2009-07-15

Using Web-Based Tools to Mentor Novice Teachers in Literacy Instruction

Teresa Moore Jordan
Brigham Young University - Provo

USING WEB RESOURCES TO SUPPORT NOVICE TEACHERS IN LITERACY INSTRUCTION

by

Teresa M. Jordan

A thesis submitted to the faculty of

Brigham Young University

in partial fulfillment of the requirements for the degree of

Masters of Arts

Department of Teacher Education

Brigham Young University

July 2009

BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

of a thesis submitted by

Teresa M. Jordan

This thesis has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

_____	_____
Date	Janet R. Young, Chair
_____	_____
Date	Leigh Smith
_____	_____
Date	Timothy G. Morrison

BRIGHAM YOUNG UNIVERSITY

As chair of the candidate's graduate committee, I have read the thesis of Teresa M. Jordan in it's final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

_____ _____

Date

Janet R. Young
Chair, Graduate Committee

Accepted for the Department

_____

Roni Jo Draper
Graduate Coordinator

Accepted for the College

_____

Barbara Culatta
Associate Dean, David O. McKay
School of Education

ABSTRACT

USING WEB RESOURCES TO SUPPORT NOVICE TEACHERS
IN LITERACY INSTRUCTION

Teresa M. Jordan

Department of Teacher Education

Master of Arts

This study examined the virtual interactions between novice teachers and their mentor using web-based tools such as blogging and instant messaging. The purpose of the study was to determine the nature of online communication and how web-based tools function in the mentoring process. The mentor/researcher created an online website where novice teachers and their mentor interacted by blogging, instant messaging, and virtually sharing digital resources and ideas for teaching literacy. As the novice teachers interacted on the website, the mentor/researcher conducted an online survey and kept digital records of all blogs and instant message sessions. Later, participants were interviewed and a researcher reflection log was examined to answer additional questions about how web-based tools could be used in the mentoring process. Analysis of the data showed that using web-based tools for virtual interaction provides meaningful mentoring opportunities and

creates a platform for authentic discussion. However, the need for face-to-face communication in the mentoring process is still critical and not all novice teachers are comfortable with and interested in using this type of platform for communication. In order to use web-based tools effectively in the mentoring process, mentors must carefully consider their own knowledge of the tools, their time constraints and the interests, knowledge level and motivations of the novice teachers with whom they work.

ACKNOWLEDGMENTS

I would like to sincerely thank everyone who helped me complete this project: to my children Kaycie, Taylor, Lyndsie, and Jaymon who spent four summers twiddling their thumbs and who did more dishes and folded more laundry than any children ever should have to; to my husband Korry who never holds me back and supports me in every journey; to my seven BYU interns who cheerfully participated even when it wasn't convenient; to my friends and colleagues who let me vent and bounce ideas even when they didn't completely understand; and finally a special thanks to my graduate committee, Dr. Leigh Smith, Dr. Timothy Morrison, and especially Dr. Janet Young who spent countless hours listening, coaching, and teaching. Thank you!

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

One outcome of the No Child Left Behind Act of 2001(NCLB, 2002) is that professional development, coaching, and mentoring have gained renewed attention. Schools are now being held accountable for the preparation and training of highly qualified teachers (U.S. Department of Education, 2005), and the mentoring of new teachers has become a common practice in schools (Reiman & Thies-Sprinthall, 1998). High-quality mentoring programs seek to aid new teachers in gaining the skills they need to survive and thrive in the high stakes environment of today's classroom (e.g., Mandel, 2006). However, mentoring practices and the effectiveness of those practices can vary greatly among districts, schools, and even mentors themselves.

Supporting the needs of novice teachers remains a challenge, and the use of mentoring as a tool for preparing teachers can range from effective to ineffective (e.g., Botzakis & Malloy, 2006; Sundli, 2007). Mentors need to continually evaluate their practices and to consider new mentoring possibilities. One way that mentors can refine their practice is to work collaboratively with those they mentor, to critique and challenge current mentoring practices, and to explore new ways of mentoring (Cochran-Smith, 2001a).

In the field of teacher education, using technology as a mentoring tool is one area that has not been widely explored. Sweeping changes have taken place in our society in the past two decades due to the availability of new technologies, yet our educational practices and school procedures have remained largely unchanged (Nystrand, 2006). Purves (1998) suggested that the impact of digital media on literacy has the potential to

change our society to a degree similar in nature to the societal changes that occurred when alphabetic writing was invented, yet using digital media as a viable tool in the field of education has been slow in coming.

In his 2006 presidential address at the National Reading Conference, Leu (2006) asked his colleagues why schools in the U.S. are not preparing students for the new literacies of the Internet and why researchers are not focusing attention on these new literacies. He cautioned all literacy researchers to more carefully consider the importance of technology in their future research. He expressed genuine concern that failure to view technology as a central aspect of literacy will marginalize literacy research and open the door for other educational disciplines to fill the void, "for us, without us" (p. 2). Leu's concerns also apply to the field of teacher education. Failure to consider the use of technology in preparing and mentoring novice teachers may limit teacher educators, and leave those who work with novice teachers doing what they have always done without exploring new possibilities that could enhance the mentoring process.

Statement of the Problem

Teacher educators have an obligation to consider ways that technology could support and enhance the knowledge and practices of novice teachers. Given that young people today gather information and access knowledge in a much different way than people of past generations (Prensky, 2005), failure to integrate technology and to consider critical ways that novice teachers use and learn from technological resources such as the Internet could be considered irresponsible.

In the past two decades, American society has experienced major demographic, economic, and technological shifts. Our once industrialized nation is now part of a

globalized society. We are living in a digital age where the use of technological tools for communication is vital. Students now attending colleges and universities could be considered *digital natives*, or children who have been born and raised with the language of computers, video games, and the Internet, and who are native speakers of technology (Prensky, 2001). Conversely, many teachers of these young students could be considered *digital immigrants,* or people who were raised in the pre-digital age and who may still be learning and struggling to understand all of the new technology that surrounds them (Prensky, 2001). These gaps of knowledge have far reaching implications in the world of education and especially in the preparation and mentoring of novice teachers (Prensky, 2005). It is possible that many of today's novice teachers are digital natives and their mentors, digital immigrants.

New and innovative methods for mentoring and coaching using technological resources currently exist. Some of these methods are referred to as *e-mentoring* or *virtual mentoring* (Bean et al.; Bierema & Merriam, 2002; Cheng, Clift, & Klecka, 2004). However, much of the available research about the use of this type of mentoring is limited to on-line staff development studies (e.g., Bean et al., 2008), mentoring programs that involve elementary and high school aged students being mentored by teachers, professionals from the business sector or other students (e.g., Friedman, 2007; Spencer, 2007), and studies involving educators who e-mentor out of convenience because of location barriers, or who join a sponsored on-line mentoring group (e.g., Klecka, Clift, & Cheng, 2005; Siegel, 2003).

A rich research base about mentors and novice teachers who interact via the Internet as another way to learn, communicate, and share ideas does not currently exist.

Very few educational studies involve both traditional forms of mentoring in conjunction with virtual forms of mentoring as a way to broaden and expand interaction between mentors and protégés and provide information and learning opportunities more tailored to the needs and interests of novice teachers who could be considered digital natives.

Statement of the Purpose

The purpose of this study was to examine the process of establishing and using an Internet website for mentoring novice teachers. In order to keep the content on the site manageable and useful, the site was dedicated primarily to interactions about literacy instruction, though interactions on other topics did occur. Novice teachers were given the opportunity to blog about their questions and concerns, interact with their mentor and with other novice teachers virtually from a variety of locations, electronically search for quality literacy lesson ideas, and access digital classroom resources.

This technologically based support was provided to encourage virtual conversations and virtual interactions in an effort to test and push the otherwise physical boundaries that exist in traditional mentoring relationships. It was also meant to study the flexibility of using web-based tools in mentoring given the time constraints and demands of everyday teaching. By studying virtual communication, I hoped to more properly evaluate the needs of novice teachers in order to learn where mentors might best focus their time and effort and to search for future mentoring possibilities. Acting as a mentor to seven novice teachers, I investigated how the use of web-based tools could enhance or detract from the mentoring process.

Research Questions

The overarching question that guided this study was, "How does the use of on-line, web-based tools facilitate mentoring of novice teachers in literacy instruction?" Additional guiding questions were,

1) What technological tools do novice teachers use to support their teaching practices?

2) How does the use of a mentoring website and the communication that takes place on a mentoring website change over time?

3) What is the nature of on-line communication between novice teachers, their mentors, and other novice teachers?

4) How does the use of online tools function in the mentoring process?

5) How does virtual mentoring enhance or limit a mentor's influence?

Limitations

There were limitations to this study. As a teacher researcher and mentor, I alone created, supervised, and oversaw the website where study participants interacted. Because of this, my interactions were dependent upon my own knowledge of teaching, my mentoring skills, and my own abilities to communicate and form relationships. Personal biases may have existed, as I had known six of the seven novice teachers and formed relationships with them prior to conducting this study. Similarly, the novice teacher participants had knowledge, abilities, and biases that may have affected their interaction on the website as well. Because of these factors, this study would be difficult to duplicate with similar results. However, these factors also provided a rich landscape

upon which to study the interactions that took place. In order to check for biases, a peer reviewer was used during data analysis.

Another limitation to this study was the relatively short amount of time that data were collected. Although much was learned in ten weeks, extended use of the website would have been beneficial. For example, conducting the study over an entire school year may have provided richer, more in-depth information about the usefulness of various web-based tools and change over time. However, conducting such an in-depth study would have required time, energy, and resources beyond the scope of a single researcher conducting a graduate thesis.

A third limitation involves the small sample size. Study participants included seven novice teachers and myself. Because of this, the results of this study cannot be easily generalized to all situations and populations. Yet, because this was a descriptive, exploratory study, themes and patterns were discovered that might be beneficial to others in a wide variety of mentoring contexts.

Definition of Terms

Throughout this study, the primary mode of communication between the interns and myself was virtual, meaning that we communicated via the Internet using web-based tools. While many face-to-face interactions did occur, the online conversations were the primary focus of the study. This type of mentoring has a variety of names such as *i-mentoring*, *e-mentoring*, *telementoring,* and *cybermentoring*. Because some of these terms refer to specific mentoring programs or follow specific protocols not used in this study, I will refer to the online interactions between the interns and myself in this study as *virtual mentoring*.

In this study, the terms *blog*, *blogging*, *blogspot* and *Blogger©* were frequently used and are here defined. The word *blog*, created from a combination of the words web and log, can act as a noun or a verb. As a noun, the word *blog* refers to a website used for the purpose of sharing information and recording thoughts. For example, "I enjoy visiting my brother's online blog." It could also be called an online electronic journal. As a verb, *blog* can also mean the actual process of *blogging*, or writing/typing text on a blog. For example, "I need to blog about what happened today." *Blogger©* was one of many different free online blogging programs available on the Internet at the onset of this study. Owned by the Google Corporation, users could customize their own *blogspot*, much like a personal website, and identify and access it using an Internet address of their choosing (Blogger, n.d.).

Facebook© was a social networking site (SNS) used in this study. An SNS provides users the capability to keep in touch with friends, share photos, and exchange information electronically (Webopedia, n.d.). *Facebook©* was used primarily for its built-in instant messaging system, which allowed study participants to have private virtual conversations. In order to communicate with others, *Facebook©* users could invite friends to their home page. Friends who had been invited could either accept or reject the invitation. Only friends who had accepted a friendship invitation from another could view each other's home page. While some interactions between friends on *Facebook©* were public, the instant messaging sessions collected for this study were private between the two users having the online conversation. Further definition of instant messaging follows.

Instant messaging, sometimes abbreviated as IM, is an online service that allows two or more people to communicate in real time over the Internet. It is similar to a

telephone conversation, but is text-based rather than voice-based. Instant messaging programs allow users to initiate virtual conversations or chats with other users (Webopedia, n.d.). Some IM programs allow for multiple Internet users to communicate online at the same time, but the IM program used in this study allowed for only private conversations between two users.

In this study, a *website* refers to an on-line collection of electronic pages that can contain text, graphic images, and multimedia effects such as sound, video, or animation files. Internet users can navigate the site and interact with the elements contained in it by clicking on links and hyperlinks to access information, type text and view media. A website is known by a name, called an address. In this study a website, was created by the researcher and the address location was www.*miteachingblog.blogspot.com*.

Defined here, *web-based tools* are programs or applications, available through a website or blogspot, that are used for participation and communication on that site. In this study, two main web-based tools were used for these purposes. The first was a blogging tool (see *blog* in this section) and the second an instant messaging tool (see *instant messaging* and *Facebook*© in this section).

Throughout the body of this document, the participating novice teachers are referred to as *interns*. The interns in this study were students enrolled in a teacher education program but who were working as full-time teachers in an elementary school for the academic school year prior to their graduation. Completing an internship was an alternative to student teaching. To become an intern, teacher education candidates were required to demonstrate skills, knowledge, and dispositions necessary for full time teaching and were interviewed and chosen for teaching positions. These interns were

considered first-year teachers with full classroom responsibilities, but they also had a high level of support and mentoring from a full-time site-based mentor called a *facilitator*, and additional support from a university-based supervisor and mentor called a *Clinical Faculty Associate*, or CFA, as defined below.

Facilitators were highly experienced teachers who were released from the classroom in order to serve as full-time mentors for interns. Facilitators were based at the school, worked regular school hours, and usually mentored two or three interns each school year. The role of facilitator is defined here because the facilitators at each participating school acted as an additional mentor for the interns in this study. Though they did not participate in the study, facilitators were a topic of conversation on the website and will be discussed in chapters four and five.

In this study, I acted as *mentor* to novice teachers. *Mentoring*, in this context, refers to an experienced teacher who is working with novice teachers to help them assimilate in to the school environment, improve and refine their teaching practices, model teaching strategies, and provide emotional support. In addition, mentoring was designed to help novice teachers draw their own conclusions, reflect on their practice, and make decisions about how to change and adapt their teaching based on those reflections.

As the participating mentor/researcher, it is important to define my role as a *Clinical Faculty Associate* (CFA) in order to explain the relationship between the interns and myself prior to this study. Hired by the teacher education department at the participating university and working jointly with my school district, my job was to help teacher education candidates bridge the gap between their college courses and the

practical applications of teaching in a real school setting. My primary role was to supervise, observe, mentor, and support the interns was well as other students in the teacher education program. Because interns were chosen in their second year of the teacher education program, I had worked with many of them in earlier semesters and had supervised them in other practicum experiences throughout the first year of their teacher education program. There was only one exception, which will be discussed in chapter 3 under participants.

The purpose for explaining my CFA role as compared to the role of the school facilitator is to clarify that I was a secondary mentor to these interns. Because I was not based full-time at any of the schools, I was able to explore how using web-based tools in the mentoring process could support novice teachers when face-to-face contact was limited.

CHAPTER 2

REVIEW OF LITERATURE

The mentoring of new teachers within the first few years of full-time teaching has been well documented. However, few studies exist relative to the mentoring of novice teachers while still enrolled in a teacher education program. Watson (2006) speculated that the reason for this lack of research could be that students in teacher education programs often have limited access to schools, practicing teachers, and to professors with recent practical classroom experience. In the present study, all of these concerns could be readily addressed because of the unique role of the internship program in conjunction with the unique role of the CFA as mentor in the participating teacher education program. This context provides teacher education students with access to schools, practicing teachers, and to university personnel who have recent classroom experience. The context also provides a window to study mentoring functions and relationships with novice teachers still enrolled in a teacher education program.

This review of literature will include three parts. First, research on mentoring processes will be summarized. Second, virtual mentoring will be discussed. Third, research on the need for technology in teacher education research will be reviewed. After elaborate searching, very few studies could be found that combined the mentoring of novice teachers still enrolled in teacher education programs and the use of technology for that mentoring. The majority of scholarly articles related to these phenomena are primarily program descriptions (e.g., Ensher, Heun, & Blanchard, 2003). For this reason, each topic will be addressed separately.

