in Education and was not planning to pursue her Master's degree. Each of the participants had been at the same university for their entire undergraduate career. In addition to the one student leaving the program after receiving her Bachelor of Arts in Education, there were two students graduating with their Master's degree at the end of the semester in which the study was conducted, two scheduled to graduate with their Master's degree at the end of the following semester, and three students who were just beginning their graduate level studies.

Data Collection

I employed several complementary ways of gathering information from the study participants about their use of social media. First, they all completed a short survey at the beginning of the study listing the types of social media they considered themselves to be using. Next, a variation of the Experience Sampling Method (Csikszentmihaly & Hunter, 2003) was used to solicit real-time information through the use of text messages. The text messages were analyzed and the results of the analysis were used to help identify the key informants. Finally, those study participants identified as key informants were invited to participate in a semi-structured interview designed to provide

deeper insight to specific uses of social media that were reported during the real-time collection of data. I will now turn my attention toward describing each of these methods in detail.

Introductory Survey

In order to make sure that participants were actually using different types of social media, the first method took the form of a survey seeking information about the types of social media they thought they were using on a regular basis. An open-ended survey was utilized in order to refrain from limiting student responses. The results of the survey were used to ensure that several different types of social media would be included.

The Experience Sampling Method

The data from the real-time use of text messages was collected across a period of two weeks using a variation of the Experience Sampling Method (ESM). This method provided a systematic way to collect information about what the participants were doing with social media at a specific time, as well as information about their intended purpose. The ESM was originally created as a way to measure emotions, specifically happiness, at various times of the day (Csikszentmihalyi et al.,1977; Csikszentmihalyi and Schneider, 2001; Kubey et al., 1996). Since then, the ESM has evolved as a way for qualitative researchers to collect data about both content and context in different disciplines (Koro-Ljungberg, Bussing, Williamson & M'Cormack-Hale, 2008). The main characteristic of ESM is that it is a vehicle through which information can be collected as events occur in everyday lived experience (Christensen, Barrett, Bliss-Moreau, Lebo & Kaschub, 2003).

The Experience Sampling Method has traditionally used electronic devices, such as beepers, to signal participants when a response was needed, thus providing a way for participants to be involved in the data gathering. In addition, it removes the potential pitfalls of relying on memory during data collection by way of interviews. The present study made use of a combination of text messaging and email. When participants were initially solicited, they were asked if they had an unlimited text messaging plan. If they did not have such a plan, they would have been reimbursed for the incurred cost. (As it turned out, all participants had unlimited texting.) Participants were asked to leave their phones on throughout the active daily periods of the study, but were encouraged to make use of the vibration function when they were in quiet settings or group settings.

Recognizing that college students don't all maintain the same sleep, work, or study schedules, I decided to send text messages every hour as a checkpoint for their social media use. Based on this information, email requests were set up in advance to send text messages to participants' cell phones every hour. The reason for setting up the times in advance was to ensure that requests would be consistent for all participants. Based on lessons drawn from the Pilot Study (in which there was very little social media use noted), participants were asked about their use of social media not only at the time they received the text message, but also within the past 15 minutes prior to receiving the text. The inquiry texts asked participants to respond to three prompts based upon the time of the text message: a) Were they using a form of social media? b) If so, what social media tool were they using? and c) What were they doing with social media? Specific examples of the inquiry texts sent to students included:

- If you are using social media now, or have been using it during the last 15 minutes, tell me what social media tool you are using. What are you doing? Was

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it required for a class? If you aren't using social media now, simply respond with "no." Thanks so much!

- What have you done with social media lately? Please tell me about it. Thanks!

During the collection of text message responses, a log was created to show which messages received responses from which participants, as well as what the responses were (See Appendix C for a copy of the response log). Due to the auto-correct feature of most cell phone messaging programs, I sent each participant a copy of their log sheet weekly to make sure that the information I received was what they intended and followed it up with a phone call. (See Appendix D for a copy of the phone call protocol.)

Key Informant Selection for Semi-structured Interviews

As discussed earlier, the use of the ESM seeks information about participants' use of social media within the actual context of use. One of the main uses of the text messages was to help identify key informants to engage in personal interviews. According to Marshall, "key informants, as a result of their personal skills, or position within a society, are able to provide more information and a deeper insight into what is going on around them" (1996, p. 92). As described by Tremblay (1957), there are five criteria to be used in the selection of key informants:

- Role in the community – is the informant exposed to the kind of information being sought?

- Knowledge – in addition to being exposed to the information, has the informant been able to make meaning from it?

- Willingness – is the informant willing to share information and cooperate with the researcher?

- Communicability – can the informant clearly communicate in terms the researcher can understand?

- Impartiality – is the informant free from personal bias, and if bias is present, is it acknowledged to the researcher?

Once all of the text messaging data had been logged, four key informants were identified and each one was invited to an individual semi-structured interview (See Appendix E for a copy of the semi-structured interview questions). The semi-structured interviews were based on Kvale and Brinkmann's assertion that interviews are not formulaic, and that the most important component of any interview is listening (2008). Each in-depth interview was based on information received from text messages and the desire of the researcher to learn more about the story that began to emerge from each participant.

Descriptions of key informants

Of the eight subjects who participated in both the introductory training session and the text messaging portion of data collection, four were identified as key informants and selected for individual interviews. The key informants were selected based upon their self-reported use of social media in the text messages, their availability, and their ability to articulate what they were doing. The participants selected for individual interviews were Cassie, Heather, Yazmin, and Laura.

Cassie

During the semester of data collection, Cassie was a 23-year-old Master of Education student scheduled to graduate at the end of the upcoming semester. She had been enrolled at the same university for all five years of her coursework, and was beginning to send out job applications. Cassie was specializing in interdisciplinary studies and had already completed her internship in an elementary classroom. She was currently enrolled in three online courses using Moodle as the Course Management System, and was scheduled to take three traditional courses during the following semester. In addition to the fact that her text messages contained a great deal of

information, Cassie was selected as a key informant because of the in-depth ways she used social media.

Heather

Heather had already completed all of the coursework required for graduation and was involved in her full-time internship in a mixed kindergarten, first, and second grade classroom. She was also preparing for her wedding and the possibility of moving to another state due to her fiancé's job. Heather had been enrolled at the university for all five years and had served as a student officer of the College of Education Council during part of that time. Heather's text messages were consistent during the text messaging portion of the data collection. Her unusual experiences, as well as her ability to give complete and informative answers, were a major factor in her selection as a key informant.

Yazmin

Although Yazmin was going through the College of Education as an Elementary Education major, her main interest was in Special Education. In fact, during the time of the study, she was completing her full-time internship in a secondary special education classroom. Prior to attending the university, Yazmin was a dual-enrollment student at her local community college during high school and returned to the same community college each summer to complete the courses needed for her math requirement. Yazmin was scheduled to graduate at the end of the semester, was planning her wedding, and applying for teaching jobs. Her selection as a key informant was based on her personal involvement with blogging and the many different times it was mentioned in her text message responses.

Laura

      Of the four participants identified as key informants, Laura was the only who had not yet had any experience with a full-time internship. Laura was a 22-year-old senior scheduled to graduate with her Bachelor's degree at the end of the semester. Although she had been at the university for all four years of her studies, she was preparing to return home to live with her parents during her year-long internship. The difference in where she was in the program, along with the variety of social media tools she described using in her text messages, were contributing factors to Laura's selection as a key informant.

Data Analysis Approaches

      Data analysis was ongoing, beginning with the first stage of data collection. Stage one involved the analysis of the introductory survey. During the second stage, I conducted a content analysis of the text messages received. The stage three analysis was based on the Zoom Model of Barbara Pamphilon (1999). Each methodology used allowed me to look at different data in different ways.

Content Analysis

      The use of content analysis as a methodology has been primarily utilized as a tool in quantitative research, but has more recently been embraced by members of the qualitative community (Zhang & Wildemuth, 2009). In quantitative research, content analysis is used to test specific theories or hypotheses that the researcher has proposed; whereas in qualitative research, content analysis is fully grounded in the topics and themes that may emerge from the data. The use of content analysis allowed me to identify common themes and then to use those themes to help construct a rich

description (Denzin & Lincoln, 2000; Geertz, 1973) of preservice teachers' use of social media.

There are several different methods of content analysis recommended for use in qualitative research (Hsieh & Shannon, 2006; Morgan, 1993; Neuendorf, 2002; White & Marsh, 2006). In order to search for recurring themes and patterns of use, a summative content analysis (Hsieh & Shannon, 2005) of the text message log was conducted. A summative content analysis draws thematic information from the data in order to develop a coding schematic and to help form a more complete picture of the participants' use of social media. The summative content analysis allowed me to engage in counting the number of times specific themes occurred to gain an idea of how often specific types of social media were being used (and for what reasons) and to examine patterns across texts from individuals. In addition to allowing me as the researcher to uncover the various meanings behind the text messages, the use of a summative content analysis also allowed me to develop interpretations of patterns that began to emerge from the data.

A summative content analysis begins just as any other content analysis – with the definition of categories, an outline of the coding process and coder training, implementing the coding process, and then determining trustworthiness – prior to analyzing the results of the coding process (Kaid, 1989). The differences in approach for the summative content analysis are evident in how the keywords are selected. The keywords are determined prior to examining the data and are determined by the researcher. Different keywords may be added by the researcher during the study based

on other themes that may emerge (Hsieh & Shannon, 2005). See Figure 3-1 for an

outline of the summative content analysis approach.
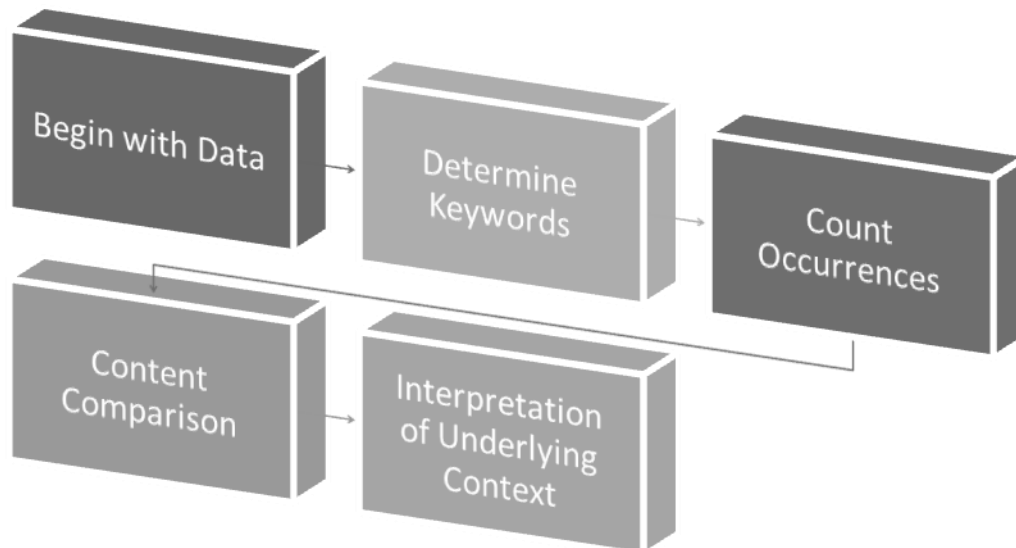
Figure 3-1. Summative approach to qualitative content analysis

Zoom Model

Barbara Pamphilon's Zoom Model was also used for data analysis. The use of

this method allowed the researcher to see the life stories from varied perspectives.

Pamphilon used the analogy of a camera lens to illustrate her use of the Zoom Model

(1999). If you are looking through a camera lens at a colorful pattern, you may not be

able to identify it until the camera zooms out and you recognize you have been looking

at a beautiful monarch butterfly. The beauty you see may then be skewed if the camera

zooms out even more and you see that the butterfly is attracted by the smell of a piece

of rotting fruit that is lying on the ground. This perspective could then change again into

a breathtaking view if you zoom out even more and are surrounded by the beauty of a

fruit orchard with trees full of colorful fruit. The use of the Zoom Model allows the story

to be told from multiple perspectives: macro-zoom, meso-zoom, micro-zoom, and interactional zoom.

The macro-zoom level takes into account the types of dominant discourses, narrative forms, and cohort effect that may be present in the telling of a person's story. The dominant discourse looks at who they view themselves as at any given point of their story. Keeping in mind that this study is looking at descriptions of social media, this view can be ever-changing. The narrative form examined in the macro zoom level looks at how this view of self fits into society as a whole. To take it even further, the cohort effect looks at changes that occur as a result of where they are in life, and the changes that are happening both around and within them.

The meso-zoom lens looks more at the structure of the story; the narrative process, narrative themes, and key phrases. Does the narrative process of their story flow, or do they get stuck in the telling of it? The narrative themes may be shaped by how far away they are from the event they are re-telling. What does their word choice say about their perception of the length of an event? It could be as simple as looking at the length of a semester project as interminably long if it is currently happening. Key phrases are also important from the meso-zoom perspective. They help to see how the storyteller sees his or her own importance in the story. What about the use of first person or third person? If they are engaged in a classroom practicum, do they view the students as their own, or as belonging to the classroom teacher, or do they look at them as shared? It is also important when viewing a story through the meso-zoom lens to pay attention to the parts of the story that are NOT being told – i.e., what is missing? The micro-zoom level pays more attention to the actual speech and discursive patterns of

the story: the stops, starts, or pauses; the emotion that is present; and how an individual makes his or her story come to life.

One of the strengths of using the zoom model for this researcher is that it effectively "granted permission" for me to be part of the story. Having previously undertaken a phenomenological study, I knew how hard it was to try to completely remove any of my own subjectivity from the story. In this case, since I had been the instructor for the technology integration course that all of the participants had taken, I was responsible for introducing them to a variety of social media tools, and had helped to shape their definition of social media. Having already engaged in social media use with the students, it would hardly have made sense to pretend I was a stranger to them. Therefore, the interactional-zoom lens allowed me to honor the pre-existing relationship I already had with the students while also acknowledging how that relationship had the potential to help share their story.

Background and Role of Researcher

In any qualitative study, it is important to know the background of the researcher. As the director of this study, I have had the advantage of being able to view the issue of classroom technology integration from several different perspectives. Having taught in the public school system for over 13 years, I had the opportunity to observe the implementation of many new ideas, both technology and non-technology related. These programs have ranged from IBM's Writing to Read program for phonemic awareness, Josten's Learning Corporation's Integrated Learning System for Math and Language Arts, Grant Wiggins and Jay McTighe's Understanding By Design for planning and instruction, and Philip Schlecty's Working on the Work framework for improving the quality of instruction designed for students. In addition, I was able to see elementary

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teachers of varying degrees of experience respond to these ideas and try to incorporate them in their classrooms.

The area that became the most interesting to me was the use of technology in schools and subsequently in the classroom, in order to enhance instruction. I became involved in planning and teaching professional development sessions to classroom teachers on the topic of classroom technology integration. Once I decided to pursue my Ph.D. in Educational Technology, I was afforded the opportunity to help develop and teach courses for elementary and early childhood teacher education students on the topic of classroom technology integration. Other experiences contributing to the various perspectives include presentations at a variety of state and national conferences.

I came to the study having already established a relationship with each of the participants based upon their completion of a course that I taught on integrating technology in the elementary classroom. The potential of using social media in the classroom was a major topic during the course, so I knew that each of the participants had already been exposed to a variety of social media tools in the context of using them to enhance classroom instruction. In recognition of the ever-changing landscape of social media, I included additional social media components in the course during the revision stage prior to each semester. I use social media in my personal life and in my academic life as a student to assist with my research. I also require different uses of it for the students in my courses.

Validity and Reliability

Whether conducting a qualitative or quantitative study, all researchers must maintain a level of rigor in order to establish the trust of others in their results. *Validity* and *reliability* are familiar terms to quantitative researchers whose studies depend on

measurement. *Validity* is defined in the 1999 *Standards for Educational and Psychological Testing* as "the degree to which evidence and theory support the interpretations of test scores entailed by proposed uses of tests" (p. 9). *Reliability* considers whether or not the instrument is consistent in measuring what it is supposed to (Ary, Jacobs, & Razavieh, 2002). Validity looks at any errors that occur systemically while reliability is concerned with random errors of measurement. Those engaged in qualitative inquiry are just as concerned with the rigorousness of their studies as quantitative researchers. However, in the absence of an instrument of measurement other than the researcher, a different way of ensuring rigor is needed.

Determining Trustworthiness

As stated earlier, a main consideration for any researcher is that others can trust their results. Beginning in 1981, Egon Guba and Yvonne Lincoln looked in depth at the issue of trustworthiness in naturalistic inquiry. At that time, they determined that, rather than *validity* and *reliability*, the more appropriate terms for qualitative research were credibility, fittingness, auditability, and confirmability (p. 104). Through their continued commitment to rigorousness, these terms evolved into credibility, applicability, consistency, and neutrality (Lincoln and Guba, 1985). In addition, they recommended the following activities that qualitative researchers should use to make sure they meet the suggested criteria:

1. Credibility

   a) In field activities that increase the probability of high credibility, such as prolonged engagement, persistent observation, and triangulation of sources, methods, and investigators

   b) Peer debriefing

   c) Negative case analysis

d) Referential adequacy

e) Member checks (during study and at completion)

2. Transferability – needs thick description

3. Dependability – use of dependability audit and audit trail

4. Confirmability – use of confirmability audit and audit trail

5. All criteria – investigator reflexive journal (p. 328)

Comparative Views of Establishing Rigor in Qualitative Research

 Over the past quarter of a century, the suggestions of Lincoln and Guba became the underlying standard for most qualitative research. With few exceptions, researchers undertaking qualitative studies (Allen, 2008; Bradshaw, 2010; Draper, 2011; Kramer, 2009; Pascarella, 2009; Sesterhenn, 2012), as well as many texts on the art of conducting qualitative research (Ary, Jacobs, & Razavieh, 2002; Atkinson & Hammersley, 1983; Kvale & Brinkmann, 2009; Wolcott, 1984) applied Lincoln and Guba's guidelines as a stringent list of "must-haves" in order for a qualitative study to be accepted as empirical research. In this way, qualitative research has attempted to remove the fallibility of the human as researcher or subject. In my opinion, however, this very "fallibility" adds depth and meaning to qualitative research that allows for the "thick, rich description" that Geertz touts (1973).

 Dialogue has begun among scholars in the field of qualitative research who wish to see greater emphasis on inclusion and the process of validation, as opposed to the current model of dualism and exclusion (Angen, 2000; Koro-Ljungberg, 2008; Stige, Malterud, Midgarden, 2009; Thayer-Bacon, 2003). Current models of validity constructs in the qualitative paradigm are intended to help prove qualitative versions of validity. However, they become constraints of the making of meaning that exists between the

subject and the researcher. Instead, more effort must be made to find less restrictive ways of investigating realities as well as how knowledge is created. One such innovative example was exhibited by Szto, Furnam, and Langer when they allowed their dialogue about the making of meaning and creativity in the arts to be analyzed as a data set for another researcher's investigation (2003). It is hoped that the 2013 revision of the *Standards for Educational and Psychological Testing* will make more of a distinction between the quantitative and qualitative approaches to validity and credibility.

Throughout the course of this constructivist study, I have attempted to show respect both for the subject and for the story being told. Recognizing the construction and simultaneous existence of multiple realities for each individual, I carefully selected methods of data collection and analysis. In the end, I chose techniques that would allow the story, or stories, to emerge within and through as individuals, and between them and myself as the researcher. I provided ways within the study to allow not only for the subjects' own expression of what they were feeling and thinking with regard to their interaction with social media, but also for them to be able to voice why they were feeling, thinking, and responding as they were.

It should be enough for me to illustrate how the subjects described their own actions, thoughts, and meanings and my own interpretations of those within the context of this study. It should also suffice to allow each voice to emerge as having meaning. In addition, I have a responsibility to my subjects as individuals and to myself as a researcher to remain engaged with each other when (not if) other points of focus arise during our collaboration. However, if I as a novice researcher do not specifically conform to the expected activities for establishing credibility, transferability,

dependability, and confirmability, I may be labeled as one who does not respect the tradition of qualitative research and even more, does not produce research that is rigorous or viewed as trustworthy.

The demands of established tradition seem to disregard the individual and their stories when they require me to include reference to the specific activities of source and method triangulation, member checking, and the keeping of a clear audit trail. I am compelled to describe the types of source triangulation included: the introductory survey, the use of the Experience Sampling Method to collect text messages, and conducting semi-structured interviews with the key informants. Tradition pressures me to list the types of method triangulation that were present in my study: those of content analysis of the survey and a summative content analysis of the text messages, and the Zoom Model analysis of the individual interviews. I am challenged to describe the member-checking process that was included as part of my study, and to describe how I sent a copy of the text messaging log to the participants at the middle and end points of data collection to make sure that texts-to-email were received correctly. The emphasis of the study becomes more on me as the researcher when I am required to explain that due to the auto-correct feature of most cell phone text messaging programs, it was important to make sure that what was received was actually the intended message.

By including a discussion of how I communicated with the participants during the two weeks of text messaging to make sure they were comfortable with the data collection process, I have diluted the emphasis on the personal relationship that was created and substituted in its place a mere exercise to meet a requirement. The reasons for keeping data logs and wanting to personally transcribe audio tapes of interviews

becomes lost if I have to go through a lengthy explanation of exactly what took place. A

comparison of foci in the traditional and more contemporary approaches to establishing

trustworthiness in this qualitative study is shown in Table 3-1.

Table 3-1. Comparison of rigor and trustworthiness approaches to qualitative research

Traditional View	Occurrence in Study	New Viewpoint
Wavering, undecided	Willingness/openness to change in direction; description of issues brought into focus by subjects	Responsibility to the unknown (Koro-Ljungberg, 2010)
Source triangulation	Using different types of data collection: introductory survey; Experience Sampling Method to collect text message data; semi-structured interviews with key informants	Responsible decision making, for the selection of methods appropriate to this study
Method triangulation	Different methods of analysis: survey; content analysis; Zoom Method	Selection of methods which allowed the story to be told by participants
Member checking	Requesting subjects to look at transcripts from data collection to confirm information was stated as they intended	Giving voice to the participants in the making of meaning
Establishing a clear audit trail	Quality record keeping; Following established protocols for IRB; organization of emails and text messages	Respect for subjects
Clear ending of study with distributed findings	Findings and implication for future practice and research	Open-ended relationship with subject and data for construction of new knowledge (Koro-Ljungberg, 2010, p. 605); acknowledging written findings as belonging in specific time and place, not definitive for all time

Instead of having to include specific components so that I may check them off a list, or

point to them and say "look at what I did," it should be more important to preserve the

integrity and voice of the individual. It is easy to see that although both traditional and more contemporary approaches to qualitative research place a strong emphasis on rigor and trustworthiness, they do not use the same path. The significance of being open to new directions is illustrated in the more contemporary approach by recognizing that the cultivation of an open-ended relationship between the researcher and subject may add to the continued construction of new knowledge.

Limitations and Ethical Considerations

Regardless of how much care is given to the design and implementation of any research study, there will be limitations and ethical considerations. One possible limitation of the study is that the previously established relationship between the researcher and the participants could be perceived as having a power differential since the participants were former students of the researcher. However, since the participants have already completed the class, the power differential of those relationships has been mitigated. Also, the selection of the Zoom Model of analysis with the interactional-zoom lens helps the already-established relationship become a strength. The time-frame of the study (i.e., sending a text message every hour for two weeks) was another potential limitation for two reasons: due to sleep patterns, not all inquiries received a response; and the receipt of fewer text message responses during the last three days of the study could be a result of participant fatigue. Although very little literature exists on the issue of subject boredom, Burisch's 1984 study on the effective length of personality surveys determined that shorter surveys could actually be better because of subject fatigue. An additional limitation regarding the text messaging was that there were occasions when text requests provided empty data sets because there were no participants using social

media at the time. However, the ability to have around-the-clock access to the participants was deemed to outweigh the possible limitations.

An unanticipated limitation of the study was that while each participant met the criteria of being in the same teacher education program (and had completed the two required technology courses) they were nevertheless at different stages of the program. Some of the students had already completed their full-time internship, others were engaged in their internship during the study, and others had not yet begun their internship experience. This discrepancy meant that not all participants had the same opportunities for informal, academic learning during the study.

So that there would be no perception of unethical behavior, no mention of the study was made the previous semester while students were enrolled in the class with the researcher as the instructor. Other ethical considerations included the need to protect the personal data of each participant, which I also viewed as a matter of respecting the participants.

Conclusion

Chapter 1 identified the need to study how elementary preservice teachers describe their use of social media. Chapter 2 supported the reader's understanding of the topic by providing a review of relevant literature. Chapter 3 has helped to describe the overall design of the current research study, including the participants involved. Chapter 4 will provide a detailed content analysis of the Introductory Survey and text messages. Chapter 5 presents a Zoom Method analysis of the semi-structured interviews conducted with the key informants. Finally, Chapter 6 looks at what the data has taught us and how it can help contribute to the field of teacher education in the future.

CHAPTER 4
CONTENT ANALYSIS FOR SURVEY AND TEXT MESSAGES

The purpose of this study was to describe elementary preservice teachers' descriptions of their use of social media. Since this was a qualitative study, participants were encouraged to report all types of social media use they were engaged in, whether it was for personal use, informal educational use—what they used for education by their own choice, or formal educational use—what their instructor required them to use. The purpose of this chapter is to provide the results of data analysis for the preliminary survey and hourly text messaging that took place over the span of two weeks. The analysis of individual interviews with key informants, as determined by the text messages, will be explained in Chapter 5.

Results of Introductory Survey

As described in Chapter 3, participants who responded to the recruitment email (Appendix A) and listed the most uses of social media on the introductory survey (see Table 4-1) were invited to attend an information meeting to learn more details of the study. Soliciting information through the use of a survey regarding the types of social media they regularly engaged in made it possible to identify a purposeful sample of participants.

As seen in Table 4-1, all participants listed the use of Facebook and Pinterest. This was not an unexpected occurrence since participants in the Pilot Study also reported a high use of Facebook and Pinterest. In addition, all but two of the participants indicated on their completed survey that they used Google Docs on a regular basis. The social media tool with the next highest use reported was Twitter. It is interesting to note that during the course in Technology Integration in the Classroom, students had been

required to use both Google Docs and Twitter to complete individual assignments. They were also required to keep a blog during the semester. In addition, the individual College of Education cohort groups had their own Facebook Group page for sharing of information. Although the different applications were used in class, it didn't equate to student use of the technology tool after the class was completed. For example, while five participants stated they were using Google Docs during the survey and four were using Twitter, there were only two that indicated they were using a blog.

Table 4-1. Social media tools used by participants (as reported in introductory survey)

Form of Social Media	Participant							
	#1	#2	#3	#4	#5	#6	#7	#8
Blog	✔			✔				
Delicious						✔		
Diigo						✔		
Edmodo								✔
Facebook	✔	✔	✔	✔	✔	✔	✔	✔
Facetime						✔		
Google Docs		✔	✔		✔	✔	✔	
Moodle Discussion Boards	✔					✔		
Pinterest	✔	✔	✔	✔	✔	✔	✔	✔
Skype			✔				✔	
Spotify								✔
Tumblr			✔				✔	
Twitter		✔	✔	✔				✔
Urbanspoon						✔		
Wikipedia®				✔		✔		
Wordpress						✔		
Words With Friends	✔		✔			✔		
YouTube			✔		✔			
TOTAL = 18 Unique Types of Social Media	5	4	8	5	4	11	5	5

Survey Data Explained

The results of the introductory survey indicated that the elementary preservice teachers engaged in this study used from four to eleven different types of social media, with each participant using an average of six different types of social media. The different types of social media listed in response to the introductory survey represented 18 unique social media tools. After checking the actual usage upon completion of the text messaging portion of the study, it was interesting that the two participants with the highest number of different types of social media actually used had underestimated their use. As seen in Table 4-2, Participant #4 originally thought she was using only five types of social media, but her two weeks of text messaging showed that she was using 14 different types of social media. Also, Participant #6 indicated that she was only using 11 different types of social media, but it turned out that she used 13 different types during the two weeks of text message responses. Conversely, Participant #3 reported using eight different types of social media on the introductory survey, but only reported using four types during the text messaging portion of the study.

Although everyone listed the use of Pinterest on the survey, not everyone reported using it during the time the text messages were being collected. This would suggest that while Pinterest is a popular application, there are different levels of users. There were other obvious usage differences between what was reported on the introductory survey and what was reported in the text messages for several of the social media tools. For example, while four participants originally stated that they regularly used Twitter, only three of them reported using it in their text message responses. However, there were two others who also reported using it, although they didn't mention it during the introductory survey. Possible causes for these discrepancies could be that

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Twitter is used more as a mobile or "on the go" type of application and students who

used it might not have even noticed they were using it separate from text messaging.

The use of YouTube was reported in the introductory survey by two participants, and

although one of those didn't report the use of YouTube in the text messages, three

other participants did.

The Real Story of Social Media Use

When compiling the text message responses and searching for types of use from

each individual, it was interesting to note that while the eight participants originally

reported the use of 18 different types of social media, the real-time reporting with text

messaging showed that they actually used a total of 31 unique types of social media.

The discrepancies in these numbers helped to solidify the reasoning for using the

Experience Sampling Method to get a more accurate view of what the participants were

actually using in real time and context, rather than relying on them to remember what

they had been doing at different times of the day in order to write it down later.

Table 4-2. Number of different kinds of social media used

Participant	Different Types of Social Media Listed on Introductory Survey	Different Types of Social Media Actually Reported in Text Message Responses
#1	5	3
#2	4	7
#3	8	4
#4	5	14
#5	4	3
#6	11	13
#7	5	6
#8	5	3
# of Unique Types of Social Media Represented	18	31

Content Analysis of Text Messages

A summative content analysis with keywords was conducted on the text

message replies to look for: a) types of social media that were used by each participant,

b) how many times each type of social media was used, and c) patterns of social media

use based upon the day of the week or the time of day they were being used. After this

specific analysis was completed, the text messages were then studied to determine

what was being done with the social media they were reporting using.

Identifying Usable Data

With one text message being sent to each participant every hour over the course

of two weeks, there were 336 messages sent to each individual participant during the

study. This meant that a total of 2,688 text messages were sent to the group as a

whole. Out of all the texts sent, there were a total of 1,118 replies received, an average

of 140 replies received from each participant, a low of 77, and a high of 215. Table 4-3

illustrates the number of text messages received from each individual participant.

Table 4-3. Text message responses

Participant	Total Text Messages Received	Empty Data Sets	Number of Uses of Social Media
#1	77	56	21
#2	167	143	24
#3	86	30	56
#4	164	129	35
#5	113	46	67
#6	159	93	66
#7	137	121	16
#8	215	182	33
Totals	1118	800	318

Of the initial 1,118 replies, 800 were considered as empty data sets because the

participants were not using any form of social media at the time they received the text

message, or for fifteen minutes prior. This meant that out of all the replies received, there were 318 responses that indicated a current use of one or more types of social media. The empty data sets included a variety of answers, such as "no," nope," "no I was sleeping since 11 pm," "was at the school carnival since 4…no social media," and even "nothing, just got out of shower."

When looking at the number of empty data sets received from each individual participant, it was interesting to note that a high number of received text messages didn't necessarily equal a high usage of social media. For example, after eliminating the empty data sets, although Participant #8 had the highest text message rate with a total of 215 texts sent, he had only the fifth highest rate of usage, at 33 total uses of social media. In addition, while Participant #3 sent the second largest number of text responses, with 167, she had the third least amount of messages that indicated actual use of social media. Table 4-4 shows the number of messages received and type of social media tool used by each individual.

Table 4-4. Actual social media use

Social Media Tool	Participant								Number of Uses
	#1	#2	#3	#4	#5	#6	#7	#8	
Facebook	8	16	41	3	47	3	3	19	140
Pinterest	2	2	12	1	6	13	1	0	37
Twitter	0	1	33	0	1	0	3	13	51
Google Docs	0	0	0	12	0	2	2	0	16
Moodle	0	1	0	5	0	5	0	0	11
Words with Friends	0	0	0	0	4	4	0	0	8
You Tube	0	0	0	2	3	0	2	7	14
Draw Something	0	0	0	0	4	0	0	0	4
Blog	0	0	4	1	0	3	1	0	9
Other	1	3	0	8	2	7	0	1	22
TOTAL USES	11	23	90	32	67	37	12	40	312

Identifying Preservice Teachers' Informal Uses of Social Media

Since all participants reported the use of Facebook on the introductory survey, it was not a surprise that it was the most often used form of social media of all of the individual participants combined. While there were several different uses of Facebook reported during the study, each time it was mentioned, it was for informal use. In addition, each time Twitter was mentioned in a text message, it was also for informal use. The use of Pinterest, while primarily mentioned as being used for personal reasons, was also used informally for education. While it can be revealing to know which particular social media tools the preservice teachers were using, it is more important for this study to examine what they were actually doing with the different types of social media.

Entertainment

The most often reported informal use of social media was for entertainment. In describing their uses of social media for entertainment, I am including any occasion where students were using social media as a form of enjoyment, or a way to amuse themselves. Instances of this may have occurred due to boredom, a way of avoiding schoolwork, simply for fun, or because they had extra time to fill. The use of social media for personal reasons was not limited to one particular location for the students. The text messages received indicated that they used social media in class, at home, at work, or even while waiting at the doctor's office. The fact that they are constantly connected gives them 24/7 access to any of the social media tools they want to use, and the continuous ability to share information about themselves with others.

Participant #3 often used multiple forms of social media as a form of entertainment while in class. Evidence of this was seen in the sending of two separate

messages on the same Tuesday afternoon: "I checked my fb, twitter and pinterest continually throughout my 3 hour class from 2-5 pm" and "I checked my f, twitter and pinterest continually throughout my 3 hour class from 5-8 pm." These were not the only times she referenced using social media for personal reasons during a class; on another day she texted that she was "looking at fb and twitter while in class." In addition to these messages, she also revealed that she "was on fb during my exam, sending messgaes to friends. I also checked my twitter feed." This particular student also stated more than one time that she was using Facebook to "avoid doing hw and write a paper." Her constant use of Facebook, Twitter, and Pinterest led me to wonder how she was able to accomplish any school-related task. There was rarely a time when she referenced the use of social media that it was not in conjunction with another task of some kind.

Boredom

There were numerous text messages from Participant #8 indicating that he used social media often as a form of entertainment when he was bored at work. Examples of his use included "At work. On Facebook cause there's nothing to do. Just scrolling through my newsfeed," "I was on Facebook wasting time," "Just scrolled through twitter on my laptop at work," and "At work and on fb again." In addition to the multiple uses from work, he also went on his YouTube account from home while doing homework and used Facebook from home for just "wasting time." Participant #4 showed her use of Facebook for entertainment at home when she went on "Facebook for a few minutes gettin my mind off school work." Her use of Facebook in this situation was a way to clear her mind so that she could concentrate more on her studies. Another example of a student using social media for relaxation and to get her mind off of other matters came

from Participant #6. This occurred at 11:00 pm one evening when she had been working on progress reports during the day, as well as working on lesson plans during the evening. She texted that she had been writing on her blog and was also on Pinterest although "neither is for school but to relax me after a long day is work."

There were also examples of Twitter being used as a source of information for sports or entertainment. For instance, one time when Participant #7 was asked if she was on social media and if so, what she was doing, her response was "Yes, twitter. Looking up news about march madness." This type of use was also reflected in Participant #8's message that he had "tweeted about Billy Joel a few minutes ago" and from Participant #3's message that stated "…I was also on twitter checking up on what's happening with the Oscars." This use of Twitter as a search tool is different than looking through friends' status updates on Facebook because the use of hashtags in Twitter allows users to gather information from those that are not in their friends list.

As with Facebook, several participants used Pinterest out of boredom. During one instance a participant was in a training meeting and blocked from using Facebook or Twitter, so she decided to go on Pinterest. "We are in a Smartboard training and fb and twitter are blocked. I also was on pinterest out of boredom." She also described using it out of boredom on several occasions when she lumped the use of Facebook, Pinterest, and Twitter together and said "I checked my fb, twitter, and Pinterest accounts around 11pm b.c. I was bored and procrastinating," and "I was just on fb, twitter, and pinterest briefly. Honestly, I am using them as a way to procrastinate." Late evening on the weekends seemed to bring out the need to procrastinate in Participant #3. This was evidenced by her messages on Saturday and Sunday nights that stated "I

was just on fb briefly, scrolling through my news feed trying to avoid doing the hw and write a paper." Participant #6 used Pinterest as a form of entertainment as evidenced by her message stating "I am on pinterest just browsing through the pictures."

Additional Informal Uses

There were several more personal uses of Pinterest listed by the participants. For example, Participant #1 reported using Pinterest to search for gift ideas and said she was "searching on some random lady's profile who usually has good gift ideas." Much like Twitter, the use of Pinterest for searching is not limited to friends, or others whose pins you are following. Participant #5 talked about her use of Pinterest while trying to find information about things related to Hunger Games: "I was on pinterest looking up any clues for what to wear as a potential costume for the hunger games premiere ☺" and in another message reported "While looking through pinterest for hunger games related things…" Participant #6 used Pinterest on numerous occasions to search for wedding ideas. Not only did she report searching for general wedding-related information, such as on "pinterest looking up wedding ideas and crafts ideas" and "I am using pinterest, just looking up random stuff and searching through wedding and crafts," but she also reported searching for specific wedding related information, such as "pinterest looking up wedding flowers" and "…pinterest looking up Japanese weddings."

Searches on Pinterest can be contrasted with searches using Google by looking at the way results are presented. When using Google as a search engine, the majority of the results are provided in text. If images are desired, then Google Images may be searched, but then only images are shown in the results. When searching on Pinterest, the results are presented as images with text descriptions showing on a continuous

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page, without having to click to the next page. In addition, results on Pinterest provide comments from others who have pinned the items to their boards. This feature provides a social connection to Pinterest that is missing from Google, unless the user is logged in as a member of Google Plus.

Facebook stalkers and creepers

One of the differences between Facebook and several of the other social media formats is that, in addition to revealing status updates on an individual's news feed, it also allows "friends" to see what others have posted on an individual's wall. This provides a unique insight into another person's activities that is not available through other social media formats. For example, while Twitter allows those who are "following" someone to see their tweets, there is not an area that reveals various likes or serves as a photo album for others to see. Pinterest followers can see specific "boards" that have been created for pinning different topical information, but there is relatively little personal information that can be learned from the boards. The way that Facebook is designed for the sharing of personal information has created a new online activity called "stalking," or "creeping." There were several mentions of students who confessed to stalking or creeping on their friends' pages. Urbandictionary.com provides definitions for both a Facebook Stalker and a Facebook Creeper. A Facebook Stalker is "a person who spends large amounts of time on Facebook looking at other people's profiles, often browsing photos, walls (or wall-to-walls), groups, or recent activity posted on the stalked person's mini-feed," and a Facebook Creeper is defined as:

> someone who uses Facebook but is looking at other peoples profiles, going through their pictures, their statuses, their wall posts, their picture comments, subscribed to random people, their pages, liking comments on statuses from other people, logs on Facebook out of instinct, liking people's friendships, jumping from page to page, looking at people you don't know

and only have one mutual friend, adding people you don't know just so you can see what your friends say to them and what they post. It's a lot like stalking but on more than one person.

Participant #5 identified herself as a Facebook Creeper on several occasions: "I've been creeping through Facebook for the past 30 minutes," and "Facebook creeping." Several other participants listed activities that seemed to fit the definitions of Facebook Stalker or Facebook Creeper, but they didn't label themselves as stalkers or creepers. For example, when Participant #1 mentioned that she was on Facebook because she was bored, she went on to explain "I am just looking at people's profiles and pictures. Everybody is getting married these days!" The actions of Participant #3 could also fit the definition of Facebook Creeper when she said "I was just on Facebook scrolling through my news feed. I looked at some pictures of a hs friend's bday party and "liked" some friends' statuses." Later, she continues her description with "I scrolled through her pictures."

Using social media for friend and family connections

The use of Twitter during the study ranged from participants using it as a way of keeping up with their friends and letting their friends know what they were doing. There were several occasions where Participant #8 used Twitter with his friends with no particular purpose, such as "just read latest tweets," "just finished reading tweets," and "just tweeted." Participant # 3 also used Twitter to connect with friends, as shown in the following messages: "I just tweeted something funny that my friend said. It's the main way I use twitter," "I just scrolled through my twitter feed," and "…I posted a tweet about our upcoming spring break." Other text messages during the study seemed to indicate that her posts on Facebook and Twitter were separate. For example, at one point she posted "I was just on facebook, scrolling through my news feed and checking

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notifications since I hadn't been on all day. I also briefly checked my twitter feed."

Participant #7 also used Twitter to connect with friends, as evidenced in his messages about his social media activities on Twitter: "Yes, twitter – I'm tweeting a friend" and "…twitter, to update my status." These status updates by Participant #7 were also separate from her Facebook status updates.

One of the main uses of Facebook reported by Participant #1 was for communicating with her husband who lives in a different state. One Friday evening, she told me she was using Facebook for "messaging my husband about table and chair possibilities for our new apartment" and then when she woke up Saturday morning, she referenced "going to check Facebook for messages from my husband." The following Monday evening, she reported using Facebook to send messages and remarked that "It's a great way to send messages while my husband is in class. He can look at pictures on his phone through Facebook or on his computer." She also referenced her marriage when she talked about changing her profile picture on Facebook, "I was looking through my old pictures on my profile. I'll probably change my profile picture this week to another from Jon and my wedding." Since there are several references to using Facebook to asynchronously communicate with her husband who does not live in town, it appears that her use of Facebook is taking the place of email or telephone voice mail. A main factor that contributes to this pattern for Participant #1 seems to be the differences in sleep/wake habits and the differences in free/class time schedules.

Although Participant #1 was the only married student involved in the study, there were references to family members by other participants in their descriptions of Facebook use. Early one Friday evening, Participant #6 was on "Facebook looking up

my dads page. From his page I clicked a YouTube link about his bagpipe band that appeared on the news." Yet another example of using Facebook to connect with family came from Participant #3 who described her activity while on Facebook by saying she "looked at my cousin in Texas' pictures of a cake contest she entered yesterday (very cool!)." There was one occurrence of Facebook use for synchronous, or real time, communication with a family member reported during the study. One Friday evening, Participant #2 was using Facebook to "chat with my sister for an hour." This online conversation appears to have taken the place of telephone communication between the sisters. Many of these family-related Facebook activities have taken the place of other types of long distance communication, such as emails, telephone calls, and even handwritten letters and cards. Facebook seems to allow users to complete a variety of tasks from a single location, as opposed to having to initiate multiple types of communication with individual family members.

Social media use with mobile technology

The personal use of social media mobile technology occurred with several participants as seen in their text messages when gaming and tweeting were the main uses of mobile technology indicated in the self-reported text messages. The games identified were Words with Friends, Hanging with Friends, and Draw Something. Of these three, Draw Something was available only on the mobile phone platform. The sending and receiving of tweets was in evidence on mobile phones, but was also an activity that occurred on laptop or desktop computers.

There are several mobile applications (apps) for games that have become popular during the last few years. Three apps that were used for personal reasons on numerous occasions by participants during the study included Words with Friends, a

game similar to Scrabble—released in beta version in 2009; Hanging with Friends, a game based on Hangman—released in 2011; and Draw Something, similar to Pictionary—created in 2012. According to the definitions above, two of the participants in this study, or 25%, would be considered avid gamers. This seems to parallel the results of the study conducted by the Information Solutions Group (2011).

There were several different days when Participant #6 reported playing games on her mobile phone. On the first Thursday, she spent several hours in the doctor's office and two separate messages included a reference to gaming on her phone: "Now I am at the dr office waiting to be let in and playing words with friends for fun" and "…playing words with friends. I'm still waiting at the doctors office waiting anxiously to be called." Using her mobile phone to play Words with Friends for a break was evident when she stated "Words with Friends. Just for a brain break. It is not for school" and "Words with friends…Playing against a friend during a lunch break." Draw Something seemed to be the mobile game of choice for Participant #5 and her boyfriend. Early one evening she reported that she was "Playing the new game/app "draw something" with my boyfriend on my phone" and six hours later she told me that she was "Watching and helping by boyfriend play draw something." Interestingly, that this was the only mention in the text messages of one of the preservice teachers viewing themselves as an expert who could teach someone else. This same student also expanded her social circle beyond her friends when she "played words with friends with a few random opponents."

"I just tweeted at a friend via my cellphone. That is the most common way that I use twitter." This statement by one of the participants was confirmed through her other text messages describing the use of her mobile phone for sending and receiving tweets.

Other messages she sent stated, "My friend tweeted at me at 11:55am. I received it on my phone," and "I just tweeted my friend again from my phone. We frequently tweet back and forth from our phones." One message in particular from Participant #3 showed how she used both her phone and her computer while using Twitter when she said "I was tweeting from both my phone and my computer (had a mini-conversation with my friends)." While the majority of his tweets were done on his mobile phone, Participant #8 confirmed also using Twitter on his computer when he said he "scrolled through Twitter on his laptop."

Social Media Used for Educational Purposes

After looking at how preservice teachers reported using social media only for personal reasons, I then looked at their personal (and burgeoning) voluntary professional use of Pinterest. After reporting on the personal and professional uses of social media, it was time to examine the educational uses of social media reported during the survey portion of the study. As defined in Chapter 1, the formal educational use of social media means that the use of social media is required by the course instructor and informal educational use of social media is when someone chooses to use social media for classroom assignments even when it is not required by the instructor.

The use of Google Docs was reported in the survey by several preservice teachers for educational use. In fact, it was most often used as a collaborative tool while working on group projects for class. The use of the discussion boards on Moodle, the open-source online course management system used by the College of Education, was also reported by several preservice teachers as a use of social media.

The most prolific user of Google Docs, as reported in the text messages, was

Participant #4. Her use of Google Docs as a collaborative tool during the research study

was well documented in her self-reporting. All of her use of Google Docs related to

education was voluntary, so therefore it is considered informal use of social media. The

explanations she gave helped me to understand how she was using it as social media,

and not simply as a word processing tool. For example, in one text she said that she

was using "Google docs to collaborate with group members for an online class," and on

another day, she further stated "collaborating on a Google doc with some peers for an

online class. There are three of us typing at once!" In a different post, she explained

their use a little more when she told me that she was "still on the same Google

document. We couldn't meet in person so we are chatting in the chat box and editing."

Another user of Google Docs for a school assignment was Participant #6 who was

"creating a google doc for my internship." This was also considered an informal use of

Google Docs since no one was requiring Participant #6 to use Google Docs for the

assignment.

In addition to the informal educational use of Google Docs, there were multiple

instances of Pinterest being used informally for education. Several of the participants

used Pinterest to look for ideas to use in teaching for their internship or pre-internship.

Participants #1 and #2, who were both in their regular internships, used Pinterest to look

for teaching ideas. In fact, Participant #2 actually opened a Pinterest account during the

study and acknowledged that she would be using it for both personal and professional

reasons by stating, "Opened a Pinterest using my Twitter account to look for ideas for

teaching and life in general." After opening the account, she then "went on pinterest for

20 minutes to look for leap year activities." Participant #1's messages reflected the use of Pinterest for professional reasons on several occasions when she reported "I'm on pinterest looking at other first grade classroom teachers blogs and pinterest boards," "I'm pinteresting again…I'm planning a grammar lesson and I am getting ideas from other people on how to teach sentence structure," and "looked up (on pinterest)…I wanted something spring inspired for the kids." As seen above, Participant #6 used Pinterest often for personal use, yet she demonstrated that she also used it professionally when she told me she was "browsing for teacher ideas on pinterest before starting on writing a lesson plan." Another example of Pinterest being used as a resource for the classroom, but not necessarily for a lesson plan, came from Participant #5 when she was searching for quotes by Dr. Seuss, "About to search on pinterest for dr. Seuss quotes before bed."