Traditional Mentoring

Creating quality mentoring and support programs for new teachers is essential in the high stakes environment of today's schools (U.S. Department of Education, 2005), but mentoring programs vary considerably. Because of the shortcomings of many mentoring programs, it is important for mentors to critique and challenge common practices and search for new mentoring opportunities (Cochran-Smith, 2001a). It may be important to consider the roles of mentors and mentees, common expectations related to the mentoring process, and the factors that enhance or limit mentoring situations.

Mentoring has most commonly been a face-to-face interaction between a mentor and a protégé, but different approaches to mentoring are emerging as studies have found that not all mentoring programs are working effectively. For example, Sundli (2007) found that mentoring has the potential to become an obstacle rather than a vehicle for promoting self-reflection on teaching practices for novice teachers. Other research indicates that mentoring programs that have been mandated in many states fail to live up to the ideals upon which they are based (e.g., Bradley & Gordon, 1994). In one example, Bean and Swan (2002) found that some mentoring programs were measuring success simply by level of satisfaction, even though the original goals were to improve teaching practices and subsequently impact student learning. They found that when mentors and mentees reported a high level of satisfaction, the program was deemed a success even though no positive instructional changes in the classroom had been studied or measured.

Although some drawbacks do exist, mentoring is most often a beneficial practice and a wide body of research explores the merits of mentoring. A study by Seabrooks,

Kenney, and LaMontagne (2000) has shown that mentored beginning teachers are more confident in exploring, sharing, reflecting, and refining their knowledge of teaching practices than teachers who are not mentored.

Most mentoring programs have similar goals, including retaining quality teachers, improving the performance of teachers, satisfying state mandates for teacher induction and certification, promoting a new teacher's well-being, and helping new teachers acclimate to the school environment (Huling-Austin, 1988). An additional component of mentoring involves providing emotional support for new teachers. Delgado (1999) reported that in addition to instructional support, mentors often provide empathy, encouragement, and compassion. Mentors may also assume the role of counselor, friend, and advocate. This additional level of emotional support can have a powerful impact on the success or failure of a new teacher (Anderson & Shannon, 1988). Similarly, help from a caring mentor can be a determining factor in whether or not novice teachers stay or leave the teaching profession early in their careers (Gareis & Nussbaum-Beach, 2007; Mandel, 2006).

Joyce and Showers (1980) concluded that effective training of new teachers should include strategies of theory, demonstration, practice, feedback, and classroom application. They hypothesized that mentoring could help teachers increase their use of those strategies. Kram (1983) outlined four phases of mentoring: (a) initiation; (b) cultivation; (c) separation; and (d) redefinition. In the initiation phase, mentors and mentees get to know one another and begin to define the gaps between what is and what should be. In the cultivation phase, mentors and mentees begin to feel a sense of accomplishment, feel respect within the mentoring relationship, and develop respect and

trust with one another. During the separation phase, the mentee begins to become more and more independent and autonomous, though this phase sometimes takes years to evolve. In the redefinition phase, the mentee establishes an identity completely separate from the mentor.

In addition to various phases of mentoring, mentors also assume different roles at different times throughout a mentoring cycle. How mentors navigate those roles can directly impact their success in mentoring situations. For example, researchers have found that mentors play both directive and responsive roles when working with novice teachers (Bullough, 2005; Young, Bullough, Draper, Smith & Erickson, 2005). Directive interactions most often occur during the beginning phases of teaching when mentors must help novice teacher acclimate to the school environment and handle the barrage of curricular tasks they must manage. In this directive role, mentors take the lead and the novice teacher is expected to follow. After this initial direction, mentors often shift into a responsive role where the majority of the mentor's time is spent responding to questions, needs, and concerns. The mentor then becomes a supporter and a guide, allowing the novice teacher's thoughts, questions, problems, and concerns to guide the mentoring interactions.

The effectiveness of mentoring depends upon several factors involving both the mentor and the mentee. Roehrig, Bohn, Turner, and Pressley (2008) found that the most effective mentors were those who had previous experience mentoring and were themselves effective classroom teachers. They also found that the more effective the novice teacher was in the classroom, the more likely he or she was to communicate and self-report, and the more open they were to mentoring in general. Novice teachers who

struggled in the classroom were less likely to solicit help from their mentor, which created an interesting conundrum as the teachers who most needed the help were the least likely to seek it.

It is important to consider the roles of a mentor, the expectations of the mentoring process, and factors that can enhance or limit different mentoring situations. Acknowledging these factors will allow for further exploration of new ways of mentoring, including the use of technology, particularly internet tools, in the mentoring process.

Virtual Mentoring

Virtual mentoring is only one of many names that have arisen in recent years to describe the interaction of a mentor and protégé in an online environment. These interactions are also described as online mentoring, telementoring, e-mentoring (Nash, 2001), iMentoring, and cybermentoring (Buery, n.d.). This type of interaction is also sometimes called Computer Mediated Communication (Ensher et al., 2003; Walther, 1996). The ways in which virtual mentoring sessions are conducted are even more varied than the names by which they are called.

The majority of studies that exist in regards to virtual mentoring focus on specific programs available in the online market. These studies include online counseling programs (e.g., Segall, 2000) and programs that bring students, teachers, and other professionals together for online mentoring sessions for a variety of purposes such as high school students mentoring other high school students, teachers mentoring other teachers from remote locations, and teachers who sign up for a mentor on an online

mentor website (e.g., Buckman & Lesesne, 1999; Lewis, 2002; MentorNet, 2002; Robb, 1997).

Several studies have examined the use of online mentoring to facilitate coursework in teacher education programs including practicum facilitation (e.g., Cochran-Smith, 2001b; Knapczyk, Hew, Frey, & Wall-Marencik, 2005; Simpson, 2006). Frey (2008) found that facilitating a project-based practicum experience online held great promise for novice teachers. During a course in a teacher education program, students worked together on a project while completing a practicum experience in schools and then communicated with one another about the project online. The online environment allowed opportunities for novice teachers to engage in professional experimentation that eventually led to teacher change. Other studies have examined the use of on-line environments for program delivery and the teaching of on-line courses. These studies focus on distance learning and bringing together teachers from rural areas or from across distances together in an online environment for the sake of mentoring and completing college level coursework that would not have been possible otherwise (e.g., Beattie, Spooner, Jordan, Algozzine, & Spooner, 2002; Ludlow & Brannan, 1999).

A large body of research exists on preparing teachers to teach, use, and integrate technology in the classroom. Though this body of research does not directly relate to the questions posed in this study, comparisons can be made to teacher education. For example, many of these studies report that teacher preparation programs fail to properly prepare teachers for using and integrating technology into classroom teaching (e.g., Doering, Hughes, & Huffman, 2003; Panel on Educational Technology, 1997; U.S. Congress, 1995) and that novice teachers report high anxiety in the use of technology in

the classroom although they frequently use technology outside of the classroom in personal contexts (e.g., Laffey & Musser, 1998). This is a related factor, as teachers need to consider the many technologies available to them and how they could be used and integrated into everyday teaching of the curriculum (McKenzie, 2001). An important reason for reviewing these studies is to point out that teachers may or may not be equally reluctant or ill equipped to use technology for mentoring purposes. If integrating technology into everyday teaching is a challenge for novice teachers, using technology as a mentoring tool may prove to be equally challenging.

Some studies have outlined the benefits of virtual mentoring. Colky and Young (2006) found that online mentoring has the potential to lower costs, increase access to mentors, and eliminate issues of time, space, and location. Other benefits include presenting material in a new and interesting format, providing opportunities for choice, individualizing the content covered in mentoring sessions, and self-regulating the pace at which information is presented (Bean & Morewood, 2007).

Online mentoring can also provide greater access to information and to other professionals, equalize the status between a mentor and protégé, and create a record of interactions that can be easily studied and shared (Ensher, Heun, & Blanchard, 2003). Additionally, it has been suggested that in the dynamic career environment of today's classrooms, it is beneficial for a protégé to have a variety of different types of mentoring relationships (Ensher et al., 2003) and that providing face-to-face mentor interactions in conjunction with virtual mentoring sessions could provide this variety for novice teachers. Walther (1996) also found that when people interact in an online environment and work in a shared profession, they highly identify with one another and will often

perceive their online contacts more favorably than those they communicate with face-to-face.

One especially promising benefit of online interaction is the ability of mentors and mentees to construct more thoughtful and reflective responses as opposed to face-to-face interactions that often require "on demand" answers to questions and immediate reflection on teaching experiences (Gaeris & Nussbaum-Beach, 2007). Additionally, the use of asynchronous virtual environments enables novice teachers to communicate in both group and private discussions, sometimes simultaneously (McMullen, Goldbaum, Wolffe, & Sattler, 1988).

Helgesen (1995) described the use of online environments as a "*web of inclusion"* (p. 19) that allows people to solve problems as they arise. Virtual organizations in the business world have been described as "boundaryless," (Ashkenas, Ulrich, Jick, & Kerr, 1995, p. 10) and a virtual organization can appear almost "edgeless, with permeable and continuously changing interfaces between company, supplier, and customers" (Davidow & Malone, 1992, p. 5). While these examples were used in business, they potentially have equal merit in the field of teacher education and in the preparation of new teachers. Providing mentoring situations that defy time and place holds great potential.

While benefits to virtual mentoring exist, there are also drawbacks. The lack of face-to-face communication can sometimes lead to miscommunication and misunderstanding of the tone and attitude of messages between mentors and mentees (Colkey & Young, 2006). In a review of literature on online mentoring, Ensher et al., (2003) found common drawbacks in several research studies. These drawbacks include, but are not limited to, (a) a greater likelihood of miscommunication, (b) slower

development of relationships, (c) requirement of competency in written and technological skills, (d) computer malfunction situations, and (e) issues related to privacy and confidentiality. Another drawback lies in the lack of research and assessment of electronic mentoring. Little is known about the best practices associated with using electronic resources for mentoring (Watson, 2006). An additional drawback that Watson (2006) found was that student participants often viewed the use of online tools as just another assignment, project, or course requirement. In this context, motivation to participate was adversely affected. In the present study, it is important to consider both the possible strengths and weaknesses that may exist when using online tools for mentoring.

In researching the use of on-line tools for mentoring, a recent study by Gareis and Nussbaum-Beach (2008) was discovered that influenced this study. It involved mentors and novice teachers interacting in an online environment though they never met face-to-face. It is reviewed here to provide further insight into virtual mentoring and because it had a similar context and purpose as this study.

In an effort to analyze, identify, and understand the nature of conversations among mentors and novice teachers, researchers at The College of William and Mary partnered with researchers from The Center for Teacher Quality to create a group-based online mentoring environment called Electronically Networking to Develop Accomplished Professional Teachers. Study participants included novice teachers and trained mentors, who had virtual conversations throughout the study but never met face-to-face. Interactions on the website were analyzed according to *a priori* categories of direction, frequency, function, and content. In addition, twelve functions of mentoring

were analyzed using content analysis and other qualitative coding methods. Throughout one year of data collection, participation on the site was completely voluntary.

The Gareis study yielded several results that were pertinent to this study. First, participation on the site was high in the beginning and then began to wane during the month of December and then again during April and May. Second, it was discovered that while the purpose of the study was to promote mentor-novice interactions, a good majority of site participation was mentor-to-mentor and novice-to-novice. Another pertinent finding was that in more than ten percent of the interactions the novice teachers were the ones giving advice, help, and encouragement to one another. Study participants communicated in a network rather than linear fashion and the content of postings was substantively related to professional teaching competencies.

While the Gareis and Nussbaum-Beach (2007) study has several differences from this study, the overall intent of both was the same; to study virtual interactions of mentors and novice teachers. The main differences were that in the present study, mentors and novice teachers met both virtually and face-to-face, and only one mentor interacted on the site rather than many. The categories used to code the data from the Gaeris study were used as a priori categories during initial analysis for this study to provide a beginning lens for understanding the data though some categories were later adapted or modified.

The Need for Technology in Teacher Education

Jonassen (1995) has suggested that learners of all ages need to learn with technology rather than from technology. He proposes that technology be viewed as an instructional approach that facilitates cognitive thinking skills for students and allows for self-construction of meaning and understanding. He further explains these technologies

as "computer-based tools and learning environments that have been adapted or developed to function as intellectual partners with the learner in order to facilitate critical thinking and higher-order learning" (Jonassen, 2000, p. 9).

A report created by the organization Education/Evolving identified fifteen findings related to "*tech-savvy students*" (Farris-Berg, 2005, p. 1), a few of which are discussed here. The report maintained that computer and Internet use only continues to grow and that today's students are sophisticated users of technology. Another pertinent finding was that access to technology in schools is limited even though technology should no longer be considered an "extra" in any educational setting. Home use of the Internet dominates, while in-school use of technology is sparse and is commonly never integrated in the curriculum. The most telling findings were that computers and the Internet are first and foremost tools for communication and that technology has caused students to approach life in different ways than their parents.

Technological advances and the nature of today's global marketplace have resulted in organizations that rely on broad-based virtual interactions. Although many academics do not see the global marketplace as a factor in schools, it is, in fact, impacting schools more than ever before (Colky & Young, 2006). Christensen, Horn, and Johnson (2008) maintain that learning in the 21st Century requires different tools and different school models than currently exist. They ascertain that if schools do not begin to use technological tools to customize learning and if they fail to seek new school models, education in the United States may not be economically sustainable.

Leu (2006) stated that the Intenet is "this generation's defining technology for literacy and learning" (p. 2) and that we are "reading with technologies far more powerful

than books and writing with technologies far more powerful than paper and pencil" (p. 15). He noted that one way to keep up with the pace of change taking place in the use of technology is to communicate with others on the Internet. Leu explained that Internet users almost always begin their navigation on a website with a problem or question they are trying to answer. They use prior knowledge to generate ideas, read search results, make inferences about where to navigate next, and critically evaluate, synthesize, and communicate about the information they encounter. These interactions build the case stated above. Using the Internet is a problem solving activity that requires the use of many high-level thinking skills.

Summary

Using technological tools for mentoring may enable novice teachers to use the higher level thinking skills associated with navigating the Internet in the context of reflecting and talking about their teaching. A virtual environment, created for the purpose of mentoring novice teachers, will provide a new and innovative platform for studying the mentoring process and evaluating mentor and novice teacher interactions.

CHAPTER 3

PROCEDURES AND METHODS

The purpose of this study was to examine the process of establishing and using an Internet website for mentoring novice teachers. The primary research question guiding the study was, "How can the use of on-line, web-based tools facilitate mentoring of novice teachers in literacy instruction?" Additional research questions were,

1) What technological tools do novice teachers use to support their teaching practices?

2) How does the use of a mentoring website and the communication that takes place on a mentoring website change over time?

3) What is the nature of on-line communication between novice teachers, their mentors, and other novice teachers?

4) How does the use of online tools function in the mentoring process?

5) How does virtual mentoring enhance or limit a mentor's influence?

Study Setting and Participants

Participants for this study were seven novice teachers who were enrolled in elementary education programs at two different universities, one in Utah and one in Idaho. These novice teachers participated in a full-year teaching internship program during the 2008—2009 school year in a district located in central Utah. Each intern had her own full-time classroom and worked closely with a school-based facilitator and university-based CFA for supervision and mentoring purposes. The roles of facilitator and CFA are described in Chapter 1, but it is important to note again that in this study I acted as mentor/researcher and served as a CFA to the intern participants.

These interns were not randomly selected. Rather, they were interns I had been assigned to work with for the 2008—2009 school year and were placed at schools where I had been supervising university students for two years prior to this study. I chose these seven interns as participants because I knew that I would have access to them and to their classrooms. I was already considered a mentor to them and mentoring responsibilities were part of my daily work with novice teachers. In this way, the study could most easily progress because relationships at the schools, with the facilitators, and with the interns had already been established.