Moodle allows instructors to create course assignments, give online exams, and provide additional resources for the students. The students may then submit their assignments through the online course management system. Using the discussion boards on Moodle can be considered a formal educational use of social media because it was required by their instructor, and not something the preservice teachers chose to do on their own.

The different references to the use of the asynchronous discussion boards on Moodle all included information to let me know it was for a class. Participant #2 went on the "Moodle Interactive discussion board for a class" and Participant #4 was on "Moodle writing a discussion post for a class." Participant #6 reported using Moodle on several occasions. Not only did she use Moodle "to submit an assignment," and for "…writing on

a discussion board," she was "also on moodle looking up what chapts I have to read."

The specific posts regarding the use of Moodle demonstrated that the preservice

teachers were associating any use of Moodle as social media, and not just the times it

was used to interact with others. For example, the self-reports for Participant #3 also

stated "Yes I am on moodle for my eex6786 class…taking a quiz." As an educational

technologist, I may not agree with the use of Moodle as a form of social media.

However, as the researcher for this study using a constructivist framework, as long as

the participants are viewing the use of Moodle as social media, then it is a form of social

media that merits inclusion in this study.

Multi-tasking with Social Media

As mentioned earlier, students today learn differently from students 20 years

ago. For the current generation, multi-tasking has become accepted as a commonplace.

Multi-tasking while on social media proved to be very popular among the participants in

this study. Six of the preservice teachers in this study were multi-taskers. Furthermore,

Participants #3 and #6 reported multi-tasking with social media more often than they

reported performing a single task. Each of the participants had different reasons for

multi-tasking.

The uses of Facebook, Twitter, and Pinterest were often indistinguishable for

Participant #3. I have already mentioned how often she used them simultaneously.

However, her multi-tasking was not limited to the use of these three. She also followed

links in the newsfeeds and stayed on different blogs she found. One time she was

following links and it ended with her looking at two separate blogs—again evidence of

her multi-tasking for entertainment. The example of this stated "I followed a friend's link

to her blog where she is doing the February photo-a-day challenge. I scrolled through

her pictures. I also followed a link to the "hey girl teacher" blog." Multi-tasking appeared

to be second nature for Participant #6, especially when she texted "I was reading a

recipe book on my iBooks, using google to death what's foods where eaten in the movie

men in black, and playing words with friends." While many people would be more

fatigued when trying to accomplish more than one task at a time, she actually used it as

a form of relaxation, as evidenced at midnight one evening when she stated she was on

"pinterest for fun. Updating my blog on Wordpress "simplyumi.com" Neither is for school

but to relax me after a long day is work."

There were also cases of multi-tasking that involved both personal and

educational use. One example of combining uses was seen from Participant #5 when

she texted:

> Currently I'm responding to an online post for my online language course
> (not sure if that counts as a social media). facebook is opened in a separate
> tab, I posted a video about 40 minutes ago I found out about on Yahoo's
> homepage about Taylor Swift and Zach Efron doing a duet together. I
> copied this from YouTube to my facebook page and have been anxiously
> awaiting my friend's responses since :)

Another example of a student multi-tasking for personal and educational use

simultaneously came from Participant #8 late one evening when he reported "still

watching different YouTube covers of songs, and frequently checking facebook while I

work on a lesson plan."

When Participant #4 reported multi-tasking, it appeared to be for the purposes of

her studies. One of these instances was an example of an informal educational use

combined with an educational use. She was working on an assignment in Moodle for

her online class and needed a way to add something to her document. Therefore, she

"created a flickr account to be able to upload a picture to a Moodle submission. Sent the

picture to Flickr which gave me a link to put in my document." On yet another occasion, she was "utilizing both the discussion boards on Moodle and watching streamed videos on Vimeo for an assessment class." Participant #4 reported no negative impacts of multi-tasking on her school work.

Summary of the Content Analysis

In Chapter 4, I went through the content analysis for the Introductory Survey and the text messages. In looking at the data, several things stood out. First of all, elementary preservice teachers are definitely using social media, but the majority of their social media use is not related to education. I noticed that Facebook, Twitter, and Pinterest were all used for entertainment at home, in class, and at work. I also discovered that, for several participants, their purpose for using Pinterest expanded to include classroom ideas. The use of Google Docs, while often for assignments, was selected by participants' own choice, and not assigned by their instructors. On the other hand, several different instructors made use of the discussion boards in Moodle, the online course management system.

A Zoom Model analysis of the semi-structured interviews with key informants, as reported in the next chapter, sought to gain more descriptive data about how they made their decisions, and why elementary preservice teachers used social media in specific ways.

CHAPTER 5
ANALYSIS OF KEY INFORMANT INTERVIEWS

As stated in Chapter 1, the purpose of this qualitative research study was to describe elementary preservice teachers' use of social media. Chapter 4 presented a content analysis of the introductory survey and text messages, while Chapter 5 provides a Zoom Model analysis of interviews conducted with the four participants in the study who were identified as key informants. Interviews were conducted with the key informants using a semi-structured interview format (see Appendix D). In addition, specific questions were asked based upon the content analysis of the text messages.

The data presented in Chapter 5 was gathered from individual interviews conducted with the four key informants in the study. Each interview was analyzed using the Zoom Model developed by Barbara Pamphilon. The oral telling of each interview was examined through a macro, meso, micro, and interactional zoom lens and presented as a unique story from each participant. The macro zoom lens sought to uncover the main discourse(s) present in each story, as well as provided insight on the narrative format used. Each participant's specific narratives, as well as how they connected their own story, was a result of the meso zoom lens analysis. When looking at the story through the micro zoom lens, it was necessary to examine the pauses and emotions that were present in the story. Finally, the use of the interactional zoom lens perspective allowed me as the researcher to describe how the interplay between the individual participants and myself contributed to their story of their use of social media. The resulting analysis for each participant is presented as a separate narrative, along with supporting data from the interview.

Participant #1 - Cassie

Cassie was one semester away from completing her Master's degree during the time of this study. I remembered her as being a bright, enthusiastic student from the time she was in my undergraduate course on classroom technology integration during the previous school year. During the interview, Cassie's confidence and passion for what she was doing were quite obvious. Her use of first person voice throughout the interview session made it apparent that Cassie owns her story and wanted the chance to tell it.

Cassie's technological and educational discourses

When viewing the interview with Cassie through a macro zoom lens, it was necessary to examine where she placed herself in relationship to society and the world around her. Two dominant discourses emerged during Cassie's interview—a technological discourse and an educational discourse. Cassie was an avid user of social media, both for personal and educational reasons. This was an interesting component of Cassie's life, because she described many of her uses of social media against a backdrop of admitted anti-technology tendencies.

When asked about her use of technology since arriving in college, and more specifically, social media, Cassie related that she had just begun using Facebook and YouTube when she came to the university.

> Like probably I could only honestly say Facebook, and that was on, that
> was back when you had to have a college email address to use Facebook,
> so once I got accepted to a university, I got on Facebook right away and
> that's probably the only one, besides YouTube, that I've used, uhm, those
> two I was using right before college…

There were multiple instances where Cassie expressed her views about her lack of interest and exposure to technology.

I was not raised in a very tech savvy household and my parents still aren't like that, like they still had a black and white tv until I was about 8, so everything has been kind of, like I didn't get a cd player until I was like in 8th grade, or something ridiculous, so I still kind of have those tendencies of my mom I think where I'm like anti aspects of technology…

Another indication that Cassie was speaking from a place where she previously did not care for parts of technology was revealed when she began talking about the photo-sharing program Flickr and said "which I had heard of and never used because I am like more of a scrapbooker so I do like everything pictures, outside of computers like as much as possible, cause I like, it's just my thing, my hobby." This same anti-technology attitude was again displayed when she referenced having to create a Twitter account in the technology class she had taken with me: "remember in your class we had to follow Will Richardson on Twitter? Ok well I never, that was the start of me having a Twitter, and at first I was so irritated I had to have a Twitter because I was anti-Twitter."

Although she shared with me these seemingly negative attitudes toward the previous use of technologies, she also turned around and shared how she was currently benefiting from informally using Flickr for her classes.

Ah, Flickr, was like really cool and I made an account uhm only at first only to do this project where we had to document a use of a different kind of social media or continued use or something we learned. I was just trying to take a screenshot of my Google reader, which is like my other new favorite thing, I was trying to take a picture of it to send to my professor so that she would know I'd been doing this, whatever, and like, for some reason, my computer would not let me just upload it as a screenshot, image or whatever, so I made a Flickr account, saved it to the Flickr account, sent her the link and it was so easy and immediately when I tagged it just for fun, there were other tags coming up, and you can like, and then I was like looking back in the book to how to use Flickr for lesson plans and you can just like to teach like copyrighting on Flickr where like how to cite where you could use a photo and like you can take all your photos and put them in blogs or use them, and it's like a big magazine of pictures that other people put on that you can use in like your classroom and that was really cool, so I made sure to write that password down so that I don't forget it.

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While Cassie's above description of her informal use of Flickr was given rapidly and with much detail, she also made sure to point out that while she wouldn't use it for personal things, she could envision using it with students when she became a classroom teacher:

> But I don't see myself using it for personal use because like I said I like to scrapbook and I don't really so much care about, I'm not really the kind of person who posts pictures on Facebook or any, like that's just not, I like to put them in scrapbooks, but, for like having my students do something like that, or even go around school and take pictures, or use cameras and take pictures and upload them to Flickr and things like that, it was just like a really usable site I thought, as anti-Flickr as I was,

It was quite interesting to note that while she wouldn't use it personally, Cassie's objection was not about the specific use of the technology, but because she was already involved in scrapbooking, which she equated with certain uses of Flickr. The fact that Cassie had built a familiarity for using Flickr to accomplish an educational task positively influenced her willingness to use Flickr in her own classroom.

Cassie's technological discourse was also present when her view of herself as a student and as a teacher became evident. While her educational discourse was revealed in the many instances in which she spoke of herself as a student taking classes, a future graduate, a group member, a cohort member, a sorority member, a teacher (both formally and informally), an intern, and someone seeking a teaching job, it was in her discussion of herself as a group member that more details of her story as a student emerged. Most of Cassie's references to herself as merely a student were mentioned in passing. For example, her first mention of being a student was simply to say, "I have 3 online classes this time," which was followed by "the class I'm in, or I finished for grad school was educational." However, on the several occasions where

she spoke of her role as a class group member, she was much more animated and provided more detail by expressing:

> Just because of all of the cooperative learning the college of education does, where you have to work with someone who, they might not even be on campus, they might be doing distance courses, or someone I don't live with, and trying to edit a group document, or do a group presentation using a graph or a powerpoint stuff like that. I love that because it's easy for a group project everyone kind of has to do their part and you can see when they logged in.

    Cassie's discourses in education and technology were present simultaneously when I asked her whether the use of social media was required for any of her current courses. She responded that in "Teaching Internet Instruction K-12, it was like almost always required. The other two classes I'm in, no, we just kind of used, utilized Google Docs." She supported this statement by letting me know that "a lot of the random spurts on probably my record of like random use of social media was like for that class." This combination of education and technology discourses allowed me more insight into what other instructors required in their classes. Although Cassie was only using social media formally in one of her classes at the time, she was proud of the fact that she was making use of social media informally in her other classes.

    An important part of the macro zoom lens is to look at the cohort effect, including any historically significant occurrences that took place within an individual's story. There were times when her identity as a member of a specific generation influenced the way she views the use of social media. Cassie has strong feelings about how members of her generation are using social media, as expressed here:

> it's like my generation where Facebook is so weird and people do all sorts of weird things on Facebook. So I think uhm, because I'm not, I don't really get any real news out of Facebook, I use it more socially, whereas, I'm trying to connect the two, so uhm, like, it's because of my age and how other people my age use the site and so it has a bad rap, so no matter

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what, and like what kind of job you're interviewing for, I feel like because I'm from that generation where Facebook just spawned from it's gonna be like cause for concern.

There was another display of Cassie's strong feelings for the way her generation uses social media in certain ways in her discussion of Pinterest. Cassie relayed to me that once again, she had been "anti" a given type of social media, but once she became more acquainted with it, she had fallen in love with it. In addition to the individual roles she described for herself within education, when Cassie was talking about her different roles outside of education, such as, daughter, girlfriend, and roommate, it was obvious that she easily identified herself as being a digital native, or part of the Net Generation.

Generational narratives of Cassie's story

When looking at Cassie with a meso zoom lens, I listened to see if the story she was telling was told in a coherent fashion—if the story flowed or if it was disjointed. I wanted to know what the things were for Cassie that helped to tie her story and experiences together. As part of this examination, I looked for the narrative themes that she repeated during her story. One of the themes that she frequently returned to was a feeling of being part of a particular generation. This was first revealed as she compared those whom she had been through undergraduate studies with to those she had now encountered in her graduate classes.

When she was relating the first story about working with group members in one of her classes, she talked about them being from outside of her age group:

> As far I've known, the other 3 people in my group are all like Moms who live in different cities and are just getting their teaching certification, Basically, (laughter), it was funny because it was all people names I recognized from our cohort in the COE started the Google Docs and then like all the older, like Moms, or older students coming back were like oh this is cool or how do you start this?

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As Cassie continued to talk about the groups she worked in for her class projects, it became more obvious that she was feeling a large age, or generational, gap between the older students and herself and members of her undergraduate cohort . The fact that she related more to the children of her group members rather than the actual members who were in her own classes emerged when she stated, "I'm betting some of these peoples' kids probably have Facebooks cause they were saying how like one of the women, she has a daughter that's a freshman at UCF this year…..she doesn't." When talking about members of her undergraduate cohort, she indicated that having older students in their classes that had not been in undergraduate classes with them was causing them to change some of their group work study habits from using mainly Facebook to using other social media tools also. One indication of this came when she stated:

> most of us have created groups on Facebook so we can contact each other cause none of us are in the same place, and so that's pretty convenient and then, uhm, if there's not a group on Facebook there's usually a Google Doc, like if they don't, if the older people don't have Facebooks or anything like that, which we've found that they don't.

The conversation about older people also seemed to indicate that Cassie saw herself and members of her cohort as being the leaders in technology because the other group members were from a different generation. For example, when I asked Cassie about tools the instructor for her online class had suggested using, she acknowledged that if she and other members of her cohort had not already known how to use Google Docs from their undergraduate classes, they wouldn't have used it. She felt strongly that it was due to the influence of those in her age group that they were able to use some of the technology tools for their online course group work, especially with the gap between the age groups, as she mentions here:

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there was definitely, like a generational gap in that too where like, the like, women, I guess I'll call them, out of school…Uhm, you know who are already teachers or already had children or just going back to get specialist degrees or what not, they would have, that wouldn't have been an idea they came up with.

This informal use of technology by Cassie and those with whom she was working occurred more frequently than formal, or required, uses of technology.

In addition to Cassie's story revealing her thoughts on the generational differences, it also served to identify her as a teacher in informal settings. Not only did she talk about herself and others in her cohort group teaching those in their class who were older, Cassie also told me about teaching her mother about Gmail, and how she (Cassie):

> was trying to tell her about how gmail has the contact books, you know, so you can, and she's a teacher, a preschool teacher so she wanted to email to the parents, and I'm like, oh you just put all the emails and you just like send to this list and she was like this is easy. (laughter) It was easier than AOL or whatever she was using before.

One of the places where Cassie appeared to have more difficulty telling her story was when she began to reflect upon the way her friends who were expecting, or who have, children seemed to have lost a sense of what should be kept personal. The only time during the interview that Cassie's speech slowed was as she told me:

> I don't, (pause) you know, people have turned the Internet into like (huh, struggling for words) it's almost like there's no boundaries. Like I feel like a lot of people don't even have secrets or personal lives anymore, uhm…(slowing down).

I could easily tell that Cassie was uncertain of what she wanted to say and realized that this was probably the first time she had actually put some of these thoughts into words. As she was talking about the way they post pictures of their children, she told me that a few of her:

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friends, have like had kids in the past two years I want to say and it's almost like their Facebook becomes like their shrine to their child and their child's only like one, they don't need to be all over, their pictures don't need to be everywhere on the Internet.

Cassie returned to the idea of no boundaries when she mentioned how her friends who are expecting children use social media with "the craziest part to me is like people that I know that have started having babies and like they will just like take pictures of their stomachs for like the whole 9 months." She continued, exclaiming: "I'm like I really don't want to see this at all, but…,(laughing), that's like the new trend I think, I hope I don't do that when I'm a Mom. (laughter)." After Cassie had forged such a strong identity with members of her own generation by comparing them to the older graduate students, this view of those within her own generation served to help stake her claim to herself as an individual, and her desire to make sure she was not like the others.

There were other parts of Cassie's story that referenced age differences, not all of which were connected to her being younger than others. For example, when talking about using social media games on her cell phone, she talked about:

> …then there's like the random games you start, and then you can tell if it's like younger kids so I started like a random game with like hanging with friends and they're like, how old are you, you're really good at this game and I can tell they're like probably a lot younger than me, so I think that's probably who the chat features maybe just for younger kids or something like that. (followed by laughter)

Throughout the interview with Cassie, as she expressed her thoughts about social media, I was able to gain an insight into her values system. Cassie firmly believes that any public persona of teachers, or teacher education students, should reflect professionalism at all times. She also recognizes the privacy risks with social media, but instead of opting out of social media, she takes responsibility for her own behaviors:

Another thing I was thinking is that like I'm friends with a few professors on Facebook, like uhm, probably just one or two, from the college of education, and I see people posting about classes, or how annoying their advisors at norman are, or, oh power hours are so ridiculous, it's just a waste of time, and I like, you know, make Facebook a great place for venting on your status, but like it's so, you never know who can see what, who can anything, so the same reason for like I guess uh connections, because there's always like the friend of a friend, who knows who, people you may know, there's just no privacy anymore, so I see a lot of people posting things that should just maybe be texted to each other or something like that.

Cassie again revealed parts of her values' system when we were talking about playing games on social media, and specifically on mobile phones. During that part of the conversation, Cassie let it be known that she doesn't approve of cheating when she told me about an instance when she was playing with one of her friends and utilized the chat feature to talk to him.

Cassie   (laughter), but I did accuse someone of cheating once on hanging with friends on chat because like, none of the words, he could have never come up with, they were just all words I've never heard of

EKE   Have a little dictionary handy (laughter)

Cassie   (laughter) Unh huh, you can use, they have those sites now, for like cheating with scrabble and stuff, And I could tell he was using the hardest one, and I'm like, that's not even a word…(laughter)

EKE   That takes all the fun out of it

Cassie   (laughter), it totally does, that's why I accused him of it. (laughter)

Cassie's enthusiasm

As part of looking at Cassie's story through a micro lens, it was important to remember that she had actually been verbally telling me her story during the interview, and that it wasn't something she had written. The fact that I had an audio recording of the interview to reference during the analysis phase allowed me to gain more insight

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into any pauses that may have transpired during the interview, and to examine more closely any emotions that Cassie had expressed.

There were times when Cassie's enthusiasm for the use of a specific type of technology bubbled over. For instance, when she was talking about using Popplet with students to make graphic organizers, she said, "Popplet is recently one I started using because for a few classes I've had to make, you know, graphic organizers? That was like the coolest web site ever and it's really kid friendly!" When talking about technologies that she had used during her educational technology class and then found that she was going to use them again, she went on to say:

> And there are a few that I've had realized uhm I have found myself having to like for example, Zunal. . .and there was a few more, Uhm, like Vimeo, the video one. All these things like I had, I was like trying to use them for either personal use or for lesson plans for school and I was like, oh, this looks cool and I'd start an account and they'd say it already existed, and I'd have to go back and find the password. . .(followed by laughter), so I guess I'm a member of a lot of these sites and I just don't use it as consistently as I thought I did.

According to Cassie, she was using Google Docs as a student because she had learned about it in the first course on technology integration she had taken at the university. When she was telling me about her use of Google Docs, again her enthusiasm for the use of technology was quite obvious, as when she stated:

> I've used that probably the most just because of all of the cooperative learning the college of education does, where you have to work with someone who, they might not even be on campus, they might be doing distance courses, or someone I don't live with, and trying to edit a group document, or do a group presentation using a graph or a PowerPoint, stuff like that. I love that because it's easy for a group project everyone kind of has to do their part and you can see when they logged in.

There was much laughter interspersed throughout Cassie's telling of her story. Most of the time it was appropriate in relation to the content of what she had been

talking about, as opposed to sounding like nervous laughter that she was merely using to cover up something else. At one point, her laughter was followed by her stating that something was funny "basically, (laughter), it was funny because. . . .", so her laughter definitely fit in the conversation. When she was talking about her friends taking pictures of their stomachs during their pregnancies, Cassie talked about "the craziest part to me…(laughter)….I hope I don't…(laughter)." Since her laughter fit with what she was saying, there were several times when I also laughed with her. She told me that since she had defriended several people from her Facebook page, she had been tagged a lot less than previously and referred to it as being "a good thing I think (laughter)." This statement was followed by my laughter and statement of "That's funny!"

Evolution from student to peer

Having once had Cassie as a student in my class, I found it interesting to analyze our conversation through a transactional lens and observe the different roles that we both assumed at different times during the interview process. Cassie questioned me as the expert on technology at least three times during the course of the interview. When she described emails people were sending her with different images, she referred to them as memes or anime and then asked "is that what it is?" I briefly answered "yeah" and she continued without being distracted from the story she was relating. Another time she referenced being able to buy things by linking out of Pinterest to an online store. Once again, I provided a short answer—"Etsy"—and she continued with "Etsy was what it was and I went to this like Etsy shop and bought a wedding gift for my friend." The third instance of Cassie's view of me in the role of the technology expert came when she asked, "Would you consider like those games I was talking about earlier, like Words with Friends, would those be considered social media?" At this stage

of the interview, since so much of the dialogue had become more like a comfortable conversation, I replied without pausing to ask her opinion first. After my initial response, Cassie and I were able to have a peer-level discussion about the elements that had to be present for something to be considered social media and she provided further insight into the varied levels of her social media use.

> like for example, when I was using YouTube, like I very rarely post, I probably have 3 or 4 things posted on my YouTube account, but I wouldn't, I utilize it for, like, I have like subscriptions, so I subscribe to Ellen Degeneres and like this one band I like, when they post videos every Tuesday so I just subscribe so I know when I get it, now I'm not really communicating with these people, but it's kind of like, I don't know, it makes my communication easier, cause I can like send a link to my friends, oh, there's this funny Ellen video or whatever, The games, like the chat features for instance, like I've used…

This more informal conversation indicated a level of familiarity between Cassie and I that wouldn't be present between those who had no prior relationship.

There were a few times during the interview that she mentioned the class I taught as a point of reference for other information, such as when she spoke about the course on Internet Instruction in K-12 and referred to "and that class, the majority of the sites she introduced were very similar to the class you taught earlier, or the same, like the articles about the tree octopus and all that…" When Cassie started talking about her use of Twitter, she began by reminding me "uhm…remember in your class we had to follow Will Richardson on Twitter?" These points of connectivity between the two of us allowed the use of more familiar language during the interview, such as when Cassie used the term "fancy schmancy" when describing a teacher she was following on Twitter and told me "she talked about how she used to work in like the Bronx or something and now she works in like Upper Eastside, I don't know, somewhere fancy schmancy, where they have more access to Internet."

Cassie's ability to analyze her own use of social media allowed us both to view her as a co-researcher for this study. As the interview was concluding, I asked her if there was anything she wanted to add. Cassie articulated her thoughts well when she stated

> One thing I did notice, is that during every time I was using social media, so I wasn't using it by itself, so like I was never just on Facebook, I was always doing Facebook and something else, whether it was another social media site, or, but, I was never just like where for homework, let's say I just sit and I just read a chapter of a book, I'm never doing that, I'm either on Facebook and on the phone, Facebook and Twitter, Facebook and cooking, like or vice versa, I'm on Pinterest and cooking, Pinterest and doing this, and it's never like by itself, and when the text messages like ended and I was like really thinking about it, I was never using social media, like just by itself, and I think that's one thing really important too, to like consider especially if I want to try and be the teacher that does all this social media in her classroom, so I don't know what that means, but it's something I thought of.