The interns participating in the study taught at four different schools located within the same school district. Details about each intern and the schools in which they taught are provided below. These descriptions are included in order to set the interns apart from one another, give a brief overview of the school, and explain the circumstances surrounding each intern's experience level in her respective teacher education program. A brief description of each intern's technological access will also be included. For the purpose of anonymity, each school and intern has been assigned a pseudonym.

It is important to note that the availability of technology among the four schools varied due to social and economic factors. Such contextual factors played a role in the ways the intern teachers at each school participated in and used the website in order to meet the literacy needs of their students.

Interns and School Contexts

Hannah was a 23-year-old intern assigned to teach in fifth grade. She attended a private university in Utah and was in her fourth semester of the teacher education

program at the beginning of her internship. This means that she had completed two full semesters and two four-week practicum experiences in schools prior to becoming an intern. In addition to the PC desktop computer available in her classroom, Hannah also had a personal laptop that she used frequently. She had Internet access at home and prior to the study had created a personal blog to chronicle her first year of marriage. Because I had worked with her before her internship, she and I were *Facebook*© friends and communicated often using that platform instead of e-mailing.

Nicole was a 22-year-old intern in fourth grade. Nicole previously attended a private junior college in Idaho, and was recruited to move to Utah for an internship because of a teacher shortage in the state. Because of this, Nicole did not attend the same university or teacher education program as the other participants in the study. She was further along in her teacher education program and graduated in December, five months earlier than all of the other interns. She was not required by her college to be mentored or even supervised by me, but I offered and she chose to accept simply to improve her teaching and receive additional support. Nicole was an avid Internet user and knowledgeable about using technological tools. She had a personal laptop and a classroom PC that were both up and running side-by-side whenever I visited her classroom. The day she found out I had a *Facebook*© account, she added me as a friend within minutes and communicated with me using that platform exclusively from that point on instead of e-mail. She spent a lot of time online both at school and home. She also integrated technology in her lessons more often than any of the other interns I worked with. Surprisingly, Nicole had never blogged prior to this study.

These two interns were located at Washington Elementary School. Washington was an average-sized school with approximately 768 students enrolled in kindergarten through sixth grade. Twenty-six percent of the studentbody receive free or reduced lunch. Almost 93% of the students were Caucasian, and 6% were Hispanic, with the remaining 1% Pacific Islander or Asian. The school made adequate yearly progress last year according to No Child Left Behind. At the time of the study, the technology available at Washington was somewhat limited. Each interns had one personal computer in her classroom for teacher use, yet both Hannah and Nicole used their own personal laptops for the majority of the work they did on the computer and only used the in-class PC to access a grading program and check district e-mail. The school had wireless Internet access and two computer labs that were available to teachers on a limited basis.

Emily was a 23-year-old intern in third grade. She attended the same private university as Hannah, but was not as far along in the teacher education program, and was considered a "fast-track" intern. This meant that she attended only two semesters in the elementary education program prior to applying for an internship and completed her final two semesters of coursework in condensed sessions during the spring and summer terms prior to beginning her internship. Because of this, she had less teaching experience than the other participants upon beginning her internship and needed to complete additional courses during her internship. She attended night and weekend classes in order to meet requirements for graduation. Emily had a classroom PC and a personal laptop, but because she did not have wireless Internet access she rarely used her laptop at school. She had Internet access at home, was newly married, and had just started a blog at the onset

of this study. I helped her create a *Facebook*© account for the study, but she never used it, choosing instead to e-mail or call me on her cell phone when she needed something.

Emily was located at Jefferson Elementary School and was the only intern there to participate in this study. Jefferson Elementary has the highest enrollment of all of the participating schools with over 900 students attending kindergarten through sixth grade. Interestingly, it is physically the smallest school and portable classrooms have been brought in to add extra space. Approximately 29% of the students receive free or reduced lunch. Around 90% of the students were Caucasian, while 7% were Hispanic. Three percent were Pacific Islander or Asian. The school made adequate yearly progress last year according to No Child Left Behind.

Available technology at Jefferson was the most limited of the four schools. Emily had a PC desktop computer in her classroom for teacher use, but it was outdated. She had a bank of four student computers in her classroom, but never used them because they were so slow and did not have Internet access. The school had two carts equipped with a laptop, projector, and sound system that could be checked out for use among the 31 teachers at the school; however, Emily's classroom was in an portable unit with a metal staircase leading up to her classroom door. This made it impossible to check out or use the cart, as it could not be lifted up the stairs and into her classroom. There were two computer labs at the school, but because of the high number of students enrolled, the labs were constantly in use by the computer and keyboarding teachers, so regular teachers could never use the labs.

Erin was a 23-year-old intern in third grade. Like Hannah, she was a private university student in her fourth semester and had completed all coursework prior to

becoming an intern and had completed four semesters of coursework and two, four-week practicum experiences prior to her internship. Erin did not have a personal laptop or Internet access at home and used her classroom PC frequently for both personal and work related purposes. When she needed a computer after school hours, she often went to the library at the university. Prior to the study, she and I were *Facebook*© friends, but she was slow to respond to messages using that platform and confided that she did not check it often. She had never blogged before and I helped her set up a Google account so that she could participate in the study. She e-mailed me frequently when she had simple questions or needed to borrow a book or other teaching materials.

Randi was a 23-year-old intern in second grade. Like Emily, Randi was a "fast-track" student from the same private university and had less teaching experience prior to her internship. Randi had a personal laptop, but used her classroom PC exclusively at school. She maintained a blog prior to this study and was familiar with blogging tools. She also had a *Facebook*© account, quickly added me as a friend at the onset of the study, and chose to use that platform over e-mail. She had Internet access at home and was often online in the evenings and even late at night.

Erin and Randi were located at Hancock Elementary School. Hancock is an average-sized school with approximately 730 students enrolled in kindergarten through sixth grade. Hancock is located in one of the highest socioeconomic areas of the district. Because of this, only 13% of the student population received free or reduced lunch. Ninety-six percent of the students were Caucasian, 3% were Hispanic. The remaining 1% were Black, Pacific Islander or Asian. It is interesting to note that all of the Black, Pacific

Islander and Asian students at Hancock were adopted as infants and were being raised by Caucasian parents.

Hancock had the most available technology of the four schools. Each intern had a PC desktop computer for teacher use. These computers were new and updated with current versions of the latest programs as well as high speed Internet access. Additional computers were available in various locations throughout the school for teacher use as well. The school had two computer labs that could be reserved and used by teachers. Erin and Randi both had their own personal laptops, but rarely used them at school because there was no wireless Internet access. Each grade level team had a cart equipped with a laptop, projector and sound system shared among the four teachers on each team. Hancock made adequate year progress last year according to No Child Left Behind.

Allison was a 23-year-old intern in first grade. She was also a "fast-track" intern. At the onset of the study, Allison had just returned from an eight-week leave of absence. She had a classroom desktop PC but it was rarely turned on when I visited her classroom. She had a personal laptop, but no Internet access at home. She often went to the library at the university to use their wireless Internet if she needed it after school hours. Only weeks before the study began, she had created a personal blog and was just learning to use blogging tools. She had a *Facebook*© account, but never responded to messages sent through that platform. She was slow to reply to e-mail, sometimes responding a week or more after a message had been sent. She often commented that since becoming a full-time teacher, she did not have time, at home or at school, to "play" on the Internet.

Laura was a 21-year-old intern in second grade, and was also a "fast-track" intern. She often integrated technology in her lessons and spent a lot of time using her classroom

PC and other laptop computers available at the school for teacher use. She owned a personal laptop, which she used at home, though she did not have Internet access there. She did not blog or have a *Facebook*© account prior to the study and I had to help her get started. Throughout the study she was slow to respond to messages regardless of the platform used to send them, *Facebook*© or e-mail. In some instances she never responded to online messages and then later apologized in face-to-face meetings saying that she had read them, but had forgotten to reply.

Allison and Laura were located at Lincoln Elementary, an average sized school with 678 students enrolled in Kindergarten through sixth grade. Like Hancock Elementary, Lincoln is located in one of the highest socioeconomic areas of the district with only 14% of the students receiving free or reduced lunch. Approximately 95% of the student population is Caucasian, 3% were Hispanic and 2% were either Black, Pacific Islander or Asian. Lincoln Elementary is a nationally recognized Blue Ribbon School and made adequate yearly progress last year according to No Child Left Behind.

Of the four schools, Lincoln had the most available technology. Each intern had a PC desktop computer in her classroom that was updated often. In addition, each grade level team had a technology cart equipped with a laptop, projector, sound system, digital camera, digital camcorder, and microphones that could be placed on students' desks. The school had wireless high-speed Internet access and also owned four portable interactive whiteboards that could be checked out by teachers. Two computer labs were available and could be accessed by teachers as well.

Researcher

Acting as a CFA for the seven interns in this study, I became a participant-observer and served a dual role in this action research project. First, I acted as the primary researcher, systematically studying my own practice and experiences as a mentor to novice teachers. At the same time, I was also a participant in the study as I created, maintained, oversaw, and interacted with the interns on the website. Prior to interaction on the website, I had face-to-face mentoring experiences with each of the seven interns as they prepared their classrooms and planned their curriculum over the school year. These face-to-face mentoring sessions continued as the school year and the study progressed. I visited the interns and observed their teaching bi-weekly. I also interacted with them at monthly two-hour intern meetings in addition to the virtual interactions that took place because of the study.

At the time of the study, my background experience included two years as a computer teacher in second grade, six years teaching in traditional fourth and fifth grade classrooms, two years working as a district literacy specialist in Kindergarten through fifth grade, and two years working at the university as a CFA. During 12 years of experience in education, I had served as a mentor for teachers on all elementary grade levels and had been trained in coaching, mentoring, and many aspects of literacy instruction. It is important to note that I was a frequent user of technology. I checked my e-mail multiple times daily and spent between two and four hours a day online for both personal and work related purposes. At the time I also maintained a website for my extended family. I had attended a course on creating blogs and was maintaining three different blogs, two personal and one work related. During the year leading up to the

study I found myself interacting and sending messages on *Facebook*© more often than through e-mail, as many of the university students I worked with preferred to communicate that way. I had a laptop with wireless Internet access at home and was aware of all wireless connections available when traveling around my district. I also had access to PC desktop computers at each of the four participating schools.

Differences in interpersonal relationships among participants existed prior to the study. While I had known six of the interns prior to this study, I had no previous relationship with Nicole, the transfer student from Idaho. Additionally, Nicole did not know or have relationships with the other interns except for Hannah, who she worked with at Washington. All of the students from the private university knew one another, had attended courses on campus together, and had worked in the schools where they were interning prior to beginning their internships. They had also worked closely with their facilitators and me, their CFA.

In addition to the physical location of the participants, this study includes a unique dynamic in that the study largely took place in cyberspace. It is important to acknowledge both the physical and virtual aspects of the study in order to gain a rich understanding of the interactions that took place as the interns participated and used the web-based communication tools of the study. The normal confines of time and space were different because of the virtual context.

Data Sources

Five data sources were used in this study: a preliminary survey called the Intern Technology Survey (ITS), digital communication artifacts (e.g. blogs), instant messaging

sessions (IM), interviews, and a researcher reflection blog. Each data source is described in detail below with appendix references included.

Intern Technology Survey

At the beginning of the study, participants completed an Internet-based online survey (see Appendix A for copy of the *Intern Technology Survey*). This survey was researcher-created and included Likert scale items, free response questions, and questions that allowed participants to "choose all that apply." The survey examined participants' use of the Internet and Internet tools prior to the study. Items included questions about types of technology used, frequency of technology use, reasons for technology use, and expertise in using different types of technology. The results of this survey were used primarily to answer the first research question about what web resources interns use to support their teaching practices. Survey results were also used to address other research questions as well.

Three school facilitators examined the survey prior to its administration in an effort to establish face validity. Their primary purpose was to offer suggestions and feedback regarding readability, complexity, and usefulness. The facilitators first took the survey online and then responded by e-mail with their suggestions and feedback. The survey was then revised and refined based on those suggestions. Because of this feedback, one question was changed from a "choose all that apply" to a Likert scale question and the wording on two other items were revised for clarity.

Digital Communication Artifacts.

Throughout the study, participants communicated on the website using blogs and IM sessions. These data were used to address research questions 3 & 4 about the nature

of online communication between interns and mentors and the usefulness of Web-based tools. All blogs and instant message sessions were saved as Microsoft Word files and were later printed and analyzed. The data were kept both digitally and in hard copy in separate binders. Each participant had a user name that was visible on the printouts from all of the blogs and IM sessions in order to differentiate among the participants during data analysis. Dates and times of day were also available on all of the digital files that were printed.

Participants were encouraged, but not required, to blog at least four times during the first five weeks of the study. Occasionally, I e-mailed the participants asking them a question or reminding them to visit the website or create a blog. Instant Message sessions, on the other hand, were completely voluntary and occurred naturally whenever an intern wanted to chat and we were both online at the same time. I did not solicit IM sessions, but always responded when the interns sent me an instant message. The purpose of doing this was to see if, how, and when the interns would use that tool.

In order to set up the blogging tool, I first created an account in *Blogger©*, an Internet blogging program that is free to the public and is run by the Google cooperation. I chose to use *Blogger©* because it was the only online blogging tool allowed by the school district and also because several of the interns reported in the initial survey that they were already familiar with using *Blogger©*. It was an added bonus that *Blogger©* has better features and more capability than other educationally based online blogging tools.

After creating an account, I set up a blogspot website which I named www.miteachingblog.blogspot.com. Using special settings, I added all seven interns as

equal contributors to the blog, meaning that any one participant could create new blog entries, edit information, add information, and fully search or add to the site. Each intern was able to set her own user name and password, and I created the site to be password protected, meaning that participants had to use their user name and password to log on and access the site. This insured confidentiality and protection for the participants, and kept the site free of unsolicited entries as the intern posts were hidden from the public, but not from each other.

To create a blog entry, participants simply logged on to the site and then clicked a link called *create new*. They could then enter the information they desired and click a button that allowed that blog to be published to the site, meaning it was posted and others could read it. Participants could also read the blogs of other participants and with a simple click, enter comments on their own blog entries or on the blog entries of other participants. All of these blog entries and comments were automatically saved on the site and included the time of day and the user name of the participant. All blogs and related comments could then easily be printed and prepared for analysis (See Appendix B for blog post with comments).

Instant message sessions initially posed a problem during this study because of the strict filters of the district computer system. After several failed attempts at having the filters lowered for the intern computers, I decided to use *Facebook*©, another Internet tool that was allowed by the district and that the interns had indicated they were comfortable using. More detailed explanations of *Blogger*© and *Facebook*© were included in the definition of terms in Chapter 1. When users were logged on to *Facebook*©, they could see a listing of other users who were logged on and could initiate

a chat with them simply by clicking on that person's name and beginning to type. One beneficial feature of chatting on *Facebook*© was that it consistently recorded the time of day throughout the IM session. Because of this, detailed information about the time of day and duration of the session was recorded next to the text and saved as part of the electronic file (see Appendix C for *IM Session* sample). These sessions were not automatically saved on *Facebook*©, and as soon as a user exited the program, the session was erased. Because of this, I knew it would be necessary for me to copy, paste, and save each session as a Microsoft Word document immediately following the interaction and before logging out of *Facebook*©. By doing this, no IM sessions were lost during data collection. I was unable to collect data about whether or not the interns had engaged in IM sessions with each other.

Although webcasts, podcasts, and other forms of media were used on the site, data from these sources were not collected. Rather, participants were asked to view or listen to digital media and then answer questions or discuss their thinking by blogging, e-mailing, or engaging in IM sessions about what they saw and heard. Those data were then analyzed to answer the research questions for the study.