This final statement by Cassie helped to emphasize her evolution from student to peer.

Participant #2 – Heather

Heather was preparing to graduate with her Master's degree at the end of the semester and doing her full-time internship in a multi-age kindergarten, first, and second grade classroom during the course of the study. Much of her dominant discourse centered on her role as a teacher, including her current role in the class as an intern and her future role as a fulltime classroom teacher. There was also a second discourse present in Heather's story, and that was the need to protect her privacy. Much of Heather's story contained elements related to her need for privacy, both in her personal and professional life. There were several occasions where Heather expressed her struggles finding time to use different technologies that she wants to learn more about.

Heather's classroom discourse

Although Heather was teaching in the classroom as an intern, she never referred to herself as an intern during the interview. Instead, every mention of herself in the classroom was in conjunction with her cooperating teacher and included the word "we." A few of the many instances of where Heather referenced herself as part of a unit with the cooperating teacher included "we use that a lot," "we do a focus lesson with those. We do, on Monday it's first grade and on Wednesday it's uhm, second grade, so we do that," and even talking about classroom management with "we do that every Friday and sometimes throughout the week when we have a little free time or need them to kind of settle down." It's very clear from these statements that Heather's cooperating teacher has made her feel like an equal member of the team and that Heather enjoys that role. This also helps to frame an understanding of Heather's confidence in her own teaching ability.

Heather indicated that her cooperating teacher is on Pinterest all the time with "she's always 'Oh, I saw this on Pinterest last night,' and this and that." Although Heather mentioned her cooperating teacher's involvement with social media several times during the interview, specifically concerning Pinterest, Facebook, and Google Docs, it was evident that Heather does not share the same level of engagement with social media for professional applications:

> oh no, if I get on there [Pinterest], I'll get sucked into it and I will never be able to come out so I resisted and resisted and I opened one and I was only on it for 10 minutes and I haven't been on it since, but ((laughter)).

As the researcher, I commented, "Well, you didn't get sucked in," as a way to confirm for her that she hadn't fallen into the trap she had feared. She followed this up by responding "I know, right? I was very careful, But, uhm, yeah, I found a lot of really

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cool things to pin, but I wasn't entirely familiar with how it all worked and I just didn't

haven't had the time to really invest in exploring it though."

When questioned during the interview about whether she shares her teaching

ideas with others, she conveyed:

> And part of, I think my where I have not been using social media so heavily is because I don't want to do everything that everyone else is doing…and there are four teachers and one teacher will do something and all of a sudden all four of them are doing that. And to me that's not very creative to all be doing the same things when it's all, I saw that on Pinterest too and I saw that. So I kind of, that's why I think of my own things.

This explanation of her behavior was further expressed by:

> another reason why I didn't really want my Pinterest things to be on Facebook because if I pin, then everyone else will pin it and then everyone else will see that and I don't necessarily want that, It's "pinselfish.

She followed this statement with a giggle that indicated recognition of what she had

said. When I probed further to see what she thought this meant for her within the whole

realm of social media and sharing, she acknowledged:

> sharing base ideas are good. I think that that's great, but I think when you go to printing up things on Pinterest where everyone's doing the same worksheets for Dr. Seuss' birthday, you have a ton of Thing 1 and Thing 2 cupcakes or whatnot, you know, to make, to me it's just generic. So what used to be creative becomes plain.

She later continued to clarify her attitude toward sharing of ideas with "I think you

can share small scale, but if everyone is doing the same thing, then it's just boring."

These statements continue to confirm Heather's desire to be independent and to stand

out from the crowd. This behavior is further reaffirmed when she clarifies:

> I mean, if you want to be a really good teacher and you want people to be like wow, I remember she did that and we did that in my class and that was really cool because I'd never done that before, or she always tries to do this, but then everybody else is doing the same thing, I mean, I guess sometimes I do kind of reinvent the wheel with just making something up myself rather than seeing if it's already done online, but I don't always like

how it's done online, and I don't, it doesn't, it doesn't always compute with how I think and how I teach and my teaching style, so I'd rather just whip something up real fast on my own, and do that and you know maybe use a clip from something, but not, not the whole scripted lesson.

Until Heather is able to resolve her issues of how much of her self-created material she wants to be available to the public, she will not become very involved with social media. The very idea of people she doesn't know being able to comment on what she has done makes her uncomfortable. In fact, she doesn't want anyone outside of her small group of close-knit friends to have access to her teaching materials. Heather presents as very confident with her own teaching abilities, yet her underlying fear of others getting credit for what she has done, and her need to stand out from the crowd, indicate her continued need for validation of her abilities and worth.

When I asked Heather if she was utilizing the comments features on any of the sites she went on, such as on Pinterest or two separate teacher's blogs she accessed on a regular basis, she indicated that she was not. In fact, she shared that she:

> shies away from things that she has to create accounts for and log into versus things that I can just see and use and I don't know, it's awfully kind of, somewhat creepy in a sense, to me, you're talking to people that you don't know who they are and then if you have what if they look you up and they try to find you, I don't know.

Heather's use of the phrase "I don't know" indicates that this is still an issue she is struggling with. Other indications of Heather's identity as a teacher came when she was discussing how prepared she was for her own classroom. She revealed that:

> I'm already a squirrel, I've already hoarded, and bought and put away enough stuff and I'm in the middle of gonna have to move pretty soon so I see all these ideas and I guess that's what's great about Pinterest is cause you can pin it and then do it later.

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The narratives of Heather's life

When I began to look at Heather's responses through a meso zoom lens, I realized that there were several overlapping themes. These included her independent thinking, the way that she viewed social media for her own use, her upcoming marriage, and her job search. As mentioned earlier, much of Heather's discourse was centered on her life as a teacher. Present within this discourse was Heather's confidence in her own abilities to plan activities for the classroom on her own. Heather's confidence in herself as a classroom teacher who can easily create new lessons for her students manifests itself when she expresses how she views the planning process. She asserted that:

> in regards to getting ideas, to me, it's more time to go online and try to figure out something rather than just sit there and think and like how I do my science even if I do, put everything else I'm gonna cover, and then I think of, ooh, that would be really cool to explore colors, you know, give them finger painting and mix their own colors and talk about that, versus oh, I've got to find it online to be able to do it, I can just do it on my own.

For example, at one point when she was talking about not wanting to use lesson plan ideas that everyone else was using from Pinterest boards, she expressed, "that's why I'm more, oh I'll just think of something externally from what's in vogue, so to speak in education." It was good to see this level of initiative in a beginning teacher, but her lack of desire to share her independently-created lessons with those from outside her most intimate circle also suggested that it would be hard for her to collaborate with other teachers.

Heather did not view the use of social media as a tool for communication as being necessary in order to share information with those in her inner circle. About midway through the interview, Heather voiced her feelings about sharing information with others that served to sum up how she looks at the use of social media:

then other people discovered it and I mean word of mouth, it has spread. Settle On In, so Ms. Brewster, one of the Project Friends teachers, she found it, she told my teacher about it, my teacher and I have been working on, like using it, and then we told Ms. Zowden, another one, then we told another 1st grade teacher who's just a 1st grade teacher and she's been using it and has been loving it. I told Joanna about it, so it's kind of weird, because we've, I mean, we've been using social media, but spreading it via word of mouth rather than online…because online there's so many links and so many this and that, but if you actually show somebody, then it's "Oh" that's actually, I'd use that, or I'd remember what that actually is, versus just some URL.

A further indication of Heather's use of social media in ways that are different from the mainstream appeared through her self-identification as a member of a large cohort that took undergraduate classes together. Due to increased distances in physical locations, Heather had not continued to maintain those connections. Having taught all of those who were in her peer group as undergraduates, I knew they had previously made use of a private Facebook Group for keeping up with each other. I asked Heather during the interview if they still used it to keep in touch with each other and found out they "haven't really used that for ideas, bouncing ideas off of each other, and honestly because, Taylor's in Alaska, and Mary Grace is…". As I continued to explore this idea of people in her cohort not all keeping up with each other, Heather told me, "that kind of distance, I find it difficult when people move away to keep socializing on, through the Internet, because if you're not in the near vicinity, I don't know, you don't really know what the other person's thinking."

This idea of distance was further expressed in terms of individual members of the cohort that she does or does not communicate with and why. She sees the use of social media as a supplement to in-person interactions with others, and not something to be used to replace face-to-face communication. This point of view again points out Heather's independence, since it is a contrasting philosophy from those that see social

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media as a tool to help connect with individuals who are not geographically close to one another. She mentioned three others from our class with whom she had been close and described their relationships now:

> that's why with Destiny, I don't really interact with her anymore, cause she's in Atlanta. And even though the Internet could make us easily communicate, the real distance is still there, so we're not interacting as much. Whereas, JoAnna and Erica, Erica lives above me, so you know, it's easily, and we talk about things more.

A strong penchant for privacy exhibited itself not only in Heather's professional life, but in her personal life as well. Immediately after I read the introductory statement from the IRB at the beginning of the interview, Heather jumped right in to tell me that while she was doing the study and tracking her own usage, she realized that:

> I had learned about all these social media things, but I wasn't using them, I was primarily using Facebook for social use, and then I deactivated my Facebook 'cause I got tired of it and also personal issues with Mother-in-law, and all that jazz. But, so anyway, I deactivated it for a little while toward the end and then reactivated it recently, uhm, but yeah, it was interesting to see what I was using and what I was using it for.

As I was still processing this opening dialogue full of information, I commented on it being interesting and then as I was still saying "uhm," Heather continued going on with her next statement to say, "I opened a Pinterest account." This abrupt change of subject inhibited the flow of Heather's story.

During the interview, she revealed that the main reason for reactivating her Facebook account was so that she could be available to:

> communicate with people with wedding things coming up and if people had questions or wanted to talk about certain things, I wanted to be able to, since the world is so much on Facebook now that I wanted to be able to do that, versus you know, them trying to text me, or do they have my number and this kind of thing.

The jumping around within the topic of Heather's need for privacy continued throughout the interview.

Heather's struggles with shared resources

Since Heather had talked so much about not wanting to share the things that she had created online, her story seemed to get bogged down as she continued talking about finding online resources. An unresolved dichotomy presented itself when she talked about another teacher's blog that she found online. She described it as:

> great because you've got resources, you've got, you know already ready-made Jeopardies,… it helps decline with, decrease the whole planning and preparation with that and so we have consistently been using that each week.

Heather went on to talk further about using "components but not the entirety of other people's stuff" that she finds online. She admitted that she had:

> considered making a blog kind of like Mrs. Zirulo..but then other people find it, so, I've been thinking about kind of making one for myself to try to just you know put all of my ideas and put all of my resources and upload things worksheets and this and that kind of as my classroom website as well, but then I don't, I don't know, I don't want everyone in the world to go and then take things, I don't know, and so…..I know, it's strange. It is hypocritical, but..it's kind of like you want good ideas, and I don't make the entirety of my teaching based off of these , you know, little videos, or whatever.

The whole idea of people she doesn't know having access to her materials is a huge stumbling block for Heather in the use of any online technology, but especially social media. It was easy to tell that this was something Heather was still struggling with, as indicated by multiple uses of the phrase "I don't know" in the previous segment. The presenting of these personal dilemmas or challenges was another way in which her story was disjointed.

Heather's disclosure to the researcher

There were several times during the interview that I encouraged Heather through the use of body language, such as a nod of the head or a smile while she was talking. There were also instances where I used affirmative language and agreement to try to elicit more information from her. An instance of this occurred when she was talking about why she didn't like using the same things everyone else was doing. In this situation, I was able to find out more about Heather's desire to do things on her own. She was very much interested in making sure that her teaching was different, and not simply a copy of everyone else:

Heather   I don't make the entirety of my teaching based off of these, you know, little videos, or whatever.

EKE   Right, sure

Heather   But, I think you can share small scale, but if everyone is doing the same thing, then it's just boring

EKE   Uhm, hum

Heather   And then, it's not

EKE   There's no uniqueness

Heather   Yeah, and then it's scripted

I knew from everything she had already disclosed during the interview that one of Heather's main priorities was her need for privacy. However, the fact that we had already established a relationship prior to the research study, as well as the fact that she had disclosed a brief version of why she had deactivated her Facebook account at the beginning of the interview, led me to inquire further about what had happened. Since Heather had never returned to the story of deactivating her Facebook account and we were approaching the end of the interview, I asked her to tell me what had

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caused her to deactivate her account. Reasons for Heather's very strong feelings about privacy and being able to keep what she has created to herself began to emerge as she related an episode that previously occurred between her and her future mother-in-law.

Heather felt her privacy had been invaded when pictures she uploaded on her Facebook wall were claimed by her future mother-in-law as her own and posted on her own wall. This breach of privacy became such an issue for Heather that not only did it result in her future mother-in-law defriending her on Facebook, but Heather ended up deactivating her Facebook account. She vented to me that she wasn't:

> really on Facebook anymore; feelings because it goes to, well what is, what is, you know, Facebook etiquette? What are your rights on Facebook?... It was so ridiculous that it was Facebook and you know, it's really not a big deal, but it became so much of her life, that I can't believe you, it's my right, it's this and that, and I was just like, I'm done with it, I'm over it, so I haven't you know, and I, I don't check my Facebook as much as I used to, it's more of, I'll go on and see if anyone contacted me and that's kind of it, it's not really something that's. . . .

As Heather finished telling this story, her voice trailed off into silence. Although she had been quick to tell me about having mother-in-law problems at the very beginning of the interview, the silence led me to wonder if she was now experiencing regret over having shared this episode. Having learned the high value Heather placed on privacy, I knew that she would not have disclosed this episode to someone with whom she did not already have a shared history.The fact that we already knew each other allowed me to gain this further piece of insight into Heather's life in the world of social media.

Participant #3 – Yazmin

At the time of my interview with Yazmin, she was one week away from graduating with a Master's in Education and dual certification in elementary education for K-6 and special education for K-12. Although she had been through the

undergraduate program with others in the Elementary Education program, she had

completed her full-time internship in a secondary level special education classroom. The

placement for her internship reflected Yazmin's desired teaching level for her career.

She shared during her interview that she had difficulty convincing administrators in her

program to place her in non-elementary classroom settings. Yazmin's blogging

experience was the dominant topic that emerged during our interview time together. In

addition, the relationship between Yazmin and I played a large role in the interview.

Into the blogosphere with Yazmin

One of the things that stood out from Yazmin's text messages was how involved

she was with blogging. As I asked her to tell me more about many of the blog

experiences she had mentioned during the text messaging stage of the study, she let

me know that she has a blog called simplyumi.com. She also told me, "I actually bought

my domain, cause I like it." As I asked more about her reasons for blogging, Yazmin told

me that one was, "because it is generally a good de-stressor, and I know my fiancé likes

food." Yazmin's whole demeanor took on a more confident expression from just talking

about her blog.

It was easy to see that Yazmin's blogs were very important to her and she took a

great deal of time explaining her cooking blog to me. She shared that the basic structure

for her blog begins with a recipe created by someone else that she finds in a magazine

or elsewhere. Yazmin then told me how she goes through the preparation of the food

item and posts pictures for each individual step of the process, along with a picture of

the finished product. She then concludes each food post with her own review of the

preparation and completed dish. In talking about the kinds of food dishes she includes

in her blog, she said that she doesn't include recipes that aren't any good because

"they're disgusting, and I don't want people to, like, I figure they're gonna be people out there that will do the recipe and be like, this is disgusting, why didn't she tell us, and I'm like, well, that's the end of the blog, you should read all the way through before doing it."

Yazmin told me that "with grad school, it's kind of hectic, I haven't done a blog post, since, oh my god, Valentine's Day [two months from the time of the interview]…So this summer I'm gonna really catch up." I could tell from listening to the tone of her voice that she really missed being able to work on her blog and that it was truly something she enjoyed doing. Her sense of pride in what she had created was evident during the interview when she pulled up one her blog entries and showed me all of the steps and the pictures that she had taken at each stage of food preparation.

Yazmin also talked about her desire for more hits on her food blog. To try to generate more traffic to her site, she told me:

> that I get my blog out, I put it on Pinterest…so I put it on there, so, because my friends who complain that since I don't have Facebook anymore, they can't see, they wanna see when I put up new recipes. I put it up on Pinterest, then they can go to my board."

Another occasion when Yazmin expressed excitement about her blog was when she recalled the time she "had a couple of big hits for my potato egg boats. Like I'm on the 1st or 2nd page of Bing for my pictures, so that's exciting." She had already investigated using Google Analytics to monitor traffic on her blog, and discussed how she was always checking her stats. When talking about other things she did to drive more traffic to her blog, she declared:

> Yeah, uh, some days, I'll get like noted, and then some days, depending on if I just put a recipe up, uhm, then I'll get hits because now we do like, well I used to, I just put the recipe on Facebook, but I also put it on Stumble Upon, so I still get I would get big hits on Stumble Upon the day that I put it up… And then I usually get the comments and stuff like that, so I feel really good about that.

After hearing how important Yazmin's blog was to her, I asked if others ever commented on her blog and she responded that it was mainly her mom who left the most comments. She went on to tell me that she pre-approves the comments "because I don't want people putting really weird comments up on it." Even her excitement about her blog was tempered by her expression of wariness about the amount of spam she received on her blog and her uncertainty as to how to eliminate it.

Yazmin's narrative about her blogging experiences didn't end with the discussion of her own blog, but continued with a description of a few cooking blogs she follows regularly:

> Uhm, there's a couple of bloggers that I follow cause I really like them. Chef John? Uh, he's so amazing. He, he, not only does he do pictures, but he also does videos, uhm and he, he's been, I don't know, he probably has like over a dozen blogger awards and uhm he actually works for about.com food, and he got most of their food stuff, like he, he's so, so cool…Chef John comes up with his own stuff. Well, like yeah, I know, cause he's awesome.

When I questioned her about whether or not she leaves any feedback on blogs written by others, Yazmin was quick to let me know that she occasionally leaves comments on some blogs, but "Uh, not Chef John, Chef John has like over 500 comments for each one, so it doesn't matter, I'm pretty sure he won't be looking at his board." She even added that although her dad follows her blog:, "he's always talking about Chef John, I was like so, yeah, I was like thanks Dad, thanks for letting me know Chef John, Chef John's better than mine, me. - and he's like, well, he is (laughter)." Chef John's blog serves as a point of inspiration for Yazmin and appears to be a model for her own creativity.

Yazmin related her story mainly through a first person account. However, there were a couple of times where she took on the role of narrator and described her own

actions to the tape recorder being used to capture the interview. In this way, she was personifying the recorder as being a participant in the interview. She even went so far as to tell the recorder "bye-bye" when we concluded the interview.

Looking at Yazmin's social circle

While Yazmin's blogging experiences encompassed the majority of the interview, the lack of interaction with her peers also played a significant role in her story. Yazmin talked about her isolation from those in her own peer group.Any positive relationships with others that she talked about in the interview centered on her fiancé, her family, and a few close friends. Other narrative themes that appeared in Yazmin's story included: a) the different types of social media she was using, b) her current role as a student, including her teaching internship and classes she had taken, and c) her job search.

Yazmin's social interactions were connected only to her fiancé, her family, and two members of her cohort. She told me that she cancelled her original Facebook account and "…got a secret account, just so I could have my mom, my dad, my grandma, my grandpa, the sisters, my aunts and uncle and their two kids, that's it...I didn't want to hear all the whining, and friends are not really your friends." Furthermore, when she was describing the blog followers that she knew personally, she mentioned most of the same audience, with one addition. She told me:

> the main ones that follow my blog are my mom, my dad, my sisters, my fiancé, my grandma, and then uhh two of my cohort members….Also my godfather, (laughter), so it's mostly my family.

During the discussion of different types of social media she was using—specifically Pinterest—I asked her to tell me the kinds of things she usually pinned to her boards. I also wanted to know how much re-pinning she did and the kinds of socialization she had that centered around her Pinterest boards:

like I found this person named…and I like her teaching stuff, she, she, composes a lot of my friends teaching stuff, so I follow that…and specifically her special ed stuff a lot, and I just recently started following someone's bridesmaid board, and I'm following somebody's Dr. Who board, cause there's not many Dr. Who boards out there, except for me and her and a few other people, and I like her board, so I follow it, so uh, I do, I do look for people who have similar interests…

It was intriguing that within this one section of dialogue, Yazmin revealed that she followed boards related to the things that have appeared as major themes in her story. I was amazed at the fact that so much could be seen in relation to social media. There was her personal interest in Dr. Who, her interest in teaching and special education, and information about her upcoming wedding. This information was telling in terms of revealing how much social media is integrated into many different parts of her life, and not just pigeonholed into one area.

I was also interested in finding out the kinds of social interactions Yazmin had with her different boards. Her response was to tell me that she doesn't really comment on others. When discussing the comments that others made on her boards, however, she told me:

Yazmin   Yeah, sometime people comment on my pins, uh, especially if they really like it, and then on the sidebar you can see who re-pins your stuff, so a lot of my cohort, like the ones that are getting married too, they just re-pin some of my wedding stuff and my food stuff…Uh, which is interesting, because I'm nothing, they've made it very clear, I'm nothing like them, so it's funny that they're pinning the same things that I am.

EKE   Do you want to talk about that one?

Yazmin   No…(laughter)

After listening to Yazmin's descriptions of feeling isolated from those in her peer group, it was understandable that she looked to her blog on social media for validation and as a way to feel more self-worth. As we were discussing people re-pinning things

from her boards, she explained that there is an option on Pinterest that you can have people pinning to your board, but stated "I haven't tried that cause I don't want people pinning to my board, I'm selfish."

Yazmin's continued use of technology tools she had learned about in class, along with her enthusiastic response to the emerging technology of Google Glasses, seemed to indicate fearlessness with respect to social media. Because of the attitudes she revealed toward those technologies, I was surprised by her later comments that reflected a reluctance to share information online. At one point in the interview, when she was talking about an app on her phone that she used for tracking her running sessions, I asked if she made use of the social media part of the tool that allows the sharing of information with others. In reply she stated that she always puts her "things private, just because, I don't know if Big Brother's watching or I don't know who's hacked in there." When the issue of Facebook came up, Yazmin told me that she:

> got rid of my main account and I just got a secret account, just so I could have my mom, my dad, my grandma, my grandpa, the sisters, my aunts and uncle and their two kids, that's it…Cause I didn't want, I didn't want to hear all the whining, and friends are not really your friends and then my students wanting to try to find me, so, I got rid of it.

Yazmin also revealed that part of her reason for not having a Facebook account was because her mentor told her to get rid of it:

> He said it looks really bad if you go for an interview and they say, oh do you have a Facebook, because supposedly there was just a sting where they found a bunch of teachers, uhm, getting with their students through this now…and I guess it just looks really bad, especially my generation. So, I'd rather get a job than have Facebook.

Yazmin's expression of self

During Yazmin's telling of her story, there were few pauses. Her story was told with enthusiasm and conviction. The dearth of pauses did not indicate hesitancy on her

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part, but were used more to allow her to catch her breath. Yazmin did not take breaks

from her story except during the times she talked to the tape recorder to tell it what she

was doing.

There was much emotion displayed by Yazmin while she was telling her story.

She demonstrated compassion for her students when she described her response to

her special education students and their life goals. She told me:

> so these are the kids that are failing math, English and all these subjects
> and yet they're like I'm gonna be a doctor, I'm gonna be a pediatrician, and
> I'm like, you have to, without hurting their feelings, you have to get them to
> realistically realize that it's a lot of years of study, vigorous studying that a
> lot them, they are not ready for.

I could tell that Yazmin had a genuine concern for these students because even though

the students she was talking about were in her internship, she still wanted to protect

them and make sure that they weren't going to be hurt by the truth. This was a good

example of Yazmin already viewing herself in the role of teacher.

She also displayed empathy for others during the interview when she explained

to me why she did not comment on other blogs: "'cause they don't know me, and I don't

know, if there were comments on mine that seemed negative, I would feel bad, so I

don't want them to get too crazy." Her recognition of how the comments could affect

people was moving. In the midst of her own striving for comments and recognition on

her blog, she was still paying attention to the feelings of others on other social media

platforms.