Interviews

At the end of the study, interviews were conducted by the facilitators at each of the interns' schools. Interview questions were provided to each of the four facilitators as a script (see Appendix D for *Interview Guide For Interns*). I visited and trained all four of the facilitators at the participating schools on how to record the interview, ask questions directly from the script, and avoid adding additional questions or probing for answers. This allowed me to maintain some consistency in the interviews even though they were

conducted at different schools by different interviewers. Participants were asked about their involvement in the study, what they found valuable, what they would improve, and what suggestions they had for future use of these technological tools in the mentoring process. The interviews were recorded digitally, saved electronically, and then later printed out for analysis. One benefit of doing the interviews in this manner was that the interns were comfortable with their facilitator and were at ease during the interview.

The purpose of the interview was to answer research questions three, four and five regarding the use and effectiveness of online tools in the mentoring process and change over time. Participant responses helped to determine possibilities for future mentoring.

Researcher Reflection Blog (RRB*)*

As the researcher, I kept a detailed reflection log of my thoughts, insights, and experiences as a participant-researcher. I chose to keep this reflection log as an online digital blog in order to further explore this Internet tool as a viable means for documenting and reflecting on the mentoring process. This blog was password protected and kept private. Entries provided descriptions of the processes of creating and using the website from the perspective of a mentor (see Appendix E for a sample page from the RRB). It also included questions, thoughts, concerns, and challenges that arose during the study. These data helped answer research questions relating to the opportunities that arise for virtual mentoring and how this type of mentoring enhances or limits the mentoring process.

Design

This was an exploratory, descriptive study of a mentor using technological tools to support novice teachers in literacy instruction. The intent of using this design was to

create an accurate description of the characteristics of a situation or phenomenon and to explain how and why that phenomenon operates as it does (Johnson & Christensen, 2004). Qualitative data sources and qualitative research techniques were employed. While the use of a website could be considered a treatment in quantitative research, it was not used as such in this study. Instead, the website was used as a means to answer the research questions and explore possibilities that arose from using technological tools to mentor novice teachers. I employed specific tenets of action research as I sought to answer the research questions set forth.

Study participants interacted with one another and with me as the researcher in an environment that allowed all parties to hold equal stakes and level opportunities for sharing and communicating. The research process itself had an "elastic quality" and certain aspects of the study were adapted, changed, or redesigned as the research proceeded (Janesick, 2000, p. 12). Most changes were related to technological adjustments or changes in the way I approached interaction on the web site. Acting as both a researcher and participant observer, I learned through "being" and "doing", or researching in first person (Grant, 2007, p. 269). I acknowledge that biases may have been present, though it is only through these biases that rich understanding of my own mentoring experiences can be explored and shared (Marshall, 1981).

Additionally, I utilized basic principles of action research set forth by Lewin (1946/1948) including continuous cooperation between researchers and practitioners, attention to group dynamics and the change phases that occur within groups, attention to the spiral process of data collection, and attention to the importance of providing continuous feedback to all parties involved in the research effort. Comprehensive

sampling was used meaning that instead of examining just one group, individual or setting, all individuals, settings, and facets of participation were examined (Johnson & Christensen, 2004). Throughout the study, I was looking for emerging patterns of action among the participants.

Data Collection

Data were collected over a ten-week period beginning the second week of January, 2009 and ending the third week of March 2009. The ten-week window included two five-week phases. In the first five-week phase, interns were highly encouraged to visit the blogspot regularly. While there were no real consequences for not participating, I consistently encouraged and reminded the participants that they had agreed to regularly visit the blogspot. This encouragement came in the form of face-to-face verbal communications and e-mails. Participation during this five-week period was meant to provide a high level of support for the interns in the hope that they would want to continue using the website beyond the first five weeks. Participants were encouraged to interact on the site by creating blog entries and commenting on the blogs of other participants as well as engaging in instant message sessions as desired.

During the second five-week phase, I did not encourage the participants to interact on the site in order to see if they would voluntarily participate or continue to participate as actively as they had been. This allowed me to study how participation on the site changed and if the participants found the online interaction to be beneficial enough to continue using the site even when they did not feel pressured to. It is important to note, however, that it is not a primary intent of this study to determine if the use of the

site will wax or wane, but rather to study communication, interaction, and mentoring possibilities.

The Intern Technology Survey was given using an Internet-based survey tool, before students began interacting in the online environment. At the time of this study, SurveyMonkey was a free online program that researchers could use to collect and analyze data. Questions could be quickly created and the survey sent out electronically. Once participants had responded to the survey, the data were available online with results calculated as percentages and free response answers listed. Participants received an email with a link to the survey, which they completed digitally. All of the data from the survey were saved online and were also printed in hard copy and kept secure in a data collection folder. Survey responses were anonymous.

All blog entries, comments, and IM sessions were automatically saved on Blogger.com or Facebook.com. In order to back up the data, blog entries, comments, and IM sessions were copied and saved electronically as a Word document and named by the date of the blog entry and first name of the participant. Hard copies of these documents were printed and kept in a secure binder. Interviews were recorded digitally and later transcribed and saved as Word files. Hard copies of the transcribed interviews were printed and kept in a secure binder.

Data Analysis

Data for this study were analyzed using qualitative data analysis methods. I alternated between data collection and data analysis in a cyclical, recursive process (Miles & Huberman, 1994). Descriptive statistics were used to make sense of the data and arrange it in a more interpretable form (Johnson & Christensen, 2004).

Survey data were analyzed using frequency counts or tallies for items that lent themselves to these methods of analysis. Free response answers from the survey were compiled in a table and examined for commonalities and differences.

All digital communication artifacts, primarily blogs and IM sessions, were segmented into text units. I did this by reading through the text and breaking it up into smaller units based on the topic of the text or if the text followed the same line of thought. For example, within a single paragraph, two or three different topics could have been discussed or an intern could have changed her line of thought three different times. That paragraph then became three different text units. A text unit could be as small as a sentence or as long as an entire paragraph. This was done in an effort to more closely examine the text by organizing it into manageable pieces. The text units were then compiled on a data reduction chart to facilitate coding (Miles & Huberman, 1994).

I did not use predetermined categories to code this data. I read through all of the text units to see what categories would emerge. At this point, I examined the Gareis and Nussbaum- Beach study (2007) to study and identify the categories they had used to code similar data. I initially began coding with their categories, but quickly realized that some of my data could not be categorized in that way. For example, one of the categories used in that study was *Professional Growth*. This category was not useful for addressing my research questions, so I eliminated it. On the other hand, several of my digital artifacts contained data about scheduling, district assignments, and university assignments. It became necessary to create an additional category called *Housekeeping* to identify the data related to these issues. Approximately half of the coding categories came from the Gaeris and Nussbaum-Beach study and the other half emerged from the data. After

careful consideration, I created a code key and defined the categories as they pertained to this study (see Appendix F for code key with definitions).

During the first cycle of coding, I examined the concept of *time*. I entered information about the *frequency*, *duration*, and *time of day* of virtual communications in an Excel file and then sorted it in various ways. For example I sorted the time of day data from earliest time of day to latest. I sorted the duration of IM sessions from shortest session to the longest session by minute.

During the second cycle of coding, I examined the *content* of the virtual conversations. Using a data reduction chart, I coded the text units with the categories of *core subjects*, *classroom management*, *assessment*, *instruction* and *housekeeping*. After organizing the data into these broad categories, I was able to dig deeper into the data to determine additional subordinate categories. For example, text units coded initially as assessment were later organized under the subordinate categories of self-assessment, assessment of student learning, assessment of instructional practice and assessment of professional behavior (see Appendix G for a flowchart showing coding categories and subcategories.)

During the third coding cycle, I again used a data reduction chart, but examined the text units for the *purpose* of the online interaction (see Appendix H for example of a data reduction chart). As I began this process, I realized that the purpose of the interaction was different depending on whether the thought unit was from an intern or from me, the mentor. The third coding cycle then led me to examine mentor purposes only and a fourth coding cycle was required to examine intern purposes for online communication. Additional subcategories emerged in each coding cycle.

In an effort to establish face validity and to check for clarity in how I had defined the categories used for coding (Johnson & Christensen, 2004), a peer reviewer used data reduction charts to code approximately 20% of the text units for time, content and purpose. This peer reviewer was a former CFA who had been my colleague at the university for three years, but had returned to work in the district as a mentoring specialist several months prior to this study. I chose this colleague to review the data because she had mentored novice teachers in the past and therefore had the ability to understand the context of my work, as well as the experience of novice teachers in an internship. Because of our shared perspectives, and her knowledge of the mentoring process, I felt that her review of the data would best help me determine if I had used appropriate categories to examine the data.

The peer reviewer examined the coding key and definitions prior to coding and asked clarifying questions. After coding, I compared her data reduction charts to my own to check for inter-rater reliability and coding consistency. Comparison of the coded documents revealed 83% consistency between my coding and the peer reviewer's coding. This showed that the categories were well defined and provided evidence of acceptable levels of validity and reliability for my coding.

Interviews were transcribed from audio files. To analyze these data, I created a chart organized by the interview questions that had been asked. Under each question I recorded text units that best answered each question (see Appendix I for *Interview Analysis Table*). I then examined the table to look for answers that were similar to one another, answers that were different from one another, and to check for outliers. This

enabled me to look for patterns that had emerged in the interviews and to closely examine responses that appeared to be outliers.

Entries from the researcher reflection blog were analyzed using text units and data reduction charts, in a similar format described above for the mentor/intern blog. Categories for this analysis emerged completely from the data as I read and reviewed the entries from the blog. These text units were coded for evidence of problems and barriers, questions, professional growth, insight, assessment, and reflection.

CHAPTER 4

FINDINGS

This study examined the use of Internet tools to mentor novice teachers in literacy instruction. While the initial intent of the study was to focus primarily on literacy, the data revealed rich interactions that extended beyond literacy alone. This section will be organized by the five research questions asked in this study, which were,

1) What technological tools do novice teachers use to support their teaching practices?

2) How does the use of a mentoring website and the communication that takes place on a mentoring website change over time?

3) What is the nature of on-line communication between novice teachers, their mentors and other novice teachers?

4) How does the use of online tools function in the mentoring process?

5) How does virtual mentoring enhance or limit a mentor's influence?

Prior Use of Technological Tools by Novice Teachers

A survey was given to the seven study participants during the first week of data collection. Prior to working with novice teachers in an on-line environment I wanted to know what their practices were in using technology as a support for teaching. I was also interested in how much time they spent using the Internet, how proficient they were at various online activities and how they saw themselves as users of this type of technology.

Time Online

All seven interns reported spending equal amounts of time online for personal and work related activities. However, when asked to specify the exact number of hours actually

spent, most reported a higher number of online hours for personal reasons. Only two interns actually reported spending equal amounts of time for personal and work related purposes, one indicating between one and three hours and the other between four and six. Three of the interns reported spending more time online for personal reasons and two reported spending more time for work related reasons (see Table 1). These data revealed that the interns were using the Internet several hours each week for both personal and work related purposes.

Table 1

Interns' Reported Time Spent Online Prior to Data Collection

Participants	Hours Per Week Personal	Hours Per Week Work Related
Intern 1 *	10 or more	4-6
Intern 2	1-3	1-3
Intern 3	7-10	4-6
Intern 4	7-10	4-6
Intern 5	4-6	4-6
Intern 6	1-3	4-6
Intern 7	1-3	4-6

*Note: ITS was an anonymous survey

Tools Used

To determine what online tools the interns used, I asked them to list the frequency in which they engaged in various online activities and to rate their proficiency

using online tools. This allowed me to examine not only the tools they were using, but also how often they used them and how proficient they felt.

E-mail and search engines were reported as being the most frequently used online tools and all seven interns reported a high level of proficiency with using them. Only one intern reported both high frequency and high proficiency when using IM tools. Five interns reported using IM tools occasionally one with high proficiency and four with less proficiency. One participant reported never having used an IM tool. Four interns had prior experience blogging before the study, but some reported less proficiency in using blogging tools. Three interns reported never blogging before the study (see Table 2).

Table 2

Interns' (N=7) Reported Frequency and Proficiency of Online Activities Prior to Data Collection

	Frequency				Proficiency		
Activity	Daily	Weekly	Monthly	Never	Proficient	Less Proficient	Not Proficient
E-mail	7	0	0	0	7	0	0
Surf the web	5	2	0	0	7	0	0
Blogging	2	1	1	3	1	3	3
IM	1	3	2	1	2	4	1

When asked to describe other types of online activities or Internet tools used, all but one intern reported using the social network, *Facebook*©, and the blogging tool, *Blogger*©. They also reported using the Internet to shop, pay bills, and search for recipes.

Online Searches

When asked what they commonly searched for online in regards to teaching, all seven participants responded that they searched for lesson ideas. Other responses were varied and included management ideas, handouts, worksheets, arts and crafts lessons, interactive math and science games, and the *Utah State Core Curriculum*.

Interns as Internet Users

When interns were asked to describe themselves as users of the Internet, their responses varied. Five interns reported a high level of knowledge and enthusiasm in regards to Internet use as is illustrated in the following responses:

> I pretty much do everything online from searching Google for curious questions of mine, to creating slideshows and movies, to blogs, etc. I use the Internet all the time. Without it, I feel like I am cut off from the outside world! (ITS, question 10, response #1)

> Personally, I love the Internet! It helps me get what I want, when I want it. I don't have to work on someone else's time schedule and I can get exactly what I want fairly quickly. (ITS, question 10, response #3)

Two other interns' responses indicated a more basic knowledge of Internet use and a less enthusiastic tone, for example,

> I use the Internet for basic needs therefore I know the basics. . . I'd like to keep it that way." (Survey Question 10, Response #2)

> I could always learn more about the Internet. I guess I'm an average Internet user." (Survey Question 10, Response #7)

Five of the participating interns viewed themselves as proficient users of the Internet with adequate knowledge and skills to engage in online activities they found valuable. These five interns also exhibited a positive attitude toward and enthusiasm for using online tools. Two interns reported having less knowledge, categorizing themselves as average or basic users. These responses reflected a less enthusiastic view of Internet use.

Communication Preferences

Interns were asked which methods of communication they most preferred when interacting with others. They rated various types of communication according to those they most preferred to those they least preferred.

Talking face-to-face was the most preferred method of communication. E-mailing was the second most preferred method and talking by phone or text messaging the third. Instant messaging and blogging were the least preferred methods of communication as is shown in Table 3.

Summary

Survey data revealed that prior to the study, interns were using a variety of technological tools but to varying degrees and for both personal and professional purposes. E-mailing and surfing the web for lesson ideas were the most common uses of the Internet. Blogging and IM tools were not frequently used nor well-liked among the participants at the onset of the study. Participants varied in their attitudes toward the Internet from enthusiastic to less enthusiastic. It may have been that interns' responses on the survey were related to the amount of access they had to the Internet and to web-based tools, although access was not a focus of this study. However, these results showed that

interns spent enough time online and had adequate knowledge of Internet tools to consider it a viable method for studying mentor and intern interactions.

Table 3

Interns' (N=7) Preferred Methods of Communication Prior to Data Collection

Method	Highly Preferred	Used Occasionally	Not Preferred
Talking face-to-face	7	0	0
Talking by phone	3	4	0
Texting	3	2	2
E-mailing	4	3	0
Instant Messaging	2	2	3
Blogging	1	2	4

Change in Online Mentoring Over Time

Over the course of the 10-week study, changes were evident in how the web tools had been used on and how often they had been used. Change was also observed in the virtual conversations that occurred and in the direction of posts from mentor-to-intern, intern-to-mentor, and intern-to-intern.

Change in Use of the Site

In this study, use of the website started out slowly, then increased significantly during the fifth and sixth week. After week six, participation on the blog began to

decrease while participation in IM sessions increased (see Table 4). This was due to several factors. First, a few of the interns were unfamiliar with blogging so I had to personally meet with them to teach them how to post a blog and how to get started logging on and communicating online, which resulted in a late start in using the blog. Technical difficulties also occurred with the IM tool at that time and after the first three weeks, I switched to using the IM tool available through *Facebook*©.

Table 4

Mentor and Interns' Bi-Weekly Use of Web Tools During the Ten-Week Study

	Blog Posts		Comments		IM Sessions	
	Mentor	Intern	Mentor	Intern	Mentor/Intern	Total
Weeks 1 and 2	2	0	1	2	0	5
Weeks 3 and 4	4	4	4	4	0	16
Weeks 5 and 6	1	12	10	15	2	40
Weeks 7 and 8	1	8	1	4	3	17
Weeks 9 and 10	0	2	0	1	7	10
Total	8	26	16	26	12	88

Once all participants began interacting on the blog, participation was high. Around week seven, an assignment was due at the university that consumed the time of the interns and participation on the blog began to wane. However, IM sessions increased toward the end of the study as interns began realizing that I was often online and IM was convenient way to chat privately with me after school hours. The week after data

collection ended, I participated in nine IM sessions, though none of that data could be used for this study.

It is difficult to accurately show how the use of a mentoring website changes over time in only ten weeks. This question could be better answered if the site were used for an extended period, such as over the course of a school year. In this study use of the site waned in the last few weeks, which could have been due to several factors. The interns were busy during that time with year-end testing, field trips and other end-of-year activities. During that time I had stopped encouraging participation on the site. I was also busy and often did not take time to post blogs, although I did continue to communicate heavily in evening IM sessions. As use of the site began to slow down, the interns noticed. During classroom visits, a few of the interns made verbal comments to me such as "What's going on? No one has been on the website lately," or "We need to get our blogging going again." This suggests that at least a few of the interns found value in it and probably would have continued participating if I had been more encouraging and rededicated myself to posting and interacting. I did find that interaction on the site waxed and waned in cycles depending upon how busy the interns and I became because of outside teaching demands.

Change in Conversation Complexity

Over time, the nature of online communications became more complex as several interns began to comment and interact on the blog. At first, many of the comments were somewhat superficial such as, "I loved the lesson you did," (Blog 1, Comment 1) or "That was awesome" (Blog 3, Comment 1). Later in the study, the language used in the posts and comments became more conversational, with one comment naturally flowing

into the next. When reading through comments, it seemed as if we were sitting around a virtual kitchen table discussing an idea. A blog and series of comments between myself and two of the interns illustrates this conversation-like pattern:

> The idea of red pens is awesome. My students love it! Thank you for coming and helping in our Writer's Workshop. (Blog 8, Nicole)
>
> I'm glad it's working out. I taught a Writer's Workshop class last week and I thought about you. I am going to bring you copies of everything and post some of them here on the website. (Blog 8, Comment 1, Teresa)
>
> That sounds amazing! I am surprised at how much my students love Writer's Workshop now that it's running more smoothly. (Blog 8, Comment 2, Nicole)
>
> I'm really impressed with your Writer's Workshop! There were several good ideas that I will try in my class. Thanks for sharing! (Blog 8, Comment 3, Erin)

In another example, several interns sustained a conversation over the course of a series of posts:

> Recently I have been trying to implement more technology. My class loves it when we go to the computer lab to play math or literacy games. There is a particular website I use for all my math and literacy games. I advise you all to check it out! (Blog 11, Nicole)
>
> Wow! Very fun. Thanks for sharing! (Blog 11, Comment 1, Emily)
>
> Hey, we've been doing the same thing. We just started going to the computer lab to go to interactive web sites that help them with their times tables. Here are the websites. . . these are great resources. (Blog 11, Comment 2, Erin)
>
> I checked out that website Nicole and I really like it! And I really like the idea of taking my class to the computer lab and practicing math on the computer. (Blog 11, Comment 3, Allison)

Change in Direction of Posts

Over time, the interns became more confident in using online tools and little by little the direction of the interactions changed. During the first weeks of the study, the posts were mainly directed from mentor to one or more interns. I posted a blog and then

an intern responded to it. About three weeks in to the study intern-to-mentor posts started to appear. In this pattern, the interns posted something directed to me and I responded. At the height of participation on the site, the interns began to post and interact with other interns, changing the direction to an intern-to-intern pattern. A final and most interesting phenomenon was that the interns also began posting to the group, not talking to anyone in particular, but addressing the comments to everyone. For instance,

> All right, all you professional teachers! I've heard that around this time of year students can get a little restless and it seems like it's been ten-fold the last two weeks. Any ideas will be greatly appreciated! (Blog 12, Emily)
>
> I just wanted to remind everyone about some writing ideas we learned in our classes at BYU. I am trying these with my 2nd graders. (Blog 22, Laura)
>
> Can you believe it's almost March? Oh my goodness. . . I can't! But I'm so happy that it's almost spring! Anyway, I was just wondering if anyone had any fantastic, fun and exciting ideas for reviewing for year-end tests? (Blog 33, Allison)

As interns became more involved in using the website, it gradually released the full responsibility of mentoring from me to the interns. They relied heavily on me at first, but then began to move toward helping and giving advice to one another. I was still an active participant in the discussion, but the group became a more mutually supportive community.

Summary

The uses for and communication on a mentoring website changed over time. Interns started out slowly, increased their activity on the site and then interaction began to wane during the final weeks of the study. Over time, communication on the site began to sound like actual conversations and the direction of posts moved from mentor-to-intern, intern-to-mentor, intern-to-intern, and eventually intern-to-everyone. As confidence with

using the web tools increased, the interns began to help and give advice to each other, releasing some of the mentoring responsibility from the mentor, to the interns themselves.

Nature of Online Communication

The interactions that took place in a virtual environment were complex and occurred in a variety of contexts and for a variety of purposes. In order to address this complexity, three aspects of the nature of online communication will be reported including time, content, and purpose of online interactions. Considering the data in this way will allow for deeper understanding of the nature of online communication.

Time of Virtual Communication

Interns communicated online, both with me and with other interns at all hours of the day and night, which suggests that communication on a website allows an intern greater access to their mentor and to other interns outside of the confines of regular school hours. However, the web tools used for communication differed depending upon the time of day. For example, blogging took place primarily during the daytime hours and could be tracked according to school schedules. That is, a large number of blogs were posted between the hours of 7:30 a.m. and 9:00 a.m., indicating that interns were blogging before school. Similarly, a large number of blogs were posted between 10:15 am and 10:45 am, around the time of morning recess. The largest number of blogs took place between 3:00 pm and 4:00 pm, after school had dismissed. When considering the total volume of text generated in the study, blogs comprised 86% of the virtual communication that took place. It appears that interns were able to fit online communication into their school day and it also appears they were not abusing the tools by using them when they should have been teaching.

In contrast to blogging, IM sessions typically took place in the evening or late at night. The earliest recorded session being 4:50 pm and the latest at 11:17 pm. Almost 50% of the IM sessions occurred after 9:00 pm. The average duration of an IM session was around 20 minutes, but one lasted 42 minutes and one 67 minutes. All of the IM sessions took place once interns were home from school. These sessions represented only 14% of the virtual communication artifacts. It is important to note that I had technical difficulties getting started. IM sessions increased and continued after the study had ended, which may be an indication that the technical difficulties influenced this finding.

It is possible that blogging was used primarily during the day because at those times, interns were in the process of teaching and thinking about their teaching and found the blog a way to share ideas or connect with others. In contrast, it is possible that IM sessions were used primarily at night because that was the time I was most likely to be available to chat and because the IM tool was often used for more casual conversations outside of the context of teaching. No data were collected in this study to determine the exact reason for this phenomenon.

Content of Virtual Communication Artifacts

The content of online conversations differed depending on the time of day and tools used for the conversation. Almost 90% of blog posts were focused on instructional practices and student learning, while over 90% of IM sessions focused on venting about the day or outside issues such as scheduling and district business. All blog posts were created while the interns were still at school and all IM sessions took place once interns had gone home for the day, showing that online tools were used to address varying needs at different times of the day.

Five categories emerged related to the content of the virtual conversations, which included both blogs and IM sessions. These categories included core subjects, classroom management, assessment, instruction, and housekeeping items. In the category of core subjects, the content of virtual conversations included literacy, math, social studies, or science. Conversations about classroom management focused on student behavior, long and short term planning, classroom organization, or classroom resources. Conversations about assessment included self-assessment or reflection on teaching, assessment of student learning, and assessment related to instruction. Conversations about instruction centered on teaching strategies, instructional phases, and lesson sequences. Housekeeping items such as scheduling, district business, or university assignments were also topics of conversation (see code key in Appendix F for *Category Definitions*). It is important to note that when text units were coded, a single text unit could contain evidence of several different types of content. Therefore, the percentages reported in the following sections represent the percentage of the total numbers of text units that contained evidence of a particular category.

Core subjects. Forty-seven percent of the online conversations contained content directly related to teaching in the core subjects and the conversation centered almost exclusively on literacy. The interns and I shared resources for and conversed virtually about writing instruction, oral language, shared and guided reading, graphic organizers for literacy, vocabulary instruction, and word wall activities. This most likely occurred because the face-to-face interactions I had throughout the study were often literacy-related and when I visited interns' classrooms for observations or to model lessons my focus was literacy. This led to a natural discussion of literacy in our virtual interactions.

Only two text units contained discussion about social studies, while three contained discussion about science, and four discussions about math. This represents only 10% of the conversation about core subjects, while 90% of the discussion focused on literacy.

Classroom management. Classroom management was often the topic of conversation, with 34% of the virtual conversations containing discussions about student behavior, long and short term planning, classroom organization, or use of classroom resources.

Because this study was conducted at the end of a school year, many of the conversations about management were thoughtful and centered on talk about student attitudes, motivations, and dispositions. In a blog post, one intern said, "I would love to change some of their attitudes, and motivations. I would like all of their attitudes to be positive. Oh, the things we could learn if they were all motivated every day" (Blog 17, Emily). A deep level of concern over and reflection about management was evident as interns worried about meeting student needs or diverse learners failing to progress. For example, Erin blogged, "It sometimes gets so overwhelming when there are so many students in the class and you are trying to meet their individual needs. It's hard to always give them individual attention or answer one-on-one questions" (Blog 18, Erin). The interns thoughtfully discussed classroom management in online environments both with me and with each other.

Assessment. Thirty-four percent of the virtual conversations contained statements of assessment or reflection. This included self-assessment, assessment of students, and assessment related to instruction. Often, comments contained evidence of higher-level thinking as a single text unit contained evidence of assessment in a variety of categories.

The interns talked about literacy, reflected on their teaching and at the same time assessed their instruction, all in a few short lines of text. For example, Nicole posted,

> I wanted to see how well my students would actually do with peer editing before I gave appropriate feedback. It is funny because it would appear that peer editing was what was making writer's workshop such a nightmare. Now that they have peer editing down, it seems that the rest of writer's workshop is flowing so smoothly. (Blog 8, Nicole)

In these three sentences, Nicole assessed her teaching, but within the context of discussing literacy instruction, reflected about her teaching, and commented on her own classroom management.

In another example Allison, wrote,

> The math practice is similar to what they do on paper, but I think the change of doing it on the computer will get the children really excited and motivated! I think I may use the computer lab as a reward and that may help my students improve their behavior as well as their skills. (Blog 11, Comment 3, Allison)

Here, Allison discussed how she could change her math instruction by using technological tools for practice. In addition, her comments show evidence of reflection on classroom management and assessment of how the change in instruction could improve not only the students' skills, but also their behavior and motivation.

After being frustrated with keeping students' attention during guided reading groups, Randi tried something new and reflected about it:

> I really liked the way we did the word work before reading the book, so it had some vocabulary help as well! I never knew how to just all of the sudden switch over to word work and keep their attention AFTER they had read the book. I did this with a group yesterday and it really helped! I feel that doing word work beforehand, if it ties in to the book, helps my guided reading groups run smoother. (Blog 13, Randi)

Randi's four sentences hold evidence of assessment and reflection on self, on students, on instruction, on literacy, and on management.

Instruction. Direct discussion of instruction took place in 32% of the virtual conversations. However, almost 80% of the time those conversations were initiated by me, the mentor. This phenomenon will be discussed in the section on mentor purposes later, but is important to note when considering the content of the online communication. The novice teachers did not initiate in-depth discussions about instructional strategies.

Differences in the ways interns talked about instructional practices were evidenced in the data. Nicole, who had been struggling as an intern all year, both with classroom management and planning meaningful instruction posted,

> I thought the lesson on peer editing was fantastic, and I loved the checklist I used. I found that the list was an easy and effective way for students to edit one another's papers. (Blog 2, Comment 1, Nicole)

Nicole often described instructional sequences as fun, fantastic, easy, or effective, but rarely explored why. When frustrated with instruction, her descriptive words became horrible, awful, or boring. In contrast, Emily had been having a successful experience as teacher since the beginning of the school year. Her classroom was managed to precision and she exhibited teaching skills and a professional disposition far beyond her limited experience. In a post from Emily talking about using KWL charts in instruction she said,

> I love doing KWL charts. They're easy to make, easy to keep up, and then easy to add to at the end of the lesson. They can apply to any text and any situation. Other graphic organizers can be used in this way as well. (Blog 10, Comment 2, Emily)

In this post, Emily talked not only about her love of using KWL charts as an instructional strategy, but also explained why. She showed further knowledge by adding that the

strategy had potential in other teaching contexts and that other graphic organizers could be used in the same way.

Housekeeping. Though interns were limited in their discussions about instruction, they often engaged in conversations about other teaching issues with ease. Twenty-six percent of the virtual conversations were related to housekeeping issues such as scheduling, district business, and university assignments.

The interns themselves initiated almost all of the housekeeping conversations. Often, when an intern would blog about a topic, it would start a thread of posts from other interns. In one instance, a very involved culminating assignment was due at the university and the interns were frustrated with the assignment. One intern blogged about her frustrations, and within a few days, several related posts and comments had been added to the blog. This thread of virtual discussion continued until someone essentially changed the subject by blogging about something new. In IM sessions, the interns also initiated conversations with me to discuss scheduling issues. They wanted to know what time I was coming to their classroom and how long I would be there. They often used IM to ask when assignments were due or when district meetings would be held. Because it was the end of the year, several IM sessions focused on finding jobs, filling out applications, and asking about district hiring procedures.

Summary. Virtual conversations contained evidence of discussion about core subjects, classroom management, classroom instruction, assessment, and housekeeping issues. Discussions about classroom instruction were often initiated by the mentor while discussion about housekeeping items were initiated by the interns. Mentors and interns talked mainly about the core subject of literacy. Interns reflected deeply about classroom

management issues and all reflected and assessed their teaching in meaningful ways. Discussion about instruction varied and was often initiated by me rather than the interns. Online discussions often occurred in threads with the mentor or one of the interns beginning a discussion and others posting and commenting on that same thread until someone changed the subject. Analyzing the content of virtual interactions provided a unique opportunity to monitor, assess, and support interns in ways that face-to-face mentoring did not.

Mentor's Purposes for Virtual Communication

In this study I found that the reasons for communicating online differed slightly between the interns and myself. In the following sections, mentors' and interns' purposes for communicating online will be discussed separately. As a mentor, I often used virtual communication to offer support, confirmation, and validation, as well as to verbally model teaching sequences using pictures and text. I also discovered that I communicated virtually to give advice, prompt reflection, or ask questions of individuals or of the group.

Support. Offering support, confirmation, and validation to interns about their teaching practices was the most frequently used purpose for communicating online, though I did not realize it at the time of the interaction. Over 60% of my communication artifacts, including both blog and IM sessions, contained supportive language of some type. Even when other purposes were evident, the supportive language dominated the interaction. For example, after visiting Hannah's classroom one morning I wrote,

> I like how Hannah uses different clipboards to keep everything organized. Everything she needs to track the group is on the clipboard. The groups are very comprehension-centered, as they should be in 5th grade. (Blog 4, Teresa)

In reviewing this post later, I knew that my intention was to paint a picture of what Hannah had done to organize her reading groups in hopes that others would read it and learn from it. I had even taken a picture of the clipboard and uploaded it on the blog to facilitate additional understanding. However, the supportive language was evident in phrases like "I like. . ." and "as they should be."