Another expression of emotion from Yazmin was her use of sarcasm. In one

instance, she provided a vivid description of why she does not use Twitter by asserting:

> it's just people playing with statuses, it's kind of like Facebook, where
> people whine on Facebook and they're like Oh my God, I hate this bitch,
> she's terrible, I told her off, and the next like sentence, they do it just to get

comments back. I think it's like an ego trip, so I mean I tried, I actually set up an account and tried, and I didn't see the point of it, and I was like, uh, I don't really care. Like I'm very introverted, so I really don't care what other people think….(laughter) (stated sarcastically)

Other emotions expressed by Yazmin included happiness, joy, and frustration—all with different groups of people. Although she was sad to be almost three hours away from her dad, she expressed happiness at being able to talk to him when she exclaimed, "OH! We do have Facetime now, so now we're starting that." There were numerous times when Yazmin talked about her cooking blog, and each time she expressed joy at what she was doing. Her main point of frustration was exemplified in her earlier description of how other members of her cohort had let her know that she was nothing like them.

Just between the two of us: Yazmin's need for validation

There were several connecting points between Yazmin and me that surfaced during the course of the interview. As the interview began and I questioned her about the online sites she was a member of when she first began college, she immediately jumped past her entry to college and began telling me about the things with which she was currently involved. With each application she mentioned, she was quick to let me know that she had learned about each of these things in the class I taught:

Yazmin   for your technology class, I use most of the stuff still, I use, I, I, I love my WordPress

EKE   Cool

Yazmin   so, I actually have two blogs now, but I'm trying, I'm gonna get rid of one, cause I don't like, so, I still have my food blog, and I use, is it Diigo? I use Diigo. Cause I used to have something else, but I switched to Diigo cause we had it in your class

EKE   Did you have Delicious or something?

Yazmin   Delicious, yeah, and they changed their terms, or it shut down, so I switched to Diigo and I like that still, uh, I do still research a lot of things, I do a lot of Ted.com, cause I discovered it while doing your class, and I actually have it on my netbook still, I watch it all of the time. I think it's really interesting

EKE   Yeah

Yazmin   I know all my cohort members think it's like, a little scary, but I like it.

The way Yazmin stressed the things she was doing with social media and related them to the class she had taken with me as the instructor helped the first transactional relationship to appear—that of Yazmin as my former student. She was very proud of her blog and enjoyed showing it off to me as her former teacher—especially since her interest in blogging had been sparked after she had to create a blog in my class. This example of the intersection of our individual lives contributed to the comfortable way that Yazmin shared her story.

One of the distinct things I remembered about Yazmin's work in my class was a presentation she did on augmented reality. During the interview, I asked her if she had seen any of the recent news items about the new Google Glasses. When she indicated that she was unsure what I was talking about, I gave her a brief synopsis of what I could remember seeing and hearing about them. There were parts of my explanation that reminded her of what she had learned for her presentation in class and she responded enthusiastically with "ah, that's so cool" and "that's it exactly!" I told her I was mentioning it because of the presentation she did in class and she remembered that it was on Sixth Sense Technology that she had learned about on a TED video clip. She went on in the interview to talk about how she thinks artificial intelligence might have an impact in the future:

It's scary, if you think about it, it really is scary, cause I just recently
watched a thing uhm, from this Japanese car company and they literally
have AI in their building, they have AI where the child machine is walking
around and interact with customers and multi-task.

She even referenced her mom and the fact that she always says, "that uh, the

movies is just to prepare us for what's already out there." As we finished up our

conversation about Google Glasses, Yazmin commented in jest that her "kids are gonna

be like the Jetsons…and I'm gonna try and keep up with them." Yazmin's role in this

exchange went from that of former student to that of peer when we were interacting

about the augmented reality and artificial intelligence applications and how they would

impact us in the future.

Talking about our shared experiences contributed to the informal atmosphere of

the interview with Yazmin. In fact, there were several points during the interview that

she would pantomime talking to the tape recorder as if it were another person in the

room. For example, when she started talking to me about the Urban Spoon app she had

on her iPhone, she even told the recorder "I'm showing her Urban Spoon on my

iPhone." This allowed her to take on the role of teacher with me in the role of student.

During a discussion of what happened in one of her online classes, Yazmin had

no problem venting to me about her feelings on the subject, as illustrated below:

she was like read the textbook, discussion post, quiz, boom. Well, there's
no interaction, I'm like how am I gonna learn, you didn't even like teach me,
you just said read this textbook, humph, what am I gonna do, I can do this
on my own, I can just read the textbook on my own and know everything.
That class frustrated me.

The following exchange shows the relaxed relationship between the two of us, and

helps to illustrate that we were feeling the same about the way her class was taught.

After Yazmin had expressed her frustration with her class, we both became playful in using the word "stupid" with an emphasis on the first syllable:

Yazmin   That class frustrated me.

EKE   It sounds like it.

Yazmin   Uhm, it was stupid. (laughter)

EKE   (laughter) That's a good descriptive word.

Yazmin   (laughter) yeah, it was stoo-pid!

EKE   Stoopid (said together)

Yazmin   Stoopid! I think I got a B in that class too, that's stoopid, B in the class.

While the two of us were able to joke around about the situation, we both understood that she was frustrated. Our shared reaction to her class was another example of our new role as peers.

Participant #4 – Laura

Laura was completing her 4th year of study in elementary education during the study and preparing to move away from the university town so that she could live at home during her year-long internship the following school year. She was one week away from graduating with her Bachelor's degree at the time of the interview. After she completes her internship and a few more classes, she will receive her Master's degree. From reading the many text messages from Laura during the first part of the study, I knew that she was an avid user of social media, so I was looking forward to hearing more about her experiences. The two main discourses that emerged from Laura's interview were her interactions with social media and her view of herself as part of a group rather than an individual.

Laura's life in social media

One of the unique elements of Laura's story was how much overlap there was between her discourses of social media and herself as a group member. Whether it was with high school friends, her family, or members of her undergraduate class in college, Laura's references to herself were never about her as an individual, but about her as a *part of a group*—and how social media helped her to stay connected to the various groups.

She told her story from the first person perspective, but it was hard to find Laura as an individual in the midst of the dialogue. For example, she explained that she uses "the tools of Facebook more, so like I use it to create events, or I, you know, keep in touch more, with, like my high school friends, because my friends have accumulated since I've come to college." When discussing more about how she used Facebook, she told me that she had a "need for Facebook, to go back and you know, so I guess, pictures, and you know, keeping up with friends and family members cause they have joined Facebook since I've come to college." One of Laura's personal uses of Facebook was to stay connected to her family; she insisted that it had added:

> a whole new dynamic to like, I mean, like during March Madness, my Dad, my sister and I, we all had our own bracket on Facebook, and so we had a family pool going and it… (quick laughter), and so, it was just, I mean, like we, it just added a whole new dimension to our relationship as a family, and we're all in different areas. My sister's out in Kansas, my dad's in West Palm, and I'm here, (laughing), and so, it's just, it adds a different element to us on Facebook 'cause everything's in one spot.

Laura's love of Facebook and how it allowed her family to connect in different ways corroborates her comfort level with social media.

Although Laura continuously referred to the different groups of people with whom she interacted, she also revealed that she didn't use the groups feature of Facebook to

separate her status updates. As she was explaining her reason for this, she laughed her way through "the more I analyze it, I'm just like, (laughter), I don't want any group to see this, (laughter), so, I'm not gonna do that, (laughter). She further confirmed her reticence in sharing her information with other groups while talking about Google Plus. Although the circles, or groups, made it easier to limit who could see the information that she posted, it also made it more confusing for her.

> I guess like Google Plus now, I'm on that, I don't really go on it, that's one of the drawbacks to that, is like I can think about who I want to see, like what circle I want to see it, and so it just makes me less inclined to use it, because I'm like, well, if I really start thinking about it, well I want to share it with these people, but I don't want to share it with these people, but these people don't know what I'm doing and I have to make a separate status for them, like, it just, it makes me think too much. I just want to be able to like blurt out what I'm saying and then be done with it. (followed by laughing)

The continued nervous laughter indicated Laura's feelings of unease in a face-to-face setting. At one point when she was speaking, Laura expressed her thoughts about this by telling me that when she was online "I'm sitting behind a computer screen, like I can kind of edit what I want to say, cause I have to type it out." As the interview continued, it became clear that although she was very comfortable using social media, Laura used it more to find out information about others, rather than to share her own information with everyone else.

When she compared her use of Facebook to Twitter, Laura mentioned that Facebook seemed like a more formal setting to her, so I asked her to explain what she meant:

Laura   I, ok, so Facebook is just, it's you know, everyone can see it, like your friends, it's only your friends, so it's more of like a I don't know if it's, I want to say, you're just more cautious about what you say because you don't want to, you know, you know, I guess, you don't want to, what's the word I'm looking for, insult anybody, you know, and so, you might like post something, but then you're like more cautious about, ok, is this gonna be

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ok if someone I've worked with is gonna read this? is this gonna be ok, or is this gonna be ok if someone from church reads this? It's like, there's more of a, I know the audience I guess, and I know who I'm broadcasting my status to, whereas, it's kind of, at least my statuses are not reserved or private. I mean like anybody can read em if they want, like it's just, but as more, as more and more people get into Twitter, I'm becoming more cautious about what I say, so it's kind of…I don't know, I liked Twitter a lot more probably at the beginning of this year, but like, since more and more people have gotten on Twitter, it's just like, oh, well, I have to limit what I say now, and censor a little bit.

EKE   So you like the anonymity before?

Laura   Yes! Yes!

Laura's adamant response when questioned about needing anonymity further supports the argument about her not wanting to share parts of herself as an individual, but only as part of a group.

Although the only two forms of social media Laura interacted with when she first enrolled in college were Facebook and Google Docs, she told me that her use of social media had "blossomed, (laughter), while I've been in college" and that she had become involved in "Instagram and Facebook, more involved with Facebook I feel like, (laughter), progressively getting more in depth, uhm." As I asked Laura about the types of things she did with Instagram, she quickly responded by telling me"

Laura   I can take a picture of something that I'm doing and on Instagram and then I can put this on my Facebook, my Tumblr, and my Twitter all at the same moment, and that makes it so much easier, and so I'm not constantly going through an app to upload it and then waiting for Tumblr and then typing in a post or a status about it, or a Tweet, and that I can just do it.

EKE   So it's almost a version of your TweetDeck, kind of?

Laura   Yeh, I guess, it's just I'm not, but I feel like Instagram's a little different than TweetDeck 'cause it has a visual aspect to it.

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From this short response, it was easy to tell that Laura is definitely a frequent user of many different forms of social media in her personal life and is quite comfortable in that role.

In addition to adding Instagram, Tumblr, and Twitter since she had been in college, Laura's text messages had indicated a high frequency of use of Pinterest. When I mentioned Pinterest in the interview, her first response was "Oh, Pinterest! That's another one I use, oh my gosh, I can't believe I didn't tell you about Pinterest." This enthusiastic response confirmed that Pinterest was another type of social media she engaged with frequently. By this point in the interview I had already learned about her uses of Facebook, Tumblr, Google Docs, Instagram, Twitter, and now Pinterest, so I asked her about the amount of time she felt she spends on the different types of social media. As she began figuring out the amounts of time she spent on each one, she told me:

> I guess on Facebook, Facebook and Pinterest are both vying for my time all the time, (laughter). Uhm, I have it on my phone, I have it on my computer, so, uhm, probably Facebook wins overall, I probably spend usually, collectively, an hour on Facebook a day…well, I guess Pinterest I could spend like an hour and a half on. It depends on what I have to do that day. If I know I have a lot to do, then I don't go on Pinterest. Uhm, because it's, just, oh, it sucks you in.

As she continued to calculate the amount of time that she spent on specific types of social media, she declared that in addition to an hour a day on Facebook and one and a half hours on Pinterest, she also spent over 30 minutes a day on Twitter. The fact that Laura was using over three hours a day of social media, not including her time on Tumblr or social gaming, was not a surprise to me – especially considering how she:a) described her connections to others through social media, b) felt more comfortable

being able to edit her thoughts when she was in front of a computer, and c) her tendency to ramble when she was with people in person.

With all of the personal uses of social media Laura and I talked about, I wondered if any of this spilled over into education, either formally or informally. Laura saw her education classes as being all about "cooperative learning, we, we do like, we do a lot of projects at this time of year." Laura revealed that while Google Docs was never a requirement for them to use, the fact that she and her peers "can't always get the time that we need to meet" influenced their choice of Google Docs to complete their assignments. Not only did they use it as individuals to add their own parts to the large project, they also collaborated with everyone online at the same time, at night:

> when everybody's in their homes and we do like an editing session… just kind of work through phases and like, Oh, like, let's use this, you know, and take this part out, and sort of revising and editing together…that really helped.

Since there are so many components to Google Docs, I asked if they ever used the chat feature and Laura replied in the affirmative by stating that they "were using that to kind of communicate what we were doing and then, editing and then everybody had ah, the same, same, the most current edition of what we had." The fact that Laura and her classmates used social media for collaboration on assignments confirmed that social media was a useful tool for education, and not just something they used for personal entertainment. One of Laura's concluding statements was, "Social media, I use it a lot." Based upon everything I had learned about her different uses of social media, I would have to label this as the understatement of the year.

Laura's lack of focus

There were several occasions during the course of the interview where it took Laura an extraordinarily long time to zero in on the answers she wanted to give, even when it was a subject she had exhibited interest in. This caused her story to become very disconnected. At one point in the interview, as she had finished describing her use of Google Docs and I was asking her about any new types of social media she had become involved with since she had enrolled in college, the following exchange took place:

EKE   So what other types of social media or networks have you made use of since you started college?

Laura   Uhm, actually, uhm, what else, pause…what do I have? I forget what (laughter),

EKE   Just whatever you can think of.

Laura   I'm trying to think….(followed by a long pause)

EKE   It's ok.

Laura   Uhm….(laughter)

EKE   OK, you mentioned that you started Twitter.

Laura   Yes

EKE   You started a Twitter account, uh, and what were some of the reasons that you decided to start tweeting?

Laura   Uhm, just cause I thought it would be fun

In addition to it taking Laura a long time to come up with answers to some of the questions, there were times when she forgot altogether what the question was even as she was in the middle of her answer:

EKE   Do you follow many boards, or what kind of boards do you follow maybe that aren't people in your social circle?

Laura	Uhm, I follow lots of like teacher boards, who I don't know who they are. I, I actually have found blogs through the Pinterest website that I have now followed through, blog, blogger, or whatever, or there's WordPress, so uhm, I use those, so, what else…(long pause)…uhm, I haven't oh my gosh, I'm sorry, what?
EKE	The boards that you follow on Pinterest,
Laura	Follow (another long pause)
EKE	Are any of these people not within your social circle?
Laura	Yes, (laughter), yes.

This was not the only instance where Laura had a hard time keeping up with what she was saying in answer to a question. While she was in the middle of trying to answer another question, she said, "and so, I guess like that's just a different, and I guess to go back to your question, you know how, what was the question? How…?" The multiple instances of Laura's difficulty in following the conversation between the two of us emphasized that she is much more used to being able to process thoughts in an online setting, rather than face to face. In addition, Laura made a point of saying, "uhm, I don't know…(long pause)….I tend to ramble in person (laughter), so I guess on Facebook I can't do that." This statement is significant for Laura. By giving me this confession, she confirmed that she is much more comfortable in the social media setting than she is with interpersonal interactions. This situation can be construed as both a positive and a negative for Laura. As someone who uses social media often, it is good that she is comfortable in the online environment. However, as someone who wants to become a classroom teacher, the tendency to ramble in person can potentially sabotage her efforts in front of a group of students.

Although I found out at the beginning of the interview that Laura would be completing her year-long internship the following year, I was surprised that she did not

reference it again during the interview. I expected it to appear when she spoke about different social media tools she was using—at least for the searching out of lesson plan ideas or perhaps even using social media to find out about her cooperating teacher for the upcoming school year.

Searching for emotion in Laura's story

There was an obvious lack of emotion in Laura's responses in the interview and in the telling of her story. There was neither happiness nor sadness expressed in relation to any of the instances of working with social media, only a presentation of the facts; even these were hard to follow given the recurring loss of focus and the need to have questions repeated. Since these pauses caused the story to lose connectivity, they have already been covered within the description of the meso zoom lens.

Looking for a shared connection with Laura

There was very little transactional interaction evident between us during Laura's interview. There were only two times that she seemed to take on any role other than that of the narrator of her story, and both of those times she exhibited characteristics of becoming the teacher. The first time was when she was explaining Diptic, a new app she had recently downloaded. The second occasion was when she related an example of being the first one to tell her cohort about using Pinterest.

There was positive reinforcement from me during the interview that falls into the category of reaction. Most of this came in the form of encouragement when I was trying to remind her of the question, or of the answer she had been in the middle of when she would lose focus. At other times, I provided encouragement by a smile, nod of my head, or even agreement with what she was saying. An example of this occurred when she was telling me about her collaborative use of Google Docs with group members in her

class. During her telling of how they used Google Docs to make sure everyone in the group had the most up-to-date version of the document, I responded with, "Right, good, good." I was genuinely excited that they were using the collaboration component of Google Docs rather than simply using the program as a substitute for a word processor.

At another point in our conversation, when we were discussing her use of Twitter and how she engaged it differently than Facebook, she told me, "I don't have like a TwitterDeck, I (nervous laughter), I haven't figured out how." My positive reaction of "But you know what it is, that's good," was intended to provide encouragement for her to continue talking more about the subject. Unfortunately, she moved onto another topic. Throughout our interview time, there seemed to be very little, if any, reference to the fact that she had been a former student of mine. Instead, the questions and answers seemed to be asked and answered as if in a setting where the participants did not already have a shared background of any kind.

Chapter Summary

The purpose of this qualitative study was to discover elementary preservice teachers' descriptions of their use of social media. Chapter 1 described the purpose and significance of the study, while Chapter 2 provided a review of relevant literature. Chapter 3 presented the results of the Pilot Study as well as the design of the current study. Chapter 4 provided the results of the Introductory Survey and a summative content analysis of the text messages received from eight study participants. In this chapter, the interviews with each individual were examined for meaning using a macro, meso, micro, and interactional zoom lens asbased on Barbara Pamphilon's description of the Zoom Method (Pamphilon, 1999).

Chapter 6 will provide a discussion of the findings, including an examination of intersecting and divergent points between the individual stories of participants. The discussion will be further extended to include implications for teacher educators and their use of social media with preservice teachers.

CHAPTER 6
DISCUSSION OF FINDINGS

The purpose of this qualitative research study was to describe elementary preservice teachers' use of social media. After defining the problem in Chapter 1 and providing a review of relevant literature in Chapter 2, Chapter 3 outlined the design of the study. A content analysis of the Introductory Survey and text messages was presented in Chapter 4, along with a Zoom Method analysis of key informant interviews in Chapter 5. This chapter provides a synopsis of major findings culled from the data analysis described in Chapters 4 and 5. It also suggests implications for the field of teacher education and possibilities for future research.

An Overview of the Study

Young adults live in a constantly-connected world and are continuously engaging with social media. Researchers have shown that students' cognitive functions are best stimulated by active engagement, participation in a group, frequent interaction and feedback, and connections to real world contexts (Bransford, Brown, & Cocking, 1999; Astin, 1984; Chickering & Gamson, 1987). Different forms of social media can help to meet each of these goals for student learning. Unfortunately, not all teachers feel prepared to use social media as part of the teaching and learning process in their classrooms. Unless teacher educators are aware of what preservice students are doing with social media outside the classroom, they cannot adequately design instruction that will help to increase preservice teachers' comfort level with different forms of social media.

Many researchers in the field of technology and teacher education have expressed the need for research that examines how preservice teachers are using

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social media to engage in learning (Bull, et al, 2008; Dede, 2009; Greenhow, Robelia, & Hughes, 2009; Kumar, 2009; Lei, 2009). Studies have been conducted that focus on the use of social media tools in formal learning (Lonn and Teasley, 2009; Walls, Kucsera, et al, 2012), but at present there is a dearth of research focused on the *informal* learning that takes place with social media. Using text messaging and semi-structured interviews, this study explored how preservice elementary teachers describe their use of social media. A summative content analysis (Hsieh & Shannon, 2005) as well as the Zoom Method of Analysis (Pamphilon, 2004) was used to interpret the data.

Synopsis of Findings

After analyzing data gathered from the Introductory Survey, conducting a content analysis of the text messages, and using the Zoom Method to analyze the key informant interviews, four main findings emerged from the data:

- Students' informal use of social media far outweighed their formal use
- Students rarely participated in only one task at a time
- Students were engaging with social media from home, school, work, and places in between
- There were strong feelings associated with the issue of privacy and professionalism in relation to the students' use of social media

Informal Uses of Social Media

Most of the types of social media use reported during the study were related to informal, non-academic tasks. Study participants' main uses of social media included personal entertainment, escape from boredom, playing mobile games, and communicating with others. The amount of time spent using social media for non-academic reasons – specifically social networking sites – aligned with previous academic research and consumer-based studies showing that the overwhelming majority of undergraduates express the desire to keep their personal lives separate from

their academic lives. These results stand out in the 2012 ECAR report, as well as a 2009 study of first-year undergraduates in Great Britain. In fact, the latter reported that 95% of the students included in the study preferred to use Facebook for socializing or communicating *about* school work, but not actually *doing* the work (Madge, Meek, Wellens, & Hooley, 2009).

The lack of informal academic uses of social media, and specifically social networks, confirms prior research of students' socialization through Facebook. Although few studies relate directly to preservice teachers, general college students report using social media mainly to socialize, communicate with peers, make new friends, and keep in touch with family (Grosseck et al., 2011; Luo, 2010; Madge et al., 2009; Mendez et al., 2009; Nemetz, 2012; Selwyn, 2008; Villamore, 2012). Recently, investigators reported that students actually view Facebook as a source of *procrastination* (Siemens & Weller, 2011). These same participants said that using Facebook was also a way of digitally staving off boredom.

Bored or not, the most often reported form of entertainment was simply going on different forms of social media to pass the time. This occurred most often with Facebook, Pinterest, and Twitter, which happen to be three of the top ten social networking sites in the United States (Nielson, 2011). Mention of mobile gaming occurred in several references, further confirming expected uses of mobile technologies. Ownership of smartphones, tablets, and other types of mobile devices is increasing at a rapid pace. Smartphones have become the primary way that young adults, and not just undergraduates, stay connected to the Internet (Pew, 2012).

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Many forms of social media offer the flexibility of synchronous or asynchronous communication within the same platform. This ability to connect in multiple ways is reflected in the findings of Junco, Heibergert, and Loken (2010). They chose Twitter specifically because it allowed for ongoing dialogue while also providing several of the benefits of a social network for connecting students to one another.

Another significant finding was the use of social media as a communication tool used to bridge physical separation over long distances as well as to chat casually with those in closer proximity. In many ways, the use of social media—sbe it is Facebook, Twitter, or texting—now serves the function that telephones previously monopolized. I found this intriguing, especially in light of the fact that smartphone ownership has seen such a rapid increase.

Although the informal uses of social media greatly outweighed the amount of formal use the participants reported, it was interesting to note that all references to the formal use of social media for communication or collaboration in an educational setting involved the Course Management System (CMS) Moodle. The CMS was primarily used by the students' other instructors as a place to deliver information, or for the students to submit assignments. There were a few instances where the ability to post to a discussion board or participate in synchronous chat activities were referenced, but most of the time their description also included an expression of frustration from the students that their professor did not take full advantage of the tools available. Cassie specifically mentioned that the instructor for one of her online courses did not want them to use Google Docs for their assignment since he wanted to see the discussion that took place between the members of the group. However, Cassie and other members of her group

went ahead and completed the assignment using Google Docs because it gave them the ability to collaborate – something that was missing from regular word processing programs. Once they had completed that part of the assignment, they then went back and created a fake chat transcript so they could submit it for their instructor to see. This finding was eerily similar to an instance reported by Lave (1988) in which students fabricated their problem-solving results so that it would look like the teacher wanted it to look.