This same scenario was repeated in most of the virtual interactions, even when it was difficult or somewhat of a stretch to praise a lesson that had not gone well. After a frustrating morning spent in Erin's classroom, I later blogged,

> I have to tell you that I'm really impressed with your students and their writing. I am so glad that you are giving your students time every day for writing! The stories. . . are priceless and are a great way to assess how the students have grown as writers. (Blog 3, Teresa)

Truthfully, the time spent in Erin's classroom prior to posting this blog had been painful. She had forgotten I was coming and was unprepared for the day. Her lesson was disorganized and ineffective, yet the supportive language in my follow-up blog was present as I used words like "impressed" and "glad." As a mentor, I knew that Erin previously had read other posts filled with supportive language and by writing anything less when talking about her, I had the potential to hurt and humiliate her in front of the shared online audience. I discovered that while a face-to-face conversations about my concerns that day may have been appropriate, saying anything about her poor performance online was not.

These two examples illustrate that as a mentor I used online forms of communication to support and validate those I was mentoring, however, in an online environment I felt criticism in any form would not be acceptable.

Modeling. Modeling teaching practices through text and sometimes pictures was another purpose for my mentor interactions. Almost 50% of the interactions contained language where I described a scenario or told a story about a classroom procedure or activity in an effort to virtually model a concept or skill. After watching a well-designed lesson in Laura's classroom, I wanted to share her good idea with others. That day I blogged,

> The lesson was centered on learning the seven continents and their characteristics. Laura created little booklets that the students took with them as they traveled around to seven different stations. At each station there were books, artifacts, and some type of video or audio for the students to listen to or view. (Blog 6, Teresa)

Another day I blogged,

> Emily gathered her students at the rug to teach a mini-lesson on Martin Luther King, Jr. She began the lesson by asking, "What do you know about him?" The students commented on things they had learned in previous grades. She listed the students' answers on a chart and used it to activate the students' prior knowledge and set a purpose for later reading and writing. (Blog 1, Teresa)

These two examples show how I attempted to recreate, or model through the use of text, what I had actually seen happen while watching a lesson. This includes what the intern had done or said or how they had organized an activity. In another post, I used both pictures and text to model how Emily had organized her guided reading block,

> During Writer's Workshop, the students have access to all the materials they need. Here is how Emily has her writing center organized (picture of writing center). The student writing folders are in the middle. All forms such as storyboards, peer-edit sheets, graphic organizers for prewriting, author's circle materials and publishing paper can be found here (close up picture of how writing center is organized). This chart is hanging nearby and students each have a paper clip with their name on it. This is what it would look like when first getting started, but as Writer's Workshop progresses, the student clips will be found at all different stages of the process (picture of writing process chart with clothespins). (Blog 9, Teresa)

In posts where modeling was my intent, I attempted to recreate how something had been done, whether through text or picture, in enough detail that other interns could understand the concept and duplicate it in their own classroom if desired. (Appendix J contains an example of a blog post with pictures and text). On a few occasions, I noticed that a lesson idea had been recreated and used in another intern's classroom. After posting about Laura's rotations in her social studies unit, Hannah told me that she had decided to use rotations in a lesson after reading the blog.

After posting a blog for the purpose of modeling I often wondered if any of the other interns had actually read it. One way to know was to view the comments attached to the post. If someone commented, then I knew they had read the blog. I was disappointed when often, after a post where modeling was the main purpose, no one commented except the intern I had posted about. I noticed that when I wrote too many words or the post was long, no one commented, which may have been an indicator that no one had actually read it. When my modeling sequences were shorter, or if pictures were attached with explanations, interns were more likely to comment back or tell me in a face-to-face interaction that they had liked or used the idea.

At one point, I began to question the effectiveness of posting for the purpose of modeling. One day I blogged about how one of the interns organizes her reading block. I uploaded pictures, provided detailed explanations, and was excited about the potential of this post to help some of the interns who were struggling with their reading block. Later I felt disappointed that no one appeared to have read the post. I had spent a lot of time creating a post that may or may not have been read by anyone. I wondered, not whether or not my post had been read by other interns, but if upon reading it, they had felt

intimidated or inadequate when they compared their own organizational techniques to those of another, more successful intern and therefore chose not to comment.

Direct advice. Along with offering support and modeling, I also used online communication to give direct advice to an intern. The language in these posts contained language such as, "Try this . . .", "You should . . .", and "Next time do . . ." In analyzing the nature of this type of interaction I discovered that all 13 instances of giving advice had been posted on the blog in a public forum and were directed to only two of the participating interns, something I did not know until I began to analyze the data. These two interns were the two who had been struggling the most over the course of their internships. Giving direct advice was more a more pointed intervention that seemed appropriate at the time the online conversation occurred.

Reflection prompts and questions. Two other mentor purposes were discovered in the data. The first was prompted reflection and the second questioning. At first I had considered these purposes separately, but further analysis of the data revealed that they were much the same. As a mentor, I had prompted individual interns to reflect on their experiences, but occasionally asked a reflective question of the entire group. Questions posed to the entire group related to an issue that all could identify with and talk about. One day, I asked an open-ended question of the group, "If you could change anything about your classroom, what would you change and why?" (Blog 15, Teresa). This question prompted a thread of posts where interns thoughtfully considered what they would change. Emily responded:

> Well, that's a tough question Teresa, because I have 29 students and I'm in a portable (classroom), those were my first two thoughts, less students and more room! However, I love my class and wouldn't want to get rid of any of them. . . so

> that's not the one thing I would change . . . I've thought about the curriculum, S.E.P. conferences, grades. . . but without all of that accountability our job might be kind of pointless. So it came down to this . . .my students. . . I would like to change some their attitudes and motivations. (Blog 17, Emily)

All other interns also thoughtfully responded to this question, candidly reflecting about frustrations over high class sizes, lack of creativity in the classroom, bullying at recess, and other issues that were important to them.

The interns responded differently when my prompts or questions were directed to an individual. Whenever I specifically asked an intern to reflect about an instance unique to them, individuals most often responded by talking to me in person or engaging in an IM session. For example, in a blog comment I had prompted Nicole to reflect about how her students were doing in writing. Later that night, in an IM session, the following conversation occurred:

> Nicole: You asked about Writer's Workshop. Well . . . their stories are lacking in punctuation, however they are writing with excellent word choice and in paragraphs! Yippee.
>
> Teresa: Good. They seemed excited about their writing today. One little boy said he had written a 21-page story.
>
> Nicole: Oh, he is not kidding either. Every test my students take they are performing exceptionally well, and higher than the other fourth grade classes. I sometimes forget how old they are and teach above and beyond, but they get it!
>
> Teresa: See Nicole, you have a lot to celebrate. Even though behavior management has been an issue, they are still doing well. Imagine what you could do if there were no behavior issues.
>
> Nicole: I almost forgot. Here is the website I was using that one morning. Just click on free demo. www.readingupgrade.com/html/index.htm.
>
> Teresa: Thanks. I'm going there right now. (IM2, Nicole to Teresa)

In many instances such as this, Nicole did not respond to the prompt for reflection until the conversation could be held in a more private environment.

In another instance, I asked Emily to blog about how things were going in guided reading. She immediately commented back on the blog and was not afraid to share her feelings, a quality she exhibited throughout the study. I found that when prompting for reflection, I had to be respectful of how and when the interns would respond. If they were less comfortable reflecting in a group environment, I provided a way for them to respond in a more private online setting. I also talked to them face-to-face, recognizing that reflection in any form, using any type of tool for communication, should be equally valued when mentoring novice teachers.

When I carefully examined other questions I had asked of my interns, I found that many of them were practical questions such as, "Do you have a retelling chart?" or "What do you want me to teach next time I come?" I realized that asking higher-level questions or using questioning to prompt reflection was a mentor purpose that was underutilized in this study, comprising less than 1% of the text units in intern purposes. Because the interns responded so thoughtfully and positively to the few reflective questions I did ask, I regretted not asking more.

Summary. Virtual communication served a variety of purposes for me as a mentor. Often, my purpose was to support and validate novice teachers, but it was also to model and explain teaching practices, give advice, prompt reflection, or question and clarify ideas. Communicating in an online environment was different from communicating face-to-face, and close examination of my practice was necessary to maintain the integrity of those I was mentoring using online tools. Different types of

online support were needed depending on the developmental level and background knowledge of my interns. Questioning could have been a valuable tool for engaging novice teachers in meaningful online conversations, but was a purpose I underutilized in this study. However, using online tools enabled me to track and record evidence of reflection for every intern who participated in the study, a valuable purpose for engaging in virtual conversations.

Intern's Purpose for Virtual Communication

When interns communicated using online blogging and IM tools, the interns' purposes for the interaction were slightly different from mine. Interns' virtual interactions showed evidence of acknowledging or thanking, sharing experiences, questioning or seeking information, explaining specific issues or problems, reflecting on teaching, and giving advice.

Acknowledging or thanking. Using online communication to express appreciation or acknowledge the feelings of others was clearly evident in the interactions that took place in this study and occurred in 76% of the interactions. Interns consistently expressed their appreciation for the mentoring help I had given them, sometimes to the point that it made me uncomfortable. Their expressions seemed genuine, as illustrated in the following examples:

> Thank you for always helping me out. You are such a lifesaver! (IM 1, Nicole)
>
> Thank you for being so easy to talk with! Seriously! Not only do I love having you come in and just build me up, but I love the suggestions you give and the way you give them. (Blog 1, Comment 1, Emily)
>
> Thank you so much for coming and helping me with Writer's Workshop! It was so good seeing all the different ideas you had. (Blog 5, Erin)

> Thanks for your awesome lesson today. You are really giving me great ideas to help me out of my Writer's Workshop funk. (Blog 14, Hannah)

At a certain point in the study however, interns began to turn their attention away from me to acknowledge and thank each other, a phenomenon I was hoping would occur. This occurred in about 18% of the text units and was exclusive to blog posts, as IM sessions were held privately between myself and the interns. The following blog excerpts were posted from one intern to another intern:

> I'm really impressed with your Writer's Workshop! There are several good ideas here I will use in my class. (Blog 8, Comment 3, Erin)

> I checked out that website Nicole, and I really like it! (Blog 11, Comment 3, Allison)

> Thanks for the ideas. I think that will help a ton with Writer's Workshop. (Blog 12, Comment 2, Emily)

> I know exactly how you feel! (Blog 12, Comment 4, Erin)

> I'm totally with you on the end of year testing thing. . . it drives me crazy too! (Blog 18, Comment 2, Allison)

> "Amen sistah! I definitely agree with everything you said." (Blog 30, Comment 1, Randi)

Sharing experiences. Forty-four percent of the interns' virtual interactions were posted for the purpose of sharing experiences and reflecting upon experiences. Though I initially had considered sharing and reflecting as separate categories, analysis revealed that these two intern purposes often occurred simultaneously. The following two examples illustrate the nature of posts where interns had shared experiences about teaching but at the same time reflected about those experiences. In a post about guided reading, Randi said,

> Yesterday there were a lot of compound words in the story, so I thought, hey, why not have them put together compound words. Amazing! They saw the words they had made when they read the story and they were so excited. Doing the word work beforehand, if it ties in to the book, helps my guided reading groups run smoother! (Blog 13, Randi)

As Randi shared her experience, she revealed evidence of what she had actually done in her guided reading group that day, but also what she was thinking about as she had done it. Additionally, there was evidence of reflection as she explained that the activity had worked and that her groups had run smoother because of the decision to build compound words prior to reading the story.

Midway through the study, the interns had an involved assignment that was due at the university. In a post during that time, Laura provided another example of sharing an experience in conjunction with reflecting:

> It was valuable to plan an entire unit out on my own and see it all unfold. . . but in reality, I did WAY more for this that I ever have or probably ever will do with a unit. But it was valuable to create my own test. I don't know who said it in a previous post, but it is HARD! The more I looked back at my test I thought, oh, I should have changed that question or asked this question instead. (Blog 28, Laura)

Laura shared her experience of creating a unit and writing a test. In addition, she reflected about the difficult nature of the task and how she had looked back at her test and was already considering how she could have changed it to make it better.

In several of this type of interaction an intern had blogged about something I had shown them or something I had done in their classrooms. For example,

> I just wanted to share something that I saw Teresa do in guided reading that was so simple, but I would have never thought of doing it. She came and worked with my high group who is on a level S. They've been reading Matilda and the biggest thing in that book is vocabulary, so. . . (Blog 16, Emily)

In that post, Emily went on to describe in detail a vocabulary activity I had done with a guided reading group, how it had turned out, and what she had learned from it. Several posts were similar to this one, including a blog from Hannah that she posted after I had gone in to help her organize her fifth grade Writer's Workshop. She posted:

> Teresa advised me to have the students write their autobiographies in chapters. This will help everyone stay somewhat together, which is my main problem with writing – the gap that forms between students who work efficiently and others who are much slower. I'm excited to start the writing process tomorrow. I know it will go super well because of all the awesome prewriting she did. Thanks Teresa! (Blog 14)

These two examples demonstrate a phenomenon that occurred frequently in the online interactions posted by interns. The interns began to teach each other by sharing experiences, and at times I became removed from the conversation. In a few blog posts, the interns were essentially talking with each other instead of with me, or were talking about me, or things I had done while working with them face-to-face. In the post from Hannah, she was clearly not talking to me, but rather to the group. However, at the end of the post, she acknowledged me in what could be called a virtual "shout out" by saying, "Thanks Teresa," as if she knew I would be on the sidelines listening. These interactions show the power in using face-to-face mentoring in conjunction with virtual mentoring, a finding that will be again reported in this chapter and later addressed in Chapter 5.

Explaining issues or problems. Many of the virtual interactions involved discussion about issues or problems related to classroom teaching. Conversations about student behavior, dealing with parents, failed lessons, frustrations with job-hunting, and staying on top of university assignments made up 35% of the purposes for intern virtual interaction. After an explosive run-in with a parent, Nicole engaged me in an IM session

late one night and kept me online for over 40 minutes. An excerpt from that online conversation reveals how upset she was:

> Nicole: Any idea on how to deal with a parent who screams and swears at you?
>
> Teresa: Oh No! What happened?
>
> Nicole: He got kicked out of music. She believes he does nothing wrong and just attacks me. She called and starts attacking me, which I knew she would. Not to mention I felt horrible because I could not keep it in and started crying after she attacked me for 45 minutes on the phone.
>
> Teresa: I can't believe it went on for 45 minutes. That is a nightmare.
>
> Nicole: I know, I have only been kind and respectful to her, [the principal] even said I was great with her.
>
> Teresa: I'm glad he was there to be your witness. Why isn't she mad at the music teacher?
>
> Nicole: I don't know. Because I am the one she likes to attack, because apparently I, "do not like this child and have it out for him."
>
> Teresa: Did you tell her that it's because you CARE about him, you want him to behave, learn and be successful?
>
> Nicole: Yes.
>
> Teresa: Good. (IM5, Nicole to Teresa)

In this virtual conversation, I had no idea what had actually happened, or even which student Nicole was talking about. I never learned who "he" or "she" was and could only assume it was a mother of a boy in her class. In this instance, the purpose of the virtual interaction for Nicole could have been to tell her story, get sympathy, vent about the situation, and navigate who might understand her perspective as she was feeling vulnerable and "attacked."

Other issues and problems discussed online were less dramatic, but equally important to the intern who initiated the conversation. After being frustrated by a university assignment, Laura posted the following,

> That took so much time! This past week has been awful because of it. I don't even want to admit how much time it took to get everything together. . . it's too embarrassing! I felt like the whole thing was very repetitive, especially the self-reflection part. The repetitive nature of the project and amount of work we had to do was unhelpful to me as a teacher and it distracted me from being as good of a teacher as I could be. (Blog 28, Laura)

Emily responded to Laura's post by saying,

> No kidding! We teach for an entire year with someone observing us weekly and sometimes daily. I would think THAT would be good enough to determine if we are good teachers or not and if we can graduate. But maybe it's just me. I'm just letting all my frustrations about the Teacher Work Sample out. O.k., I'm done venting. (Blog 30, Emily)

In these examples, the online environment provided a place for interns to vent about things that were frustrating to them. In other instances an issue, problem, or concern was shared in order to ask for advice or get ideas on how to deal with the problem. Because of a hiring freeze and budget cuts in the district, several of the interns were concerned about being hired for the coming school year. In an IM session, Hannah asked,

> Hannah: Do you have any idea when we'll start hearing about jobs for next year?
>
> Teresa: Things are so crazy! I think they still have a hiring freeze on right now. Once the freeze is lifted, you will start seeing lots of job openings.
>
> Hannah: Yeah, I'm not too worried. I'm sure I'll go somewhere. I'm trying to remain very flexible.
>
> Teresa: [District leaders] are waiting for the legislative session to end. Things should start happening soon. If you could, would you like to stay at Washington?
>
> Hannah: I would LOVE to. I would die of happiness.

Teresa: Would you be willing to teach another grade besides 5th?

Hannah: I'd be willing to be the janitor at this point! (IM 7, Hannah to Teresa)

A few days before the conversation with Hannah, I had been chatting via IM with Nicole about the same issue:

Nicole: Now, on to getting a job for next year. Super scary!

Teresa: Yes, we are all holding our breath on that one. Did you know that there is currently a hiring freeze, so principals haven't been able to post any jobs. Once they lift the freeze, you will see tons of openings. No worries.

Nicole: I know! You may see me working at Wal-Mart if things don't improve. lol.

Teresa: Don't even think about it! You wouldn't look good in one of those blue smocks...hahaha! (IM 2, Nicole to Teresa)

In both of these IM sessions, while discussing a problem or issue, the interns used informal language and the conversation was more casual than in a blog post. These conversations even contained elements of humor as Hannah joked about being the janitor and I teased Nicole about wearing a Wal-Mart uniform, reinforcing a finding from an earlier section in this chapter, that different tools were used for different purposes.

Asking questions and seeking advice. Two final purposes for intern communication in the online environment were to ask questions and seek advice. These two purposes were the least used by interns with only 8% of the text units that were coded for intern purposes containing evidence of asking questions or seeking advice. Questions on the blog were often straightforward questions such as, "When is our Teacher Work Sample due?" (Blog 1, Comment 1, Emily) or "When will the district start hiring for next year?" (IM 7, Hannah) Other questions related to getting classroom

resources such as, “Where can I get one of those retelling charts?” (Blog 10, Comment 3, Allison) or “Do you have any great ideas for math games?” (Blog 7, Hannah). Higher level or substantive questions about teaching were largely absent from the data.

The interns gave advice more often than they asked for it. Eleven items were coded as examples of advice, and in ten of those interactions the interns were giving advice rather than seeking it. In the online environment, interns were comfortable giving advice to other interns and even to their mentor. In an IM session, one of the interns suggested that I visit a website about reading instruction. She later sent me an e-mail with a link to the website and an explanation of how I could use it when mentoring the other interns.

Summary. Interns used online communication for a variety of purposes. Statements of acknowledgement and thanks were genuine and directed to both their mentor and to each other, creating a mutually supportive environment. Interns shared experiences and reflected simultaneously, sometimes even using this type of virtual interaction to teach something to other interns. Interns also used virtual communication to share concerns or issues related to teaching. Questions were asked in the online environment, but this purpose was underutilized for interns in the same way it was underutilized as a purpose for mentors to communicate online. Interns gave advice more often than they asked for it.

Summary

Overall, the data revealed that the nature of online communication is complex but can be clarified by examining the time of online interaction, the content of online interactions, and the purpose for online interaction. The purposes for communicating in

an online environment differ between interns and mentors. Some forms of online communication are supportive and provide mentoring opportunities beyond what could be provided in face-to-face interaction alone. Other forms of online communication have the potential to break down mentoring relationships or hinder mentoring opportunities and must be carefully monitored.

Function of Online Tools in the Mentoring Process

By comparing the online interactions that occurred in this study with the RRB that I maintained throughout the study, I was able to examine how using online tools functioned in the mentoring process. Using online tools for mentoring engaged me in questioning cycles that enabled me to refine my mentoring practices. I was able to use online tools to fill the individual needs of my interns and I also found that using online tools enabled me to lighten my mentoring load and share mentoring responsibilities with the interns themselves.

Questioning Cycles

As a mentor using online tools in the mentoring process, I went through cycles of questioning myself, moving forward, evaluating the results, and then making changes. For me, a questioning cycle occurred when I had been wondering about something or worrying about how to approach a mentoring problem or situation. In these instances, I found it best to make informed decisions and move forward, even if it meant making a mistake. I would then find myself evaluating the effects of that decision and making changes as a mentor to improve the online mentoring process in the future. For example, at the onset of the study my questions were numerous. In an early blog post, I wrote,

> What if the interns agree to the conditions of the study, but just don't do it? What if the technology fails? What if the interns can't get the access they need to fully participate? How will I balance the face-to-face mentoring with the online meetings? What if there just isn't enough of me to go around? How much time will I be spending on the computer? Can I really meet all of their needs? Will they rely on each other? (RRB 1)

My apprehension about taking on the challenge of using an online environment to communicate with my interns was obvious. This was mentoring territory I had never navigated and I began by questioning and then simply moving forward. In subsequent posts there was evidence of those initial questions being answered as is illustrated in the following entries from my RRB:

> I am finding that unless I go out and work with the interns face-to-face, they are not participating on the site. I have been forced in to using Moodle, an online open-access tool for teachers and I am disappointed with the user-friendliness of the program, it isn't very inviting or warm. I wish I could use Blogger. I am having password issues. The interns were contacting me and telling me they couldn't get on [to the site]. I feel like I am in over my head keeping up with everything. I don't know what I'll do when they all start participating. I am hoping they will start interacting with each other, but I don't know if it will happen or not. The girls are not interacting with each other, just with me. Up until now I haven't really known what to do about it, so I've just been letting things happen as they happen. I'll try a different approach and see what works. (RRB 1, 2 & 4)

This series of reflections shows that the questions I had worried over were being answered. The interns were not participating and I was indeed having technical problems. I was struggling to meet their needs and they were not interacting with each other. As I evaluated the situation, still continuing to move forward I made changes and improvements along the way as evidenced by later posts in the RRB:

> I have totally abandoned the online tools based through our district. No one could make it work and so I am exclusively using Blogger and Facebook. It's working well and I love it. I am learning so much more than what I usually learn when doing a thirty-minute observation. I feel like this is a win/win situation. The

> interns have been so much happier with this format and I have been able to mentor them more effectively than in the past. (RRB 4 & 5)

This same questioning cycle was repeated later in the study when I began to wonder about my role as a mentor and to worry that the online communication was giving the interns too much support. I questioned whether or not I had crossed professional boundaries between mentoring and friendship. I blogged:

> I have been considering my relationship with my facilitators and with my interns. I have noticed that the facilitators, while fully supportive, have seemed a little bothered that their interns are growing closer to me. I asked a few of them to talk to me about my role as CFA and give me feedback. One facilitator told me that she had never had a CFA who was so personally involved with the interns. I didn't know how to feel about this. Have I been doing too much? Have I overstepped my bounds as a CFA? Am I getting too close to my interns? (RRB 5)

As I moved forward, reflected and made changes, these issues resolved themselves and the questions were eventually answered as evidenced by this post from the RRB:

> I was excited last week when I was working with Emily. Her facilitator was asking about my study. Emily started explaining all of the different things she was doing on the blog and expressed how much it helped her. The facilitator later asked me to show her what I was doing and seemed interested in it as well. (RRB 2)

Using Multiple Modes of Mentoring

I found that the use of online tools in the mentoring process did not replace the need for face-to-face communication. At the same time using online tools often enhanced the face-to-face interactions that were taking place. In Face-to-face communication, I encouraged them to communicate online. In virtual interactions, the interns and I discussed what had occurred in face-to-face interaction. Unfortunately, I did not collect data about the number of face-to-face interactions that occurred in this study in comparison with virtual interactions.

The examples and discussion that follow illustrate how virtual mentoring and face-to-face mentoring can enhance one another. At the beginning of the study, none of the interns were participating on the website, a source of frustration for me as a mentor. In my RRB, I reflected:

> I am finding that unless I go out and work with my interns in their classrooms and do some face-to-face interaction, they are not participating on the site. Nicole and Emily are getting started, but none of the others are doing much. Maybe they will after I go out and work with them this week. (RRB 2)

Nicole and Emily, the first two interns I worked with face-to-face, were the first two to begin using the website even though all of the interns had been introduced to the site. Posts from the early days of data collection revealed that in almost a linear fashion, as I went out one by one and worked in each classroom, each intern began participating on the site and then continued participating. The face-to-face interaction seemed to serve as a vehicle for promoting later online discussion that was meaningful and productive. After an initial classroom visit, Hannah blogged:

> It was so fun to have you in my class the other day. The kids loved bingo and they really loved the lesson on persuasive writing. We are still working on writing our letters and they have loved telling me their ideas. One student is trying to convince his parents to buy him a cow. Weird, I know. . . but he has some great reasons like, we'll have free milk, he will take care of the weed problem in our backyard. So, Yay! My first blog post. FUN! Hope to see you soon. (Blog 7)

As is evident in this post, the majority of virtual communication artifacts referenced a face-to-face encounter of some kind. Because of this dynamic, the online discussions were realistic and meaningful, as they referred directly to real situations, real stories and real interactions. Repeatedly throughout the study I initiated a face-to-face interaction to encourage virtual communication, and was able to track those interactions and see that communication in one environment had initiated communication in the other.

Using online tools provided mentoring opportunities that would not have been available in face-to-face interaction alone. For example, throughout the school year, Randi had been struggling not only with day-to-day teaching responsibilities but also with professionalism issues. When I first began working with her, I was frustrated because she seemed unresponsive to feedback, and her reflections were superficial. After only a few months of knowing her, I had stereotyped her as being uncommitted and apathetic. I also believed that she was purposely trying to get away with doing the bare minimum amount of work to get by. After an early morning visit to her classroom, I reflected in my RRB,

> When I walked in to her classroom this morning at 8:45 she looked like she had seen a ghost. I think she totally forgot I was coming and what's worse. . . I think she was completely unprepared for her day and week. Her students were extremely hard to control. . . it was evident that classroom management is NOT one of Randi's strengths. I have been wondering if she is "flying by the seat of her pants," but until I had to go in to her classroom under the pretense of working on my study, I didn't know for sure, but now I do. I'll be interested to see what she blogs on the website about today. It wasn't good. (RRB 3)

Randi did blog about the day in the following post:

> Teresa is the queen of guided reading! She came into my class last week and worked with my highest group and my lowest group. With my higher group, which is a P, I had picked a chapter book and my picking wasn't the best. . . so she picked a picture book. You'd think that the upper levels would want a chapter book and nothing else! They had a great time doing the picture book, and you don't even have to worry about keeping up with the reading with the book day after day:) Picture books are wonderful ALL over! (Blog 13)

This post took me by surprise. While I thought the morning had been a disaster, Randi had found value in the teaching I had done. She was reflective and sounded positive and upbeat in the post, two things I rarely noticed in my face-to-face interactions with her. As the study progressed, her posts became more thoughtful and reflective than

any verbal conversation I had with her. I wondered if it was because she had more time to think about what she wanted to say, or if interaction in the virtual environment had raised her level of concern as she read what the other interns were saying and tried harder to measure up. As a mentor I realized that I had possibly misjudged her. I also realized that she was most likely in survival mode in regards to her teaching and needed much more support than I had been giving her. This realization led me back to her classroom again and again to help her with classroom management strategies. It is likely that if I had pursued only face-to-face interactions with Randi, my stereotypes would have persisted and Randi may not have received the help she needed.

Filling Individual Interns' Needs

Using online tools in the mentoring process appeared to be beneficial for the interns in this study who had previously valued virtual interaction as a preferred method of communication. During the study, participation on the site was encouraged, but not forced or required. I considered this a "take it or leave it" approach. I posited that, if this type of mentoring seemed valuable and realistic to an intern, she could take full advantage of it. If she did not, that was fine too. Some interns heavily participated while others participated only casually. There are many reasons why an intern may have participated on the site more or less than others. Access and availability of technological resources could have influenced this as well as an intern's individual personality or desire to talk and interact with others. It is also possible that those who heavily participated in the online conversation may have needed the additional mentoring support the online environment provided.

For example, Nicole was a transfer student from a different university, and as explained in Chapter 1, did not know me, nor any of the other interns prior to her internship. I worried how she would fit in and what dynamic she would bring to the study. She surprised me by emerging as a leader in the online conversation, while in face-to-face interactions she seemed somewhat timid and shy. In the ITS she indicated that she spent around 15 hours a week online, the highest reported usage. She was an experienced user of online tools and by far the most active online participant. She frequently posted blogs, commented regularly on the blogs of others, and constantly engaged me in IM sessions, even late at night. Interestingly, I spent less time at Washington Elementary than I did at the three other participating schools because the facilitator spent so much time in her interns' classrooms and I did not want to overwhelm them. As a result, my interactions with both Nicole and Hannah occurred virtually more often than face-to-face. In my RRB, I reflected about Nicole:

> I can tell Nicole spends a lot of time online because she has been my most willing participant and has contributed the most to our blog. She has been a little lost and overwhelmed this year, moving to a new state far from her family and trying to fit in. Sometimes I feel like she is a little clingy, but in a good way. It doesn't bother me and she isn't annoying. She just needs someone to talk to and run things by, someone to acknowledge the hard work she is doing in her classroom. I feel like a true mentor to her because she chose to work with me. I'm glad that being available online is something that really works for her and helps fill a need that otherwise may have gone unmet. (RRB 4)

In contrast, Allison was a participant that I consistently fretted over. She did not have Internet access at home and exhibited a somewhat apathetic attitude toward using the Internet. At the onset of the study she was just returning from maternity leave and trying to catch up from a two-month absence. In my RRB I wrote,

> About Allison. . . she just returned from maternity leave today. I talked to her and she is overwhelmed and swamped and truthfully she doesn't even want to be here. Basically, she has officially checked out. Even if I can get her to participate a little bit, it will be better than nothing. (RRB 4)

While it was true Allison did not participate in the study as much as the others, I was hasty in believing that the mentoring process would be less valuable for her, or that her contribution to the online conversation would be lacking. As she acclimatized back in to teaching, her participation increased and her interactions became valuable contributions to the online conversation. One day I noticed that she had reviewed previous posts and commented on the blogs of her fellow interns. Almost two weeks after one of the interns posted about using a retelling chart, Allison commented:

> I saw a teacher use one of those retelling charts and I would love to get one-how do I do that? It was a nice change of something to do with the literacy story, it was simple, it made for a great sequence of lessons throughout the week, and it was a good way to get a lot out of the story. (Blog 10, Comment 3, Allison)

This post shows that Allison was participating in ways that were meaningful to her. She was sharing ideas and engaging in the conversation in ways she wanted and needed to.

Sharing and Lightening Mentors' Load

Using online tools in the mentoring process allowed me to create an environment where the interns eventually mentored each other. As time progressed, the interactions that took place on the site gradually began to be initiated and sustained by the interns themselves, as discussed in the previous section regarding change over time.