As teachers strive to encourage students to assume responsibility for their own learning, it becomes important to recognize that not all students learn in the same way. The positive value of innovation and creative problem solving may be negated without acknowledging the perspective that each student possesses. Otherwise, as Lave stated, it "devalues not just individual heuristics, which may be fragile, but the whole process of inventive problem solving" (as cited in Brown, Collins & Duguid, 1989, p. 36).

Multi-tasking Proficiencies?

For the majority of the occasions when students reported using social media informally, they were doing something else at the same time. In light of previous research about how 21st century students prefer constant engagement and have limited attention spans, this result was not surprising (Berk & Trieber, 2009; Oblinger & Oblinger, 2006; Tapscott, 1999 & 2009). Students' penchant for multi-tasking was a possible contributing factor to the under-reporting of their use of social media. When participants originally reported the types of social media they used on the Introductory Survey, they under-reported their use by over 40% on average. The revelation that they were doing other things at the time suggested that they weren't fully aware of everything going on around them. This data supports current research findings that suggest the

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brain is not capable of handling multiple tasks concurrently (Conole, de Laat, Dillon, & Darby, 2008; Gasser & Palfrey, 2009; Junco, 2012; Wood, Zivcakova, Gentile, Archer, de Pasquale & Nosko, 2012).

Ubiquitous Connectivity

An additional finding of significance in the present study was how constantly connected the students were. Not only did they report using their *computers* at home, at work, at school, or at other locations, they also accessed social media through their *mobile* devices. There was no evidence that the types of tasks they performed differed according to geographic location or the type of device being used. In addition, other than when they were sleeping, their location or use of a specific device did not follow a time-based pattern. Moreover, learning what they were doing with social media in multiple places, with numerous kinds of devices, and at all waking hours reflected Greenhow, Robelia, and Hughes' (2009) call for researchers to have access "across a whole day (e.g., home, work, school, mobile devices)" (p. 248).

Visualizing this anytime/anywhere access to social media helps to clarify what learning looks like in the digital age—in other words, the type of engagement at the center of connectivism (Bell, 2009; Ravenscroft, 2011; Siemens, 2005). In light of this increased understanding of when, where, and why elementary preservice teachers are connecting, teacher educators can gain a greater understanding of the following three principles of connectivism:

- Nurturing and maintaining connections is needed to facilitate continual learning
- Ability to see connections between fields, ideas, and concepts is a core skill.
- Decision-making is itself a learning process. (Siemens, 2005, n.p.)

Armed with this knowledge, teacher educators are in a better position to integrate assignments into a class structure that: a) models positive elements of connecting with others, b) encourages students to develop their own protocols for decision-making, and c) recognizes that students are learning as they make decisions about how to create these connections for themselves. This same understanding can also encourage teacher educators to recognize the value of informal learning with social media.

Privacy, Please

There were several instances during the interviews when participants referenced the technology integration course they had taken with me. In doing so, they mentioned specific types of social media learned during the previous course that they would like to have used during their internship. One of the reasons given for not using different social media tools (i.e., those in use at their internship sites) was their aversion to sharing with others what they themselves had created, and especially sharing with those they didn't know. This same desire for privacy was expressed by at least three of the key informants. They verbalized concern over not knowing what others could see of their profile as their reason for limiting access to their account. Not only were they concerned because they would soon be entering the job market, but also because they didn't want to share information with those they didn't already know. Curiously, the issue of online privacy, while often reported in the media when changes occur on Facebook or other social media sites, did not appear in the literature that was reviewed for this study.

The lack of personal privacy in the digital era seems to have left many students feeling more vulnerable. Access to multiple information sources on the Internet—and constantly changing privacy policies on social network sites—may explain why preservice teachers expressed concern about their information being shared across

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networks (Langenderfer & Miyazaki, 2009; Milne & Bahl, 2010; Schonberger, 2009). Yet in many ways, the issue is more about the *types* of self-disclosure that are taking place and less about what happens to the information that is put online (Schwabel, 2009). While professionalism is a valid concern for newly-matriculated teacher education students, it does not mean that they cannot participate in social media. In fact, the latest studies indicate that between 39 and 45% of hiring managers in the United States use some type of social media (or social network) to help research potential job candidates (2012 HR Beat; Hunt, 2012; & Davison, Maraist & Bing, 2011).

Preservice teachers who were exposed to a variety of case studies involving educational professionals and the varieties of self-disclosure on social networking sites were the subject of a research Mikulec (2012). Results of the study showed that preservice teachers increased their awareness of both the ramifications of the sharing of inappropriate information and the differences in personal and professional levels of self-disclosure. At the conclusion of the study, many of the preservice teachers went through their own profiles and removed anything they thought could be considered questionable.

An additional study of preservice teachers by Kist (2009) looked at preservice teacher self-disclosure on social networking sites. Results revealed that during the study, many of the subjects didn't think that just because they were going into education that they should have to worry about their use of social media impacting their professional lives. These same students admitted that once they became teachers they would look at their profile more carefully, while not realizing that the current information on their profiles could still impact them (Kist, 2009).

There are additional studies of social networks and privacy that involve members of the medical profession. Surprisingly, a study by MacDonald, Sohn, and Ellis (2010), found that over 25% of recent medical school graduates did not use any of the privacy settings available in Facebook, raising questions about their public persona and what boundaries should be maintained. Additional studies that examined students or recent graduates in the medical professions also produced similar results. One study of medical students revealed that not only were they posting questionable incidents from their own lives, but they were also violating patients' privacy (Chretien, K.C., Greysen, Chretien, J.P., & Kind, 2009).

The levels of privacy desired by preservice teachers and medical students can be similar because of the public nature of each profession. In addition to the protection of student and client privacy that is demanded of each field, there are also varying levels of self-disclosure that need to be considered. Any emphasis on the type of personal information that is appropriate to share in an online profile should include the necessity of maintaining a professional image at all times.

Implications for Using Social Media in Teacher Education

As a teacher educator, it is important to make sure 21st century teachers are gaining social media literacy skills and can use it appropriately to engage 21st century students in learning. Previous research has taught us that teachers who use different types of technologies in the classroom do so because they have a positive attitude toward the technology, are comfortable using the technology outside the classroom, and see value in what they are doing (Franklin, 2007; Ertmer, 1999; Bitner & Bitner, 2002). Technology integration courses that are part of a rigorous teacher education program can hope to positively influence preservice teachers' attitudes toward the use of social

media in the classroom, as well as help them to see value in what they are doing, by modeling the effective use of social media to enhance learning in their teacher education courses. Building on prior literature, as well as the findings of this study, three implications for teacher education and the use of social media obtain:

1. It is important to provide opportunities for learning that students can engage with from any device and from any location.

2. Positive examples of personal social media branding need to be modeled.

3. Students need to understand the potentially negative impact of multi-tasking behaviors on their own learning.

Because teacher educators have a responsibility to engage their students, not only should the formal use of social media be modeled in the classroom, but the informal use of social media must also be encouraged. Knowing how students learn (Howe & Strauss, 2000; Junco & Mastrodicasa, 2007; Manuel, 2002; Ramaley & Zia, 2006; Windham, 2005), and knowing the impact that informal learning can have (Jamieson, 2009; Livingstone, 2001), it seems reasonable to insist that teacher educators take advantage of this knowledge. They need to recognize the direct correlation between social media and the conditions needed for student learning: active engagement, participation in a group, frequent interaction and feedback, as well as connections to real-world contexts (Bransford et al., 1999).

The current lack of opportunities for engagement with social media was evidenced by the fact that the students were not provided with models that showed them the effective use of social media for engaging in learning. The preservice teachers who were in their internships did not make any attempt to engage students with social media either in formal or informal ways. This behavior aligns aligns with previous literature that suggests educators will teach their classes in the styles they themselves

were taught (Metros, 2008; Czerniak & Lumke, 1996; Borko & Mayfield, 1996; Willcoxson, 1998). Seeing more examples of social media use modeled in their teaching methods classes would also influence preservice teachers to use more social media. If 21st century teachers are going to use social media to aid in the development of 21st century skills, they need to model their use.

Armed with this knowledge and the National Educational Technology Standards for Teachers, teacher educators need to provide digital assignments that encourage students to collaborate through social media. Examples include modeling the use of social media such as wikis, virtual worlds, or Google Docs for the completion of group projects. Each of these types of social media can be accessed from anywhere, at any time, and with a variety of computing devices.

Preservice teachers also need to be charged with developing assignments during their internships that encourage their students to become content creators. Examples of such assignments include using student-created digital stories or podcasts to assess achievement of specific lesson standards and objectives, rather than using more traditional forms of assessment such as essays or written tests. The use of tablets or other mobile devices for content creation would similarly take advantage of what we know about the devices young adults are currently using to access online content (Common Sense Media, 2012; ECAR, 2008; ECAR, 2012; Nielsen, 2010).

Teacher educators need to assume more responsibility in helping their peers to become comfortable using social media in teacher education courses. In order to create an environment that encourages them to use social media, institutions of higher education that are charged with teacher education also need to investigate providing

on-site training to the cooperating teachers in the use of social media. A part of the modeling to preservice teachers should also include making them aware of both the positive and negative effects of self-disclosure on social media sites (Trepke & Reinecke, 2012; Zhao et al., 2012). Preservice teacher mentors can assist with this by becoming comfortable building their own professional online profile. Having done so, they can then advise their students about the importance of reading social media privacy policies and understanding the various types of disclosure . If done properly, in the end they will have equipped their students to create a positive digital "brand" (Labrecque, Markos, & Milne, 2011; Milne, Buhl, & Rohm, 2008).

With so much scientific research regarding multi-tasking, including studies specific to students, it is easy to find evidence to give to students that describe the potential negative effects of multi-tasking on grades. While students believe they can perform multiple functions simultaneously, the research suggest otherwise (Junco & Cotton, 2011; Mayer & Moreno, 2003; Rosen et al., 2011; Wood et al, 2012). Among the previous factors believed to impact multi-tasking is the clash of dissimilar cognitive processes needed to complete unrelated tasks (Hasler, Kersten, & Sweller, 2007; Oulasvirta, Tamminen, Roto, & Kuorelahti, 2005; Sweller, 1988; Swell, 1989). Students need to recognize the potential pitfalls and the dangerous impact of multi-tasking (Compton, 2009; Rhine, 2011). Encouraging students to examine the cognitive load required for each task will help them make more informed decisions about the type of social media that will best assist them in engaged learning.

Implications for Research

This study is a response to recent calls from the field of technology and teacher education to use innovative research methods to explore the various ways that social

media is being used by preservice teachers (Bull et al, 2008; Dede, 2009; Greenhow, Robelia, & Hughes, 2009; Selwyn, 2010). It is now important to consider the what research steps might be needed next to further increase preservice teacher engagement in learning through the use of social media. In addition to keeping step with new developments in social media and how it may be used effectively in the educational environment, researchers have an obligation to continue to consider the needs of learners. There are three areas that can positively impact future research of this kind in the fields of technology and teacher education:

1. A comparison of factors that influence teachers' decisions to use or not use social media for instruction.

2. Finding ways to help preservice teachers engage in informal uses of social media that impact their learning.

3. The continued exploration of innovative ways of using social media for conducting research.

As a teacher educator, it is important to make sure 21st century teachers are gaining social media literacy skills and can use them appropriately to engage 21st century students in learning. Previous research has taught us that teachers who use different types of technologies in the classroom do so because they: a) have a positive attitude toward the technology, b) are comfortable using the technology outside of the classroom, and c) recognize the value in what they are doing (Franklin, 2007; Ertmer, 1999; Bitner & Bitner, 2002). Technology integration courses that are part of a rigorous teacher education program can hope to positively influence preservice teachers' attitudes toward the use of social media in the classroom. These courses and also help them to find value in what they are doing by modeling the effective use of social media to enhance learning in their teacher education courses.

Studies conducted on the relationship of social media to teacher education have understandably been short-term studies, especially given how quickly things change in this digital age. However, it would be instructive to conduct a longitudinal study of this kind that follows a group of preservice teachers through their senior year of classes, into their field experience, and on to their own classrooms. Such a study would help provide insight into what students do in the classroom and how what they do may be connected to what they learned during their teacher education preparation. It would also be informative to examine how teachers with various levels of classroom experience use social media with their students. A study of that type would benefit not only teacher educators but also administrators in K-12 schools who struggle with the issue of allowing the use of social media on campus.

Various studies confirm that the amount of technology a teacher uses in the classroom is influenced by their personal attitudes toward the technology, the value they see in using the technology, the amount of personal time the teacher spends with the technology outside of the classroom, and their level of confidence in using the technology (Moersch, 1995; Russell, Bebell, O'Dwyer, & O'Connor, 2003; Vannatta & Fordham, 2004). Follow-up research is needed now to see if these same factors can be applied to the use of social media in both formal and informal learning environments. Research on the factors that influence teachers to engage with social media in education can also shed light on how to best prepare teacher educators to become more comfortable with using social media in learning environments with their students.

A relevant suggestion that emerged from the 2008 National Technology Leadership Summit (NTLS) was that informal learning—and the energy and creativity

associated with it—is potentially a way to bridge the gap between social media and academic content (Bull et al., 2008; Sterling, 2008). Nevertheless, there have been challenges noted that could still prevent the gap from closing. For example, the lack of teachers who are effectively integrating social media into their curricula means a lack of models available for preservice teachers to observe. This deficiency highlights another problem as well, namelythe limited amount of research available that can identify best practices of using social media in the classroom. Therefore, further research is needed on how to create effective partnerships between preservice teachers familiar with the uses of social media on the one hand, and, on the other, teacher educators comfortable with the content and pedagogies in the classroom (Bull et al., 2008).

The increasing capabilities of social media tools, as well as the trend toward mobile devices as the preferred method of connectivity, continue to provide abundant opportunity for gathering data, as well as meaning-making, for qualitative researchers. When considering the use of social media as a tool for research, attention must be given to ethical issues such as privacy in the online world. However, recognizing such issues in advance can help researchers design studies that can effectively protect study participants. While data can be collected through text messaging, as demonstrated in this study, other methods need to be explored. Content created by preservice teachers could be easily shared with researchers. Such content includes video, podcasts, blogs, and social bookmarks.

In addition, action research for preservice teachers and teacher educators can be explored through the use of wikis, blogs, and multiple other social media tools that encourage collaboration. In determining the types of social media to use for further

research in the field of technology and teacher education, researchers should be encouraged to expand their thinking beyond what has already been done rather than settle on traditional methods that may limit access to participants.

Conclusion

The purpose of this qualitative study examining how preservice teachers described their use of social media was not an attempt to make generalizations across the field of teacher education and the use of social media. Instead, the purpose of the study was to contribute to the dialogue about teacher education and the use of social media in the K-12 classroom.

Findings of the study confirmed that preservice teachers:

- Use social media, specifically Facebook, Pinterest, and Twitter informally more than formally

- Connect to social media at any time, from any place, and with multiple types of devices

- Believe they are experts at multi-tasking

- Value their online privacy.

Looking ahead, it will be important for teacher educators to provide multiple opportunities for preservice teachers to engage with social media in formal and informal settings. Preservice teachers should consider the possible impact of phenomena such as multi-tasking. They also need encouragement to create a positive online personal brand. Educational researchers need to further explore the idea of connectivity as a learning theory and determine what drives 21st century teachers to use social media as a tool for education. The research should also explore how to help preservice teachers connect their formal and informal uses of social media. If this agenda is pursued, while

the field of technology and teacher education will surely benefit, 21st century teachers

and students are likely to be the greatest beneficiaries.

APPENDIX A
RECRUITMENT EMAILS

Email #1
Subject Line: Request for Voluntary Participation

Greetings!
You are receiving this email because you are currently a student in the ProTeach program at the University of Florida who has completed both of the required technology courses. I am looking for volunteers to participate in a two week study. The purpose of the study is to gather information from elementary teacher education students in order to discover your descriptions about your use of social media.

If you choose to participate in the study, you will be asked to attend a one-hour training session, respond to text message prompts about your use of social media over the course of two weeks, participate in weekly follow-up phone calls, and participate in a one-hour individual interview. There are no known personal risks to you.

In order to participate in the study, you must meet the following qualifications: be currently enrolled in the University of Florida ProTeach program, have already completed EME 2040 and EME 4401, and be a user of social media. Upon successful completion of the study, you will receive a $30.00 Amazon gift card.

If you meet the requirements and are interested and willing to participate in the study, please reply to this email stating your willingness to participate. Please include your cell phone number in your reply. Once I receive your reply, you will be notified of the time and place for the initial training session. If you have any additional questions or concerns, please feel free to contact me.

Best regards,
Ela Kaye Eley
Doctoral Candidate
University of Florida
###.###.####

Email #2
Follow-up Email

Greetings!
Thank you for your willingness to participate in the research study providing information from elementary teacher education students in order to discover your descriptions about your use of social media. I am excited about the opportunity to work with you. In order to determine the best time for the training session, please go to the following Doodle link by (*insert date 1 week from date of email*) and indicate the times that you are available to meet: http://www.doodle.com/kitzhwa5vzh53uin.

Once everyone has completed the poll, you will be notified of the meeting time. As always, if you have any questions or concerns, please feel free to contact me.

Best regards,
Ela Kaye Eley
Doctoral Candidate
University of Florida

APPENDIX B
RESEARCH STUDY TRAINING SESSION OUTLINE

1. Purpose of study

    a. Gather information about preservice teachers' use of social media

    b. Determine reasons for preservice teachers using social media

2. Description of requirements:

    a. One hour training session (current)

    b. Hourly text messages

        i. Need thorough descriptions

        ii. Try to provide as much detail as possible

    c. Weekly phone calls

        i. Make sure there are no misunderstandings

        ii. Opportunity to expand on descriptions

    d. Interview

        i. An opportunity for the researcher to probe a little deeper, based

           upon prior responses

        ii. Chance for participant to add any details previously omitted

3. Potential risks, benefits, and compensation

    a. No known personal risks or benefits

    b. Compensated with a $30 Amazon gift card upon completion of study

4. Time for questions, comments, concerns from participants

5. Informed consent

    a. Go over document

    b. Signing of Informed Consent

APPENDIX C
TEXT MESSAGE LOG SHEET

TIME	Day 1	Day 2	Day 3	Day 4	Day 5
12:00 AM	Currently I'm responding to an online post for my online language course (not sure if that counts as a social media). Facebook is opened in a separate ta *b, I posted a video about 40 minutes ago I found out about on Yahoo's homepage about Taylor Swift and Zach Efron doing a duet together. I copied this fro *m YouTube to my Facebook page and have been anxiously awaiting my friend's responses since :)	Facebook-scrolling through status updates on my newsfeed			
1:00 AM	I posted on my roommate's Facebook wall a picture of the 114 word (taken as a screen shot) I played in words with friends against her				
2:00 AM					
3:00 AM	Yes- i heard from friend's status updates on Facebook who live in my hometown there was supposedly a shooting at a local grocery store. I went to New4Jax *.com to check and see if there was any news on it there and there wasn't anything. Then I went to news4jax's facebook page and people were leaving commen *ts questioning what had happened in the area and there was a response from the station in a reply. So no news about the incident on the web page, but on *Facebook...				
4:00 AM					
5:00 AM					
6:00 AM					
7:00 AM					
8:00 AM					
9:00 AM					

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Time	Col2	Col3	Col4	Col5	Col6
10:00 AM		Yes just scrolled through my newsfeed on Facebook			
11:00 AM	Yes- just woke up and checked my notifications and scrolled through my friends' status updates			I woke up not too long ago and checked my Facebook newsfeed.	Just woke up and checked my Facebook newsfeed
12:00 PM			Scrolling through my newsfeed on Facebook	I sent a message on Facebook to a friend asking for information about the air force academy per my brother. I also used Face Time to talk to my boyfriend, even though we are currently in the same house we were testing out the wifi on our phones	
1:00 PM	Yes- Facebook, scrolling through updates statuses on my newsfeed				Just read through my newsfeed in Facebook before work
2:00 PM			Checked my newsfeed on facebook about 15 minutes ago		
3:00 PM		Yes I just got off work and went through status updates on Facebook			
4:00 PM	Yes- Facebook, scrolled through newsfeed		Used facebook to upload a picture		
5:00 PM		Yes I was scrolling through my newsfeed on Facebook			
6:00 PM	Just watched the YouTube video the girls from Gainesville High School had posted				

7:00 PM					Currently scrolling through my newsfeed on Facebook
8:00 PM	Yes going through Facebook status updates		Checked my facebook notifications		I was on pinterest looking up any clues for what to wear as a potential costume for the hunger games premiere :)
9:00 PM	Yes I was watching a YouTube video someone posted starring her sister (I went to high school with these girls). The girl in the video apparently has her *own slew of videos all with over 10,000 hits!	Yes just checked newsfeed on FB			Reading everyone's updates on the oscars on Facebook
10:00 PM	Facebook- scrolling through my newsfeed and reading status updates				
11:00 PM			Just checked through some of my newsfeed on Facebook		Currently checking my newsfeed on Facebook

TIME	Day 6	Day 7	Day 8	Day 9	Day 10
12:00 AM	Going through pinterest		I've played words with friends with a few random opponents (not sure if that counts as social media)		
1:00 AM	Creeping on friends on Facebook		Playing words with friends		
2:00 AM		Just finished reading the hunger games and am updating my status on Facebook about it and trying to find an appropriate picture on pinterest to accompany it			

Time				
3:00 AM		While looking through pinterest for hunger games related things I was redirected by a link to a website called weheartit.com- it's kind of like pinterest *with lots of pictures/videos you can upload or "heart it" to tag and save		
4:00 AM				
5:00 AM				
6:00 AM				
7:00 AM				
8:00 AM				
9:00 AM				
10:00 AM				
11:00 AM				Off to work but just checked FB
12:00 PM	Just woke up and am checking Facebook			
1:00 PM	I've been creeping through Facebook for the past 30 minutes	Just checked through Facebook newsfeed for the first time today since waking up		
2:00 PM		Just took a break from homework to check my Facebook newsfeed	Busy morning, but checked facebook and looked for a quick short quote on pinterest	
3:00 PM	Looking at pictures on Facebook of random friends	Just checked Facebook newsfeed about 15 minute ago	Currently checking Facebook	
4:00 PM				
5:00 PM		Used iheartit.com to try and show my sister a hunger games tshirt		
6:00 PM				

7:00 PM		In class, but had a break so I checked facebook	My roommate just bought a Mac and I uploaded a picture of it to Facebook		
8:00 PM			Just checked Facebook		
9:00 PM	At work and had a sec to check some status updates on Facebook. A girl I am working with is trying to convince me to get a twitter and was explaining to *me her use of it		Actually my boyfriend is showing me Facebook pictures		
10:00 PM				Long day and just checked Facebook for what it feels like the first time today. About to search on pinterest for dr. Seuss quotes before bed	
11:00 PM	Have been doing homework but have been taking breaks to check Facebook newsfeed from time to time	Looking through pinterest		Facebook creeping and posted a picture of our text message conversation to my friend's wall	Scrolled through newsfeed on Facebook

TIME	Day 11	Day 12	Day 13	Day 14
12:00 AM				
1:00 AM				
2:00 AM				
3:00 AM				
4:00 AM				
5:00 AM				
6:00 AM				
7:00 AM				
8:00 AM				
9:00 AM				
10:00 AM				
11:00 AM				

Time				
12:00 PM	Just woke up and i'm checking my Facebook newsfeed, one comment on a picture I posted			
1:00 PM				
2:00 PM				
3:00 PM				
4:00 PM				
5:00 PM	Playing the new game/app- "draw something" with my boyfriend on my phone			
6:00 PM				
7:00 PM			Just checked Facebook	
8:00 PM	Playing draw something			
9:00 PM				
10:00 PM	Watching and helping by boyfriend play draw something		Just scrolled through Facebook newsfeed and played draw something with friends	Just checked Facebook my brother tagged me in a post
11:00 PM				

Good afternoon (morning, evening):

Thank you for replying to the text messages this week. As you know, sometimes auto-correct can completely change our intended message. The purpose of this phone call is to make sure that the information I received is actually what you intended to send. On (*insert date of text message*) you indicated that you were using social media to (*insert their text response*). Is this correct?

What about (*insert other messages, if needed for clarification*)?

Thank you again for your help with this study. As always, if you have any other questions or concerns, please let me know.

Best regards,
Ela Kaye Eley
Doctoral Candidate
University of Florida

Interview
(semi-structured)

Participant	Date/Time
Interviewer	Location

Thank you for agreeing to participate in my research study. Please know that I am interested in what you have to say and want you to know that there are no right or wrong answers to my questions. Since I am doing a constructivist study, I want to find out how you describe your own use of social media. As I told you before, you have the right to remove yourself from the study at any time.

1. Are you still a member of the different social media sites and/or networks you joined prior to college? If so, what is your current level of involvement with the things you did before you came to college?

2. If your experiences with social media are different since you enrolled in college, can you describe how they have changed?

3. If you became involved with different social media sites after you arrived at college, could you please describe those for me?

4. What were some of the reasons that you wanted to become involved with these specific social media sites once you got to college?

5. What is your current level of interaction with the social media sites you joined after arriving on campus? How has this changed?

6. What are some of the benefits you think you receive from this interaction?

7. For the different types of social networks you have mentioned being a member of, can you talk a little about how much time you spend on each site? What types of activities are you engaged in while you are online at the different sites?

8. What part, if any, of this time is related to your studies or to lesson preparation?

9. What kind of difference do you think it makes in how you use the social media if it is required as opposed to being something you choose to do?

10. Let's talk about the people you interact with during the time you spend on social media. What kinds of face-to-face relationships do you have (if any) with these same people?

11. What are some of the things that you see your friends doing online? How do they make you feel?

12. What types of interactions have you engaged in because of your friends?

13. Is there anything you would like to add?

14. Do you have any questions or comments?

LIST OF REFERENCES

Abell, S. K., Cennamo, K. S., Anderson, M. A. (1996). Integrated media classroom cases in elementary science teacher education. *Journal of Computers in Mathematics and Science Teaching*, 15(1-2).

Albion, P., & Ertmer, P. A. (2002). Beyond the foundations: The role of vision and belief in teachers' preparation for integration of technology. *TechTrends,46*(5), 34–38.

Amrein, A. & Berliner, D. (2002). High-stakes testing, uncertainty, and student learning. *Education Policy Analysis Archives, 10*(18).

Anderson, P. (2007). What is Web 2.0? Ideas, technologies and implications for education. *JISC Technology & Standards Watch*, available at: www.jisc.ac.uk/media/documents/techwatch/tsw0701b.pdf

Anderson, L. W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching and assessing: A revision of Bloom's Taxonomy of educational outcomes, New York: Addision Wesley Longman.

Ang, C., Zaphiris, P., & Mahmood, S. (2007). A model of cognitive loads in massively multiplayer online role-playing games. *Interacting with Computers, 19*, 167-179.

Astin, A. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel, 25*, 297-308.

Bai, H., & Ertmer, P. A. (2008), Teacher educators' beliefs and technology uses as predictors of preservice teachers' beliefs and technology attitudes. *Journal of Technology and Teacher Education, 16(*1), 93-112.

Baker, E. A. (2007). Elementary classroom web sites: Support for literacy within and beyond the classroom. *Journal of Literacy Research*, *39*(1), 1-36.

Barksdale-Ladd, M. A., & Thomas, K. F. (2000). What's at stake in high-stakes testing: Teachers and parents speak out. *Journal of Teacher Education, 51*, 384-397.

Barnes, K., Marateo, R., & Ferris, S. (2007). Teaching and learning with the net generation. *Innovate, 3*(4). http://www.innovateonline.info/pdf/vol3_issue4/ Teaching_and_Learning_with_the_Net_Generation.pdf (accessed February 23, 2011).

Barrow, L., Markman, L., & Rouse, C. E. (2009). Technology's edge: The educational benefits of computer-aided instruction. *American Economic Journal: Economic Policy, 1*(1), 52-74.

Bartle, R. A. (2003): *Designing virtual worlds*. Indianapolis: New Riders.

Bartle, R. A (2008). *The line between play and design. Proceedings of the philosophy of computer games*. Potsdam, Germany.

Barton, K., Boling, E., Castek, J., Nierlich, T., & Zawilinski, L. (2008). Collaborative literacy: Blogs and Internet projects. *The Reading Teacher*, *61*(6), 504-506.

Behrstock-Sherratt, E., & Coggshall, J. G. (2010). Realizing the promise of generation y. *Educational Leadership*, 67(8), 28-34.

Bell, F. (2009). Connectivism: A network theory for teaching and learning in a connected world. *Educational Developments, 10*(3).

Bell, M. W. (2009). Toward a definition of "virtual worlds." Journal of Virtual Worlds Research, 1(1). Retrieved from http://journals.tdl.org/jvwr/index.php/jvwr/article/view/283.

Benkler, Y. (2006). *The wealth of networks*. New Haven: Yale University Press.

Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. *British Journal of Educational Technology, 39*(5), 775–786.

Berk, R. A. (2009). Teaching strategies for the net generation. *Transformative Dialogues: Teaching and Learning Journal, 3*(2), 1-23.

Berk, R. A., & Trieber, R. H. (2009). Whose classroom is it, anyway? Improvisation as a teaching tool. *Journal on Excellence in College Teaching, 20*(3), 29-60.

Bitner, N., & Bitner, J. (2002). Integrating technology into the classroom: Eight keys to success. *Journal of Technology and Teacher Education, 10*(1), 95-100.

Bloom, B. S., Englehart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). Taxonomy of educational objectives. Handbook 1: Cognitive domain. New York: Longmans.

Borko, H., & Mayfield, V. (1995). The roles of the cooperating teacher and university supervisor in learning to teach. *Teaching and Teacher Education, 11*, 501-518.

Boyd, D. M. & Ellison, N. B. (2007). Social network sites: Definition, history and scholarship. *Journal of Computer-Mediated Communication, 13*(1).

Boyles, J. L., Smith, A., & Madden, M. (2012). Privacy and data management on mobile devices. Pew Internet and American Life Project. Retrieved from http://pewinternet.org/Reports/2012/Mobile-Privacy.aspx.

Bransford, J. D., Brophy, S., & Williams, S. (2000). When computer technologies meet the learning sciences: Issues and opportunities. *Journal of Applied Developmental Psychology*, *21*(1), 59-84.

Bransford, J. D., Brown, A. L., and Cocking, R. R. (Eds.). How people learn: Brain, mind, experience and school. Washington, DC: National Academy Press, 1999.

Bransford, J. D., Franks, J. J., Vye, N., & Sherwood, R. D. (1989). New approaches to instruction: Because wisdom can. In S. Vosniadou & A. Ortony (Eds.), *Similarity and analogical reasoning.* Cambridge: Cambridge University Press.

Braun, L. (1981). Computer-Aided Learning and the Microcomputer Revolution. *Programmed Learning*, *18*(4), 223-229.

Brown, J. S. (2002). Growing up digital: How the web changes work, education, and the ways people learn. *USDLA Journal*, *16*(2), Retrieved from http://www.usdla.org/html/journal/FEB02_Issue/article01.html

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational researcher*, *18*(1), 32-42.

Bull, G., Thompson, A., Searson, M., Garofalo, J., Park, J., Young, C., & Lee, J. (2008). Connecting informal and formal learning experiences in the age of participatory media. *Contemporary Issues in Technology and Teacher Education, 8*(2), 100-107.

Buchem, I., Attwell, G., & Torres, R. (2011). Understanding Personal Learning Environments: Literature review and synthesis through the Activity Theory lens. In Proceedings of the The PLE Conference 2011 (pp. 1–33). Retrieved from http://journal.webscience.org/658/1/PLE_SOU_Paper_Buchem_Attwell_ Torress.doc.

Burgess, M., Gray, W.A., Fiddian, N. (2002). Establishing a taxonomy of quality for use in information filtering. In *Proceedings of 19th British National Conference on Databases.* 103–113.

Butterfield, L. D., Borgen, W. A., Amundson, N. E., & Maglio, A. S. (2005). Fifty years of the critical incident technique: 1954–2004 and beyond. *Qualitative Research,* (5)4, 475–497.

Carlson, S. (2005, October 7). The net generation goes to college. *The Chronicle of Higher Education, 52*(7), p. A34.

Carnevale, D. (2006, October 6). E-mail is for old people. *The Chronicle of Higher Education, 53*(7), p. A27.

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Castells, M. (2007). Communication, power and counter-power in the network society. *International Journal of Communication, 1*(1), 238-266.

Chan, K.K. & Ridgway, J. (2005). Blog: A tool for reflective practice in teacher education? Paper presented at The 3rd International Conference on Education and Information systems: Technologies and Applications, Orlando, 333-337.

Chickering, A. W., & Gamson, Z. F. (1987) Seven principles for good practice in undergraduate education. *American Association for Higher Education Bulletin, 39* (7), 3-7.

Chiu, C. H., Chen, C. H., Wu, C. Y., & Chen, S. W. (2010). Elementary school students' attitudes toward applying wikis or blogs for collaborative note-taking activities. In Z. Abas et al. (Eds.), *Proceedings of Global Learn Asia Pacific 2010* (pp. 298-302). AACE. Retrieved from http://www.etitlib.org/p/34190.

Chretien, K., Greyson, R., Chretien, J., Kind, T. (2009). Online posting of unprofessional content by medical students, *The Journal of the American Medical Association*, *302*(12), 1309-1315.

Christensen, T. C., Barrett, L. F., Bliss-Moreau, E., Lebo, K., & Kaschub, C. (2003). A practical guide to experience-sampling procedures. *Journal of Happiness Studies, 4,* 53-78.

Click, A., & Petit, J. (2010). Social networking and web 2.0 in information literacy. *The International Information and Library Review,* 42, 137-142.

Cline, R. J., & Haynes, K. M. (2001). Consumer health information seeking on the Internet: The state of the art. *Health Education Research, 16*, 671-692.

Cognition and Technology Group at Vanderbilt. (1990). Anchored instruction and its relationship to situated cognition. *Educational Researcher, 19*(8), 2-10.

Conole, G., de Laat, M., Dillon, T., & Darby, J. (2008). Disruptive technologies, pedagogical innovation: What's new? Findings from an in-depth study of students' use and perception of technology. *Computers & Education*, *50*, 511–524.

Cornelius-White, J. (2007). Learner-centered teacher-student relationships are effective: A meta-analysis. *Review of Educational Research, 77*,113-143.

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches.* Thousand Oaks, CA: Sage.

Crook, C., Fisher, T., Harrison, C., Logan, K., Luckin, R., Oliver, M., & Sharples, M. (2008). Web 2.0 technologies for learning: The current landscape – opportunities, challenges and tensions. (As cited in Liu, Y. (2010). Social media tools as a learning resource. *Journal of Educational Technology Development and Exchange, 3(*1), 101-114.)

Crotty, M. (2003). *The foundations of social research: Meaning and perspectives in the research process.* Thousand Oaks, CA: Sage.

Csikszentmihalyi, M., & Hunter, J. (2003). Happiness in everyday life: The uses of experience sampling. *Journal of Happiness Studies, 4*(2), 185-199.

Csikszentmihalyi, M., Larson, R., and Prescott, S. (1977). The ecology of adolescent activities and experiences'. *Journal of Youth and Adolescence, 6*(3), 281–294.

Csikszentmihalyi, M and Schneider, B. (2001). Conditions for optimal development in adolescence: An experiential approach. *Applied Developmental Science, 5*(3), 122–124.

Czerniak, C. M., & Lumke, A. T. (1996). Relationship between teacher beliefs and science education reform. *Journal of Science Teacher Education, 7*(4), 247-266.

Davison, H. K., Maraist, C. C., & Bing, M. N. (2011). Friend or foe? The promise and pitfalls of using social networking sites for HR decisions. *Journal of Business and Psychology, 26*, 153–159.

Dede, C. (2009). Technologies that facilitate generating knowledge and possibly wisdom. *Educational Researcher*, *38*(4), 260-263.

De Freitas, S. and Conole, G. (2010). Learners experiences: How pervasive and integrative tools influence expectations of study. In R. Sharpe and S. De Freitas (Eds.), *Rethinking learning for the digital age: How learners shape their own experiences* (pp. 15–30). London: Routledge.

DiNucci, D. (1999). Fragmented future. *Print, 53*(4), 32, 221-222.

Draft k12 common core state standards. (2010). National Governors Association Center for Best Practices, Retrieved from http://www.corestandards.org/

Ducate, L. C., & Lomicka, L. L. (2005). Exploring the blogsphere: Use of web logs in the foreign language classroom. *Foreign Language Annals, 38*(3), 410-420.

Ducheneaut, N., Moore, R. J., & Nickell, E. (2004). Designing for sociability in massively multiplayer games: An examination of the "third places" of *SWG*. In J. H. Smith & M. Sicart (Eds.), *Proceedings of the Other Players Conference*. Copenhagen: IT University of Copenhagen.

Ducheneaut, N., Yee, N., Nickell, E., Moore, R. J. (2006). Games and performances: Alone together? Exploring the social dynamics of massively multiplayer online games. Paper presented at the *SIGCHI conference on human factors in computing systems*, Chicago, IL.

Duffy, T. M., & Jonassen, D. H. (1992). Constructivism: New implications for instructional technology. In T. M. Duffy & D. H. Jonassen (Eds.), *Constructivism and the Technology of Instruction: A Conversation* (pp. 1-16). Hillsdale, NJ: Lawrence Erlbaum Associates.

Dunlap, J. C., & Lowenthal, P. R. (in press). Learning, unlearning, and relearning: Using Web 2.0 technologies to support the development of lifelong learning skills. In G. D. Magoulas (Ed.), *E-infrastructures and technologies for lifelong learning: Next generation environments*. Hershey, PA: IGI Global.

Dunn, K., & Rakes, G. (2010). Learner-centeredness and teacher efficacy: Predicting teachers' consequence concerns regarding? the use of technology in the classroom?. *Journal of Technology and Teacher Education*, *18*(1), 57-83.

Dwyer, D. C., Ringstaff, C., & Sandholtz, J. (1990). The evolution of teachers' instructional beliefs and practices in high access to technology classrooms . Paper presented at the *Annual Meeting of the American Educational Research Association*, Boston.

eBizMBA. (2012, October). *Top 15 most popular social bookmarking websites*. Retrieved from http://www.ebizmba.com/articles/social-bookmarking-websites

Edutopia (2011). *The department of education's Karen Cator answers your questions about the national education technology plan* [Web]. Retrieved from http://www.edutopia.org/blog/karen-cator-doe-video-answers-questions-national-education-technology-plan

Efron, M. (2011). Information search and retrieval in microblogs. *Journal of the American Society for Information Science and Technology*, *62*(6), 996-1008.

Eladhari, M., and Lindley, C. A. (2004). Story construction and expressive agents in virtual game worlds. Presented at *Other players conference*. Copenhagen, Denmark.

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook 'friends:' social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication, 12*, 1143–1168.

Entner, R. (2010, January 27). Under-aged texting: Usage and actual cost [Web log message]. Retrieved from http://blog.nielsen.com/nielsenwire/online_

mobile/under-aged-texting-usage-and-actual-cost/?utm_source=feedburner&
utm_medium=feed&utm_campaign=Feed:+NielsenWireOnlineMobile+%28
Nielsen+Wire+%C2%BB+Online+%26+Mobile%29

Ertmer, P. A. (1999). Addressing first- and second-order barriers to change: strategies for technology integration. *Educational Technology Research and Development*, *47*(4), 47-61.

Ertmer, P. A. (2005). Teacher pedagogical beliefs: the final frontier in our quest for technology Integration? *Educational Technology Research and Development*, *53*(4), 25-39.

Ertmer, P. A., Addison, P., Lane, M., Ross, E., & Woods, D. (1999) Examining teachers' beliefs about the role of technology in the elementary classroom. *Journal of Research on Computing in Education, 32(*1), 54-72.

Facebook: About page. (2012). Retrieved from https://www.facebook.com/facebook/info

Flanagan, J.C. (1954). The critical incident technique. *Psychological Bulletin, 51*(4), 327–58.

Flanagin, A. J., & Metzger, M. J. (2000). Perceptions of Internet information credibility. *Journalism and Mass Communication Quarterly, 77*(3), 515-540.

Framework for 21st century learning. (2004). *Partnership for 21st Century Skills*, Retrieved from http://www.p21.org/index.php?option=com_content&task= view&id=254&Itemid=120

Frand, J. L. (2000). The information-age mindset: Changes in students and implications for higher education. *EDUCAUSE Review, 35*, 15–24.

Franceschi, K., Lee, R. M., & Hinds, D. (2008). Engaging E-Learning in Virtual Worlds: Supporting Group Collaboration. *Hawaii International Conference on System Sciences,* 7.

Franklin, C. (2007). Factors that influence elementary teachers use of computers. *Journal of Technology and Teacher Education, 15*(2), 267-293. Chesapeake, VA: AACE.

FreeGamesLike. (2012). *Best free game apps 2012 – top 10*. Retrieved from http://freegameslike.com/best-free-game-apps-2012-top-10/

Furr, P., McFerrin, K., Horton, S. & Williams, D. (2010). NetGens and Social Media: Educating Teacher Candidates. In D. Gibson & B. Dodge (Eds.), *Proceedings of Society for Information Technology & Teacher Education International*

Conference 2010 (pp. 1747-1751). Chesapeake, VA: AACE. Retrieved from http://www.editlib.org/p/33610.

Gardner, H. (1983). *Frames of mind.* New York, NY: Basic Books.

Gardner, H. (2004). What we do and don't know about learning. *Daedalus, 133*(1), 5–12.

Gardner, H., & Hatch, T. (1989). Multiple intelligences go to school: Educational implications of the theory of multiple intelligences. *Educational Researcher, 18*(8), 4-10.

Gee, J.P. (2005). Learning by design: Good video games as learning machines. *E-Learning and Digital Media, 2*(1), Retrieved from http://www.wwwords.co.uk/pdf/freetoview.asp?j=elea&vol=2&issue=1&year=2005&article=2_gee_elea_2_1_web.

Geertz, C. (1973). The interpretation of cultures. New York: Basic Books.

Gehringer, E. F., Miller, C. S. (2009). Student-generated active-learning exercises. SIGCSE'09, March 3–7, 2009, Chattanooga, TN pp. 81–85.

Gerber, B. L., Cavallo, A. M. L., Marek, E. A. (2001). Relationships among informal learning environments, teaching procedures and scientific reasoning ability. *International Journal of Science Education, 23*(5), 535-549.

Goldberg, N. (1986). *Writing down the bones: Freeing the writer within.* Boston, MA: Shambhala Publications Incorporated.

Google: About page. (2012). Retrieved from http://www.google.com/intl/en/about/

Gore, A. (1994, January). Speech presented at The Superhighway Summit, Los Angeles, CA.

Grabe, M. and Grabe, C. (2001) *Integrating Technology for Meaningful Learning.* Boston, MA: Houghton Mifflin.

Graham, L., & Metaxas, P. T. (2003). "Of course it's true: I saw it on the Internet!" Critical thinking in the Internet era. *Communications of the ACM, 46(5),* 71-75.

Gray, K., Thompson, C., Sheard, J., Clerehan, R., & Hamilton, M. (2010). Students as Web 2.0 authors: Implications for assessment design and conduct. *Australasian Journal of Educational Technology, 26*(1), 105-122.

Greene, H,. & Crespi, C. (2012). The value of student created videos in the college classroom – an exploratory study in marketing and accounting. *International Journal of Arts & Sciences, 5*(1), 273-283.

Greenhow, C. (2009). Social scholarship: Applying social networking technologies to research practices. *Knowledge Quest, 37*(4), 42–47.

Greenhow, C., & Robelia, B. (2009). Informal learning and identity formation in online social networks. *Learning, Media & Technology*, *34*(2), 119-140.

Greenhow, C., Robelia, B., & Hughes, J. E. (2009). Learning, teaching, and scholarship in a digital age: Web 2.0 and classroom research: What path should we take now? *Educational Researcher, 38*(4), 246-259.

Gregory, S., & Masters, Y. (2010, March). Six hats in Second Life: Enhancing preservice teacher learning in a virtual world. In *International Conference on Teaching and Learning with Technology,* Singapore (pp. 2-6).

Grosseck, G. (2009). To use or not to use web 2.0 in higher education? *Procedia Social and Behavioral Sciences 1*, 478-482.

Haladyna, T., Haas, N., and Allison, J. (1998). Continuing tensions in standardized testing. *Childhood Education, 74*(5) 262-273.

Halverson, R., & Smith, A. (2010). How new technologies have (and have not) changed teaching and learning in schools. *Journal of Computing in Teacher Education, 26*(2), 49-54.

Hargittai, E. (2010). Digital na(t)ives? Variation in Internet skills and uses among members of the "Net Generation". *Sociological Inquiry*, *80*(1), 92-113.

Harris Interactive, (2008, September 12). *A generation unplugged: Research report*. Retrieved November 18, 2010 from http://files.ctia.org/pdf/HI_TeenMobileStudy_ResearchReport.pdf.

Hastings, N., & Wood, K. C. (2002). *Reorganizing primary classroom learning*. Philadelphia, PA: Open University Press.

Hektner, J. M., Schmidt, J. A., & Csikszentmihalyl, M. (2007). *Experience sampling method: Measuring the quality of everyday life.* Thousand Oaks, CA: Sage Publications, Inc.

Helsper, E. J., & Eynon, R. (2009). Digital natives: Where is the evidence? *British Educational Research Journal*, *36*(3), 503-520.

Hermans, R., Tondeur, J., van Braak, J., & Valcke, M. (2008). The impact of primary school teachers' education beliefs on the classroom use of computers. *Computers & Education, 51*(4), 1499-1509.

Hicks, A., & Graber, A. (2010). Shifting paradigms: Teaching, learning, and web 2.0. *Reference Services Review, 38*(4), 621-633.

Hoban, G., Loughran, J., & Nielsen, W. (2011). Slowmation: Preservice elementary teachers representing science knowledge through creating multimodal digital animations. *Journal of Research in Science Teaching, 48*(9), 985-1009.

Howe, N., & Strauss, W. (2000). *Millennials rising: The next generation*. New York: Vintage.

Hsieth, H., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288.

Huang, H. M. (2002). Toward constructivism for adult learners in online learning environments. *British Journal of Educational Technology, 33*(1), 27-37.

Information Solutions Group. (2011). *2011 popcap games mobile phone gaming research*. Retrieved from http://www.infosolutionsgroup.com/2011_PopCap_ Mobile_Phone_Games_Presentation.pdf

International Society for Technology in Education (2007). *National educational technology standards for students: Advancing digital age learning*. Eugene, OR.

International Society for Technology in Education (2008). *National educational technology standards for teachers: Advancing digital age teaching*. Eugene, OR.

Ionescu, D. (2012, May 24). *Top 15 iPhone apps of 2012, so far*. Retrieved from http://www.pcworld.com/article/256161/top_15_iphone_apps_of_2012_so_far.html

Jacobs, S., Egert, C. A., & Barnes, S. B. (2009). Social media theory and practice: lessons learned. *Proceedings of the frontiers in education conference* (pp. 1-5). San Antonio: http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=5350773.

Jamieson, P. (2009). The Serious matter of informal learning. *Planning for Higher Education, 37*(2), 18-25.

Janesick, V. (2000). The choreography of qualitative research design: Minuets, improvisations, and crystallization. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research (2nd ed.)* (pp. 379-399). Thousand Oaks, CA: Sage Publications, Inc.

Jenkins, H. (2006). *Convergence culture: Where old and new media collide*. New York: New York University Press.

Jenkins, H., Clinton K., Purushotma, R., Robinson, A.J., & Weigel, M. (2006). *Confronting the challenges of participatory culture: Media education for the 21st century*. Chicago, IL: The MacArthur Foundation.

Jonassen, D. (2000). *Computers as mindtools for schools: Engaging critical thinking*. Columbus, OH: Prentice-Hall.