An additional benefit of using online tools in the mentoring process was that my time was maximized, as a single blog post had the potential of teaching several interns at the same time. In the following blog post, I shared how Laura had incorporated the use of technology with a social studies lesson she had been teaching. I blogged:

> Laura used technology in some form at every station. The students were interested in reading, viewing and hearing sound clips related to the seven continents. Before the rotations to the stations even began, Laura taught her students a song that she found on Teacher Tube. The students loved it! I am going to post a link to the song on the sidebar. (Blog 6, Teresa)

Because the use of technology was something the interns were consistently graded on during their university evaluations, they were always looking for ways to use technology in their teaching. Later the next week, while visiting Emily for a formal observation, she taught the continent rap song from Teacher Tube to her students at the beginning of the lesson. In our debriefing session after the observation she asked, "Did you recognize the song? I got it off our website."

Summary

Using online tools in the mentoring process served several functions. I used the online blogs to engage in questioning cycles that led me to better reflect and grow as a mentor. In the mentoring process, I found that virtual interactions and face-to-face interactions were best done in conjunction with one another. Mentoring with online tools provided me with a different lens for viewing and understanding the interns I was mentoring. Novice teachers used online tools to engage in the mentoring process to the degree they found most valuable and effective for their individual needs. I was able to use online tools to teach, model, and share resources with several novice teachers at the same time, even relinquishing some control of the mentoring process to them and allowing them to mentor each other when appropriate.

Strengths and Limitations of Virtual Mentoring

To answer the final research question and determine how virtual mentoring enhances or limits a mentor's influence, I relied primarily on the interviews conducted at

the end of the study and the researcher reflection blog. This allowed me to look for evidence of what the interns had valued, what I had valued, our perspectives on virtual mentoring, and the drawbacks we had encountered over the course of the study.

Enhancing the Mentoring Process

In this study, using online tools for communication enhanced the mentoring process by providing access and convenience beyond that which traditional forms of mentoring can provide. It also supplied concrete evidence of growth for both novice teachers and mentor alike. It had the potential to enhance our relationships and created a sense of buy-in between the mentor and novice teachers working together to improve teaching practices.

Access and convenience. Virtual mentoring provided interns with access to me as their mentor beyond that which would have had in a traditional mentoring relationship. It was a convenient way to communicate when face-to-face interaction was not possible. Consistent evidence of this was found in the interviews:

> Working through technology made it so that we could talk more, and she could be there more when I needed her. It helped because we had the opportunity to talk and it made it more convenient. (Interview, Nicole 5/22/09)

> It's easy to ask them [a mentor] a question and they can respond real fast. This is very nice if you don't see them often. (Interview, Erin, 5/25/09)

> I can get an answer when I want it, not five or so days later and I can post my thoughts right when I am thinking about them. That means I can post a really awesome thing I saw right then and there instead of letting it slink into the back of my mind. It allows me to compose my thoughts so I get it just right. (Interview, Laura, 5/26/2009)

> Blogging was a very enjoyable experience and I'd do it again in a heartbeat! It was easy to do, easy to remember, easy to access my mentor. (Interview, Randi, 5/28/09)

Some interns indicated that not only was participation on the blog convenient, it was also a natural extension of the personal online activities they were already doing. One purpose for conducting this study was to explore how virtual tools already used by interns in their everyday lives could also be used for mentoring purposes. The following posts show that this was often the case:

> You can post things at a convenient time for you whether it is at school or at home. It was easy for me to check the [miteachingblog] because I already had [a personal] blog that I used. (Interview, Allison, 5/28/2009)

> If you're anything like me, when you come home you pick up your computer, check your e-mail, and look at blogs for a while to wind down. Being able to blog with my mentor made asking questions and getting ideas very easy! I also love having someone to bounce ideas off of without having to call and leave a message. I can do it any time, which is helpful. (Interview, Emily, 5/22/09)

> Getting on a blog and responding and chatting online was already part of my daily routine. (Interview, Randi, 5/28/09)

As a mentor, I also felt that this type of communication fit with the online activities I engaged in personally. In my RRB I explained:

> The other night I was on Facebook and Nicole IM'd me. We chatted for a minute and made plans for my lesson next week. It was a quick, convenient conversation. I'd been needing to contact her, but get so busy during the day that I forgot to call. The conversation took place a little before midnight, as I'm such a night owl and happened to be online late. How funny to think I could be visiting with and mentoring an intern late into the night and it didn't feel unnatural or inconvenient. It was just a normal part of my net-life. One minute I was chatting with my cousin and the next I was chatting with Nicole. (RRB 4)

> It's all working well and I love it. The best part about both of these platforms are that the student interns already know how to navigate and use the tools and they use them in their lives outside of school, so these seems to be just a natural extension of that. (RRB 5)

In these examples, both the interns and I reported that the online conversations fit with the online activities we were using everyday, which may have provided additional access to mentoring interactions throughout the school day.

As reported in a previous section, data revealed that access to mentoring interactions had increased as interns initiated IM sessions even late at night when a phone call or other type of communication would not have been appropriate. The online IM tool allowed the interns to see if I was on the Internet or not all throughout the day. Even late at night, if they noticed I was awake and online, they would engage me in an IM session. This phenomenon provided a level of access to a mentor not normally available in a traditional mentoring relationship.

Concrete evidence of growth. Virtual communication provided concrete evidence of a novice teacher's growth as all blog posts and IM sessions could be captured, saved, read, reviewed, revisited, and reflected upon. In face-to-face interactions, the opportunity to reexamine a verbal conversation is difficult, if not impossible unless extra measure are taken to capture that conversation. The mentoring process was enhanced by the ability of mentors and interns to study the quality and depth of their interactions. Revisiting the virtual interactions was not only important to me, but also to the interns as illustrated in the following examples:

> When using the technology you can more easily save the mentor's responses and look at them later. (Interview, Allison, 5/28/09)

> A benefit of [using technology] would be having a record of what you talked about. As a new teacher you're always getting new ideas from people and reflecting on your own and what works and what doesn't work. This way, you can go back and have a "file" of what you talked about. (Interview, Randi, 5/28/09)

In the interviews conducted at the end of the study, the interns reflected that having a record to look back on of their interactions had been beneficial to them. The interns discussed the value of looking back at what the mentor had said, as well as the value of looking back at their own conversations to decide what worked and what did not.

Relationship and buy-in. Virtual communication helped build rapport with the interns in the study. Because of the high level of interaction that occurred both face-to-face and virtually, relationships were established at a deeper level than those I had experienced in past mentoring relationships. This was both a benefit and a drawback to virtual mentoring. As a drawback, this type of mentoring sometimes made me feel as if the relationship was becoming too informal and the conversation too casual. However, as a benefit, the interns and I formed supportive, trusting relationships. In her final interview, Randi explained what she and I had talked about during online conversations:

> We talked about getting a job, teacher work sample, how my class was doing in general. She helped give me ideas and also let me know, hey, she really does care if I get a job next year and she cares about my sanity level. (Interview, Randi, 5/28/09)

Randi was an intern to whom I initially did not feel close, and about whom I had formed negative opinions prior to this study. Because of our online interactions, I saw Randi from a different perspective and changed my approach to mentoring her. In her interview, there was evidence of a developing relationship as she recognized and reported that I cared about her.

Other examples of intern-mentor relationships were noticed in the interviews as interns reported feeling comfortable in the mentoring relationship, both in virtual and

face-to-face contexts. They reported on productive conversations that had taken place and discussed getting help when they most needed it:

> I love seeing my mentor because she is the best! We talked about my lessons, my students, what I needed help with and things like that. (Interview, Nicole, 5/22/09)

> I like both [virtual and face-to-face] kinds of mentoring. [My mentor] is great and I'm not just saying that. I feel comfortable working with her face-to-face or through blogs and email. (Interview, Emily, 5/22/09)

> I loved having [my mentor] come and model lessons for me and help me with the things I needed help with. At that point, she knew it was exactly what I needed most. (Interview, Laura, 5/26/09)

> The relationships I had developed with the interns meant a lot to me as well.

Additional evidence of the close relationship that was formed through virtual interaction is illustrated in a few entries from my RRB where I talked about interacting with the parents of two of my interns and reflected about how much I would miss all of the interns in the coming year:

> The strangest thing happened today. I got a phone call from Nicole's mom! She was calling from Idaho to thank me for being there for Nicole throughout the school year. She told me that this year had been hard and that she doesn't know what Nicole would have done without having me to talk to. I guess I really didn't realize how much she needed that. I guess those late night IM sessions were more important than I thought. (RRB 7)

> It's crazy because when Emily's parents were here from Texas, she brought her mom to meet me and when we started talking we both got tears in our eyes when her mom hugged me and thanked me for taking care of her daughter. I kind of don't know how to feel about all of that. Is it normal? I've never had parents become involved in my mentoring. Kind of funny and definitely food for thought! (RRB 7)

> I can't believe it's almost the end of the year! I love my interns and will seriously miss them so much. Some of them have taken jobs in other districts or are still looking for teaching positions. I am thinking that this has been the best group of interns I have ever worked with, but I am wondering if it is because of the increased interaction I have had with them and the close relationships we have established. (RRB 11)

These posts from the RRB reflected deep connections that had been made, and how the mentoring relationships had spilled over into our personal lives. The use of online tools in conjunction with face-to-face mentoring had enabled me to form trusting relationships with my interns.

Summary. Using online tools enhanced my influence as a mentor because the interns had greater access to me and perceived the online tools to be convenient. These tools also provided a concrete record of interaction that both the interns and myself could revisit and reflect upon. Mentoring in this manner built rapport and allowed the novice teachers and I the opportunity to form in-depth relationships.

Limiting the Mentoring Process

While the majority of the findings reported in this chapter are positive and supportive of using online tools to mentor novice teachers, there were also drawbacks. Several factors limited the mentoring process including time constraints, technical difficulty, productivity between the two online tools, relationship negotiation, and inability to deal with problematic situations in the online environment. These factors limited the influence of my mentoring interactions, or caused me to question the viability of using these online tools in the future.

Time constraints. Throughout this study, I spent an inordinate amount of time creating and maintaining the website. In addition, I spent countless hours working with the interns face-to-face in order to facilitate more meaningful online interactions. I also spent hours of personal time on my computer for mentoring purposes. On several occasions I reflected:

> I have so much to do! I really have to keep focusing on the smaller pieces of this monster. When I look at the whole picture I start to get really overwhelmed. The other day I was thinking lots of nasty thought like, "How will I ever keep up a website of this magnitude?" (RRB 1)
>
> I am feeling really busy and disorganized. Even having just two interns participating is keeping me extremely busy. I feel like I am in over my head keeping up with everything. I don't know what to do. I have been awake until late into the night keeping up with things. I hope it will slow down soon! (RRB 2)
>
> So this is my first official week of collecting data and already I'm not getting much sleep. I'm wondering how this is all going to shake down when it's said and done. I'm nervous and a little apprehensive about [mentoring online]. (RRB 1)

This level of mentoring was not realistic in regards to personal time spent outside of the school day. While there were definite benefits, I constantly found myself negotiating my time between the interns and my own family. Admittedly, I sometimes did not respond to late night IM requests because I just could not take any more personal time for mentoring that day. Time issues affected the interns as well:

> It was really nice because it made communication so much easier. The only drawback was finding time. I had no experience with blogging before this experience but after participating in this I realized that blogging is super easy, but again, all you need is the time. (Interview, Nicole, 5/22/09)
>
> I consider my involvement in this study as low because I was not able to live chat and I think that was one of the main modes of personal communication during the study. I wish I could have [done IM sessions], I just didn't have time. (Interview, Laura, 5/26/2009)

In the interview, several of the interns reported they wished they had participated more often on the website and in IM sessions but time constraints had kept them from it. Three interns reported in their interview that they would have liked access to the site, and benefited more from it if they had been doing it at the beginning of the school year rather than the end, when the pressures of year-end testing were upon them. In ways such as these, time proved to be a drawback in using online tools for mentoring.

Technical ability. During the study, I was limited in my knowledge of how to perform certain technological tasks. These limitations were noticed by the interns when I was unable to upload certain documents to the website or unable to provide an electronic resource I had promised. Because of this, the website was not exactly what I had envisioned it to be. Comparison of an early entry in my RRB to a later entry shows the vision I had for the website contrasted with the realization that my technological skills were inadequate:

> In the center of the screen I want to create a section titled "Literacy Corner". In this section there will be links for each of the main literacy concepts such as guided reading, shared reading, word work, etc. As interns click on these links they will have access to websites, lesson ideas and links to pdf files of documents I have created for use in literacy instruction. (RRB 1)

> The interns are going to have a lot of questions about navigating the site. In fact, I have a lot of questions. I am even having trouble navigating it. I need help uploading word documents to the blog. I just don't know how to do it and it's paralyzing me right now. I have several documents just waiting to be uploaded. I've got to figure this out. I wonder if someone at the district office could help me? (RRB 2 & 6)

The interns had noticed my failure to provide them with the electronic resources I had promised. When asked what could have made the study better, a few responded:

> I would use e-mail more often to send documents. It would be nice to have had different resources so that I could have a copy of them on my computer in case I loose the hard copy. (Interview Erin, 5/25/09)

> I am thinking I wish there were more applicable resources available on the blog. There were some helpful links to websites, but I didn't feel like there were a whole lot of resources there that were applicable to me teaching third grade. (Interview, Emily, 5/22/09)

As a mentor, my lack of technological skills in some areas limited what I was able to do with the website and the resources I was able to provide for my interns.

Productivity of online tools. Another factor that limited mentor influence was the informal nature of the IM sessions. While blog posts were mostly focused on teaching practices, IM sessions were less productive for addressing such topics. Given that IM sessions were initiated late at night, causing additional work and burnout for me as a mentor, and given that the conversations often did not focus on teaching practices, IM as a mentoring tool was not as effective as blogging in this study. A late night IM session between Nicole and me illustrates this finding:

> Nicole: Hey! When would you like to set up another chat?
>
> Teresa: Any time. What are you doing up so late?
>
> Nicole: Sinus infection and my head hurts too bad to sleep. Why are you up so late?
>
> Teresa: The night is young for me . . . I'm a night owl. Sorry about being sick. I get sinus infections . . . they are the worst! How is school?
>
> Nicole: Great.
>
> Teresa: Is there anything I can help you with?
>
> Nicole: Maybe. (IM1, Nicole to Teresa)

As a mentor, my end goal was to mentor novice teachers to help improve teaching practices. This post illustrated how the content of IM sessions sometimes focused on topics outside of teaching. When I tried to turn the conversation toward school, Nicole's responses were short and vague. Using IM as tool for communication did not help me reach my mentoring goal as readily as blogging did.

Relationship negotiation. Constant negotiation of a professional mentoring relationship was necessary as I often worried about crossing professional lines with the interns. Examination of the data revealed that I was more likely to use informal language

in online conversations than I would have in face-to-face interactions, something I worried about throughout the study. This same phenomenon occurred in reverse as I noticed that the interns were more informal with me in online conversations that they were in person.

In a blog post, Randi had called me the "queen of guided reading" (Blog 13, Randi), and in another, Hannah referred to me as the "Yoda of writer's workshop" (Blog 14, Hannah). While I knew these two interns were only trying to tease and be funny, it made me feel uncomfortable that they had made those comments in the public environment of the blog. In a later post, Emily commented, "I loved that post where someone said Teresa is the queen of guided reading and then someone else called her the Yoda of Writer's Workshop. Ha Ha." When I read this, I didn't know whether to feel complimented or offended. In my RRB I reflected:

> The online interactions I'm having with my students online may be too personal for someone in a supervisory role. Have I been doing too much? Have I overstepped my bounds [as a mentor]? Am I getting to close to my interns? (RRB 5)

Problematic Situations. As discussed earlier in this chapter, using online tools in the mentoring process did not seem appropriate when dealing with problematic situations. When my interns were struggling, were not meeting teaching expectations, or when I needed to have a serious conversation with one of them, the online environment was not conducive for that type of interaction. The possibility for miscommunication, misunderstanding or break in rapport was too great. In this way, the mentoring process was limited when using online tools.

Summary. Several factors seemed to limit my influence as a mentor when using online tools in the mentoring process. Time demands on both myself, and the novice teachers, were