Jonassen, D. H., Carr, C., & Yueh, H. (1998). Computers as mindtools for engaging learners in critical thinking. *TechTrends, 43*(2), 24-32.

Jonassen, D. H., Peck, K. L., & Wilson, B. G. (1999). *Learning with technology: A constructivist approach*. Columbus, OH: Prentice Hall.

Judson, E. (2006). How teacher integrate technology and their beliefs about learning: Is there a connection? *Journal of Technology and Teacher Education, 14*(3), 581-597.

Junco, R. (2011). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Computers & Education, 58*, 162-171.

Junco, R., & Cotton, S. R. (2012). No a 4 u: The relationship between multitasking and academic performance. *Computers & Education, 59*, 505-514.

Junco, R., Heibergert, G., & Loken, E. (2011). The effect of Twitter on college student engagement and grades. *Journal of Computer Assisted Learning, 27*, 119-132.

Junco, R., & Mastrodicasa, J. (2007). *Connecting to the net generation: What higher education professionals need to know about today's students*. Washington, DC: Student Affairs Administrators in Higher Education (NASPA).

Kajder, S., & Bull, G. (2004). A space for "writing without writing.". *Learning & Leading with Technology, 31*(6), 32-35.

Kaiser Family Foundation. (2010, January 20). *Daily media use among children and teens up dramatically from five years ago*. Retrieved from http://www.kff.org/entmedia/entmedia012010nr.cfm.

Kang, I., Choi, J. I., & Chang, K. (2007). Constructivist research in educational technology: A retrospective view and future prospects. *Asia Pacific Education Review, 8*(3), 397-412.

Kapitzke, C. (2001). Information literacy: The changing library. *Journal of Adolescent & Adult Literacy*, *44*(5), 450-456.

Kaplan, A. M., & Haenlein, M. (2010), Users of the world, unite! The challenges and opportunities of social media. *Business Horizons, 53*(1), 59-68.

Keeter, S., & Taylor, P. (2009, December 11). Millenials: A portrait of generation next. *Pew Research Center*, Retrieved from http://pewsocialtrends.org/files/2010/10/millenials-confident-connected-open-to-change.pdf

Kennedy, G., Dalgarno, B., Gray, K., Judd, T., Waycott, J., Bennett, S., et al. (2007, December). *The net generation are not big users of Web 2.0 technologies: Preliminary findings.* Paper presented at the ASCILITE 2007 Conference – ICT: Providing Choices for Learners and Learning, Singapore.

Koro-Ljungberg, M., Bussing, R., Williamson, P., & M'Cormack-Hale, F. (2008). Reflecting on the experience sampling method in the qualitative research context: Focus on knowledge production and power during the data-collection process. *Field Methods, 20*(4), 338-355.

Krause, K.-L., McInnis, C., & Welle, C. (2003). *Out-of-class engagement in undergraduate learning communities: The role and nature of peer interactions*. Paper presented at the Annual Meeting of the Association for the Study of Higher Education (November 13-16, 2003).

Kubey, R., Larson, R., and Csikszentmihalyi, M. (1996). Experience sampling method applications to communication research questions. *Journal of Communication, 46*(2), 99–120.

Kuh, G. (1993). In their own words: What students learn outside the classroom. *American Educational Research Journal, 30*(2), 277-304.

Kuh, G. D., Kinzie, J., Cruce, T., Shoup, R., & Gonyea, R. M. (2007). *Connecting the dots: Multi-faceted analyses of the relationship between student engagement results from the NSSE, and the institutional practices and conditions that foster student success.* Bloomington, IN: Center for Postsecondary Research.

Kumar, S. (2009). The net generation's informal and educational use of new technologies. *in education, 16*(1). Retrieved from http://www.ineducation.ca/article/net-generation-s-informal-and-educational-use-new-technologies.

Laird, T. F., & Kuh, G. D. (2005). Student experiences with information technology and their relationship to other aspects of student engagement. *Research in Higher Education, 46*(2), 211-232.

Lamott, A. (1994). *Bird by bird: Some instructions on writing and life*. (pp. 225-237). New York, NY: Random House Incorporated.

Lave, J. (1988). *Word problems: A microcosm of theories of learning*. Paper presented at AERA annual conference, New Orleans, LA.

Leech, N., & Onwuegbuzie, A. (2008). Qualitative data analysis: A compendium of techniques and a framework for selection for school psychology research and beyond. *School Psychology Quarterly, 23*(4), 587-604.

Lei, J. (2009). Digital natives as preservice teachers: What technology preparation is needed? *Journal of Computing in Teacher Education, 25*(3), 87-97.

Lenhart, Amanda. (2010). Teens, cell phones and texting. PewResearchCenter Publications. Retrieved from http://pewresearch.org/pubs/1572/teenscell-phones-textmessages.

Lenhart, A., Purcell, K., Smith, A., & Zickuhr, K. (2010, February 3). Social media and young adults. *Pew Internet and American Life Project*, Retrieved from http://www.pewinternet.org/Reports/2010/Social-Media-and-Young-Adults.aspx

Leu, D. J., Kinzer, C. K., Coiro, J. L., & Cammack, D. W. (2004). Toward a theory of new literacies emerging from the Internet and other information and communication technologies. In R. Ruddell & N. Unrau (Eds.), *Theoretical Models and Processes of Reading* (pp. 1570-1613). Newark, DE: International Reading Association.

Lietsala, K., & Sirkkunen, E. (2008).*Social media: Introduction to the tools and processes of participatory economy*. Tampere, Finland: Tampere University Press.

Lin, Q. (2011). The Role of Web-Based Activities in Mediating Student Interaction and Engagement in Four Teacher Education Classes. *MERLOT Journal of Online Learning and Teaching*, *7*(1), 99-107.

Liu, M., & Pedersen, S. (1998). The effect of being hypermedia designers on elementary school students' motivation and learning of design knowledge. *Journal of Interactive Learning Research, 9,* 155-182.

Livingstone, D. W. (2001). *Adults' informal learning: Definitions, findings, gaps, and future research*: Ontario Institute for Studies in Education, University of Toronto. Document

London, M. (1996). Redeployment and continuous learning in the 21st century: Hard lessons and positive examples from the downsizing era*. Academy of Management Perspectives, 10*(4), 67-79

Lonn, S. and Teasley, S.D. (2009). Podcasting in higher education: What are the implications for teaching and learning?.*Internet and Higher Education, 12*, 88–92.

MacDonald, J., Sohn, S., & Ellis, P. (2010). Privacy, professionalism and Facebook: A dilemma for young doctors. *Medical Education, 44*, 805-813.

Maddux, C., & Liu, L. (2005). Publishing research findings: Some suggestions for junior faculty. *International Journal of Technology in Teaching and Learning, 1*(2), 55-62.

Madge, C., Meek, J., Wellens, J., & Hooley, T. (2009). Facebook, social integration and informal learning at university: 'It is more for socializing and talking to friends about work than for actually doing work.*' Learning, Media and Technology, 34*(2), 141-155.

Manuel, K. (2002). *Teaching information literacy to generation Y*. New York: Haworth Press.

Matthews, K. (2012, 10 04). Cellphone 'valets' at New York city schools: Students pay to store devices in trucks. Huffington Post. Retrieved from http://www.huffingtonpost.com/2012/10/04/cellphones-at-school-new-york-city-students-valets-store-_n_1938731.html

McKenna, M. C., Labbo, L., Kieffer, R. D., & Reinking, D. (2006). *International handbook of literacy and technology*. Mahwah, NJ: Lawrence Erlbaum Associates.

Mehrens, W. A. (1998). Consequences of assessment: What is the evidence? *Education Policy Analysis Archives, 6*(13), Retrieved from http://olam.ed.asu.edu/epaa

Metros, S. E. (2008). The educator's role in preparing visually literate learners. *Theory Into Practice, 47*(2), 102-109.

Miner, R. C. (1998). Verum-factum and practical wisdom in the early writings of Giambattista Vico. *Journal of the History of Ideas, 59*(1), 53-73.

Moersch, C. (1995). Levels of technology implementation (LOTI): A framework for measuring classroom technology use. *Learning and Leading with Technology, 23*(3), 40-42.

Moore, R. J., Ducheneaut, N., and Nickell, E. (2006). Doing virtually nothing: Awareness and accountability in massively multiplayer online worlds. *Computer Supported Cooperative Work, 16,* 265-305.

Muir-Herzig, R. G. (2004). Technology and its impact in the classroom. *Computers and Education, 42*, 111–131.

NCATE. (2008) Unit standards in effect 2008. *The National Council for Accreditation of Teacher Education.* Retrieved from http://www.ncate.org/Standards/ NCATEUnitStandards/ UnitStandardsinEffect2008/tabid/476/Default.aspx

Neuendorf, K. A. (2002). *The content analysis guidebook.* Thousand Oaks, CA: Sage Publications.

Nevalainen, T. & Hannunen, J. (2009). Teachers as knowledge workers? In G. Siemens & C. Fulford (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2009* (pp. 2454-2462). Chesapeake, VA: AACE. Retrieved from http://www.editlib.org/p/31823.

Newman, F. M., Marks, H. M., & Gamoran, A. (1996). Authentic pedagogy and student performance. *American Journal of Education, 104*(4), 280-312.

The New York Times. (2004). *The revolution will be posted.* http://www.nytimes.com/2004/11/02/opinion/02blogger-final.html Retrieved March 21, 2012.

Nicholas, D., Huntington, P., Williams, P., & Dobrowolski, T. (2006). The digital information consumer. In A. Spink & C. Cole, (Eds.), *New directions in human information behavior* (pp. 203–228). Dordrecht, The Netherlands: Springer.

Nielsen. (2011, September 11). State of the media: The social media report Q3. Retrieved from http://www.nielsen.com/content/dam/corporate/us/en/reports-downloads/2011-Reports/nielsen-social-media-report.pdf

Niemiec, R., & Walberg, H. J. (1987). Comparative effects of computer-assisted instruction: A synthesis of reviews. *Journal of Educational Computing Research, 3*(1), 19-27.

Oblinger, D., & Oblinger, J. (2006). Is it age or IT: First steps toward understanding the net generation. In D. C. Oblinger & J .L. Oblinger (Eds.), *Educating the Net Generation.* EDUCAUSE. Retrieved May 12, 2011, from www.educause.edu

Oblinger, D. G., and J. L. Oblinger, (Eds.) 2005. *Educating the Net Generation.* Washington, D.C.: EDUCAUSE. http://www.educause.edu/books/educatingthenetgen/5989

O'Reilly, T. *What is Web 2.0: Design patterns and business models for the next generation of software.* 30 September 2005. Available from: http://www.oreillynet.com/lpt/a/6228 Retrieved October 28, 2011.

Palfrey, J., & Gasser, U. (2008). *Born digital: Understanding the first generation of digital natives.* New York: Basic Books.

Pamphilon, B. (1999). The zoom model: A dynamic framework for the analysis of life histories. *Qualitative Inquiry*, *5*(3), 393-410.

Papert, S. (1980). *Mindstorms: Children, computers and powerful ideas*. New York, NY: Basic Books, Inc.

Partnership for 21st Century Skills. (2009). *Framework for 21st century learning.* Retrieved from http://www.p21.org/storage/documents/1.__p21_framework_2-pager.pdf

Pastore, R. S., & Falvo, D. A. (2010). Video Games in the Classroom: Pre-and in-service teachers' perceptions of games in the K-12 classroom. *Instructional Technology and Distance Learning, 7*(12), 49-61.

Patton, M. (1990). *Qualitative evaluation and research* methods (pp. 169-186). Beverly Hills, CA: Sage.

Peters, E. E. (2010). Shifting to a student-centered science classroom: An exploration of teacher and student changes in perceptions and practices. *Journal of Science Teacher Education*, *21*(3), 329-349.

Petersen, S. (2004). Bloggers in the house. *eWeek*, *21*(31), 12.

Piaget, J. (1962). *Play, dreams and imitation in childhood*. New York: Norton

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon, 9*(5), 1–6.

Prensky, M. (2006). *Don't bother me Mom-I'm learning.* Minneapolis: Paragon House Publishers.

Proteach: A program for the preparation of professional teachers. (April 20, 2011). http://education.ufl.edu/student-services/undergraduate-admissions/teacher-education-programs/proteach/. Retrieved April 24, 2011.

PR Newswire. (2012, February 10). *New study shows "intent" behind mobile Internet use.* Retrieved from http://www.prnewswire.com/news-releases/new-study-shows-intent-behind-mobile-internet-use-84016487.html

Ramaley, J., & Zia, L. (2006). The real versus the possible: Closing the gaps in engagement and learning. In D. C. Oblinger & J. L. Oblinger (Eds.), *Educating the net generation.* EDUCAUSE.

Ravenscroft, A. (2011). Dialogue and connectivism: A new approach to understanding and promoting dialogue-rich networked learning. *International Review of Research in Open and Distance Learning, 12*(3), 139-160.

Rawls, J. (1980). Kantian constructivism in moral theory. *The Journal of Philosophy, 77*(9), 515-572.

Raymond, M. E., & Hanushek, E. A. (2003). High-stakes research: Accountability works after all. *Education Next, 3*(3), 48–55.

Reiser, R. A. (2002). A history of instructional design and technology. In R.A. Reiser & J.V. Dempsey (Eds.), *Trends and issues in instructional design and technology* (pp.26-53). Upper Saddle River, NJ: Merrill Prentice Hall.

Rideout, V. (2007). Parents, children and media. A *Kaiser Family Foundation survey*. Retrieved from http://www.kff.org/entmedia/upload/7638.pdf.

Ringstaff, C., & Kelly, L. (2002). *The learning return on our educational technology investment: A review of findings from research*. San Francisco, CA: WestEd.

Roblyer, M. D., McDaniel, M., Webb, M., Herman, J., & Witty, J. V. (2010). Findings on Facebook in higher education: A comparison of college faculty and student uses and perceptions of social networking sites. *The Internet and Higher Education*, *13*(3), 134-140.

Roschelle, J. M., Pea, R. D., Hoadley, C. M., Gordin, D. N., & Means, B. (2000). Changing how and what children learn in school with computer-based technologies. *The Future of Children*, *10*(2), 76-101.

Rosenfeld, P., Lambert, N. M., & Black, A. (1985). Desk arrangement effects on pupil classroom behavior. *Journal of Educational Psychology*, 77(1), 101-108.

Russell, M., Bebell, D., O'Dwyer, L., & O'Connor, K. (2003). Examining teacher technology use: Implications for preservice and inservice teacher preparation. *Journal of Teacher Education, 54*(4), 297-310.

Rutherford, C. (2010). Using online social media to support preservice student engagement. *Journal of Online Teaching and Learning, 6*(4).

Salaway, G., Caruso, J. B., Nelson, M. R., & Ellison, N. B. (2008). *The ECAR Study of Undergraduate Students and Information Technology, 2008.* Boulder, CO: EDUCAUSE Center for Applied Research.

Savolainen, R. (2002). Network competence and information seeking on the Internet: From definitions towards a social cognitive model." *Journal of Documentation,* 58(2), 211–26.

Scialdone, M. J., Rotolo, A. J., & Snyder, J. (2011). *Social media futures: Why ischools should care.* In *Proceedings of the 2011 iConference* (pp. 514-521). doi: 10.1145/1940761.1940832

Schroeder, R. (2008). Virtual worlds research: Past, present & future. *Journal of Virtual Worlds Research, 1*(1), retrieved from http://journals.tdl.org/jvwr/article/view/294.

Schroeder, A., Minocha, S., & Schneidert, C. (2010). The strengths, weaknesses, opportunities and threats of using social software in higher and further education teaching and learning. *Journal of Computer Assisted Learning, 26*, 159-174.

Selwyn, N. (2007). *Web 2.0 applications as alternative environments for informal learning - a critical review.* Paper presented at the OECD-KERIS expert meeting - Session 6 - Alternative learning environments in practice: using ICT to change impact and outcomes.

Selwyn, N. (2011). Social media in higher education. In Gladman, A., (Ed.), *The Europa world of learning* (pp. 1-9). London, UK: Routledge.

Shabb, C., Stonehouse, P., Smart, K., & Gourneau, B. (2009, March). Reflective Blogs as a Tool for Assessment of Student Learning. In *Society for Information Technology & Teacher Education International Conference* (Vol. 2009, No. 1, pp. 184-189).

Shroyer, M. G., Wright, E. L., & Ramey-Gassert, L. (1996). An innovative model for collaborative reform in elementary school science teaching. *Journal of Science Teacher Education*, *7*(3), 151-168.

Siemens, G. (2005). Connectivism: A learning theory for the digital age. International *Journal of Instructional Technology and Distance Learning, 2*(1).

Simpson, G. (2001). Learner characteristics, learning environments and constructivist epistomologies. *Australian Science Teachers Journal, 47*(2), 17-23.

Schmidt, S. M., & Ralph, D. L. (2011). Social media: More available marketing tools. *The Business Review, Cambridge*, *18*(2), 37-43.

Shannon, V. (2008, March 06). Social networking moves to the cellphone. *The New York Times*. Retrieved from http://www.buzzcity.com/f/nyt060308.pdf

Skinner, B. F. (1966). Operant behavior. In W. K. Honig (Ed.), *Operant behavior: Areas of research and application* (pp. 12–32). East Norwalk, CT: Appleton-Century-Crofts.

Smith, A. (2011). Social networking sites are appealing as a way to maintain contact with close ties and reconnect with old friends. In *Pew Internet & American life project*. A project of the Pew Research Center: Retrieved from http://pewinternet.org/Reports/2011/Why-Americans-Use-Social-Media.aspx

Stiggins, R. J. (1999). Assessment, student confidence, and school success. *Phi Delta Kappan*, *81*(3), 191-198.

Strycker, J. (2012). Developing an Online Support Community for Preservice Teachers at East Carolina University. *TechTrends*, *56*(6), 22-26.

Stuart, L., & Dahm, E. (1999). *21st Century skills for 21st century jobs*. Washington DC: U.S. Department of Commerce, U.S. Department of Education, U.S. Department of Labor, National Institute of Literacy, and the U.S. Small Business Administration.

Students pay a dollar a day for cell phone storage. (2012, October 04). *Insight Magazine*, Retrieved from http://www.myinsightmag.com/2012/10/students-pay-a-dollar-a-day-for-cell-phone-storage/

Tapscott, D. (1998). *Growing up digital: The rise of the Net Generation.* New York: McGraw-Hill.

Tapscott, Don. 2009. *Grown up digital: How the Net Generation is changing your world*. New York: McGraw-Hill.

Taylor, P., & Keeter, S. (Eds.) (2010). *Millennials: A portrait of generation next*. Pew research center. Retrieved November 15, 2010, from http://pewsocialtrends.org/files/2010/10/millennials-confident-connected-open-to-change.pdf

Terantino, J., & Graf, K. (2012). Facebook for Foreign Languages: Part of the Net Generation Curriculum. *The FLAG Journal Peer Review*, *770*, 44.

Tondeur, J., Braak, V. J., Sang, G., Voogt, J., Fisser, P., & Ottenbreit-Leftwich, A. (2012). Preparing preservice teachers to integrate technology in education: A synthesis of qualitative evidence. *Computers & Education, 59*(1), 134-144.

Trilling, B., & Fadal, C. (2009). *21st century skills: Life for learning in our times*. San Francisco, CA: Jossey-Bass.

Tumblr: About page. (2012). Retrieved from http://www.tumblr.com/about

Tunison, S. (2002). Herding elephants: Coping with technological revolution in our schools. *Journal of Educational Thought*, *36*(2), 167–181.

Twitter: About page. (2012). Retrieved from https://twitter.com/about

U.S. Department of Education, Office of Educational Technology. (2010). *Transforming American Education: Learning Powered by Technology,* Washington, D.C. Retrieved from http://www.ed.gov/sites/default/files/netp2010.pdf

Vannatta, R. A., & Fordham, N. (2004). Teacher dispositions as predictors of classroom technology use. *Journal of Research on Technology in Education, 36*(3), 253-271.

Vosinakis, S., Koutsabasis, P., & Zaharias, P. (2011). An exploratory study of problem-based learning in virtual worlds. In *Proceedings 3rd international convergence in games and VWs for serious applications*. Athens, Greece.

Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

Walls, S. M., Kucsera, J. V., Walker, J. D., Acee, T. W., McVaugh, N. K. & Robinson, D. H. (2010). Podcasting in education: are students as ready and eager as we think they are? *Computers and Education*, *54*, 2, 371–378.

Wells, J., and Lewis, L. (2006). *Internet Access in U.S. Public Schools and Classrooms: 1994–2005* (NCES 2007-020). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved from http://nces.ed.gov/pubs2007/2007020.pdf

West, R. E., Wright, G., Gabbitas, B., & Graham, C. R. (2006). Reflections from the introduction of blogs and RSS feeds into a preservice instructional technology course. *TechTrends,* 50(4), 54-60.

What is Pinterest? (2012). Retrieved from http://pinterest.com/about/

White, M. D., & Marsh, E. E. (2006). Content analysis: A flexible methodology. *Library Trends, 55*(1), 22-45.

Wikipedia:Statistics. (2012). Retrieved from http://en.wikipedia.org/wiki/Wikipedia: Statistics

Willcoxson, L. (1998). The impact of academics' learning and teaching preferences on their teaching practices: A pilot study. *Studies in Higher Education, 23*(1), 59-70

Windham, C. (2005). Father Google and mother IM: Confessions of a net gen learner. *EDUCAUSE Review*, *40* (5), 45-59.

Wood, E., Mueller, J., Willoughby, T., Specht, J., & Deyoung, T. (2005). Teachers' perceptions: Barriers and supports to using technology in the classroom. *Education, Communication & Information, 5*(2), 183-206.

Wood, E., Zivcakova, L., Gentile, P., Archer, K., De Pasquale, D., & Nosko, A. (2012). Examining the impact of off-task multi-tasking with technology on real-time classroom learning. *Computers & Education, 58*(1), 365–374.

Xu, C., Ouyang, F., & Chu, H. (2009). The academic library meets Web 2.0: Applications and implications. *The Journal of Academic Librarianship, 35*(4), 324-331.

Yang, S. H. (2009). Using blogs to enhance critical reflection and community of practice. *Educational Technology & Society*,12(2), 11–21.

Youtube timeline. (n.d.). Retrieved from http://www.youtube.com/t/press_timeline

Zawilinski, L. (2011). Hot blogging: A framework for blogging to promote higher order thinking. *The Reading Teacher*, *62*(8), 550-560.

Zhang, Y., & Wildemuth, B. (2009). Qualitative analysis of content. In B. Wildemuth (Ed.), *Applications of social research methods to questions in information and library science* (pp. 308-319). Westport, CT: Libraries Unlimited.

BIOGRAPHICAL SKETCH

Ela Kaye Eley was born in LaGrange, Georgia and received a Bachelor of Music degree from Valdosta State College. Immediately upon graduation, she moved to Fort Worth, Texas where she received her Master of Arts in Religious Education from Southwestern Baptist Theological Seminary. After serving churches in both Texas and Georgia as Minister of Children, Ela Kaye decided she could have more influence over the lives of children by working in the public school system. Her first job as a public school teacher was in DeKalb County, Georgia, where she was the Music Specialist for a K-7 elementary school. It was during this time that Ela Kaye became interested in the use of computers in the classroom and began attending school part-time to pursue her Educational Specialist degree in instructional technology at West Georgia College and State University.

After spending several years as an Instructional Technology Specialist in Georgia public schools and helping teachers integrate the use of technology into their classrooms, Ela Kaye found that she wanted to know more about *why* certain uses of technology in the classroom were making an impact on students. It was at that time she made the decision to move to Gainesville, Florida and pursue her Ph.D. in curriculum and instruction, with an emphasis in educational technology. Ela Kaye's main research interests are K-12 classroom integration, preservice teacher education, K-12/University partnerships, and the use of social media to increase student engagement in learning. Ela Kaye received her Ph.D. from the University of Florida in December, 2012 and currently works as an Assistant Professor of Educational Technology at Armstrong Atlantic State University in Savannah, Georgia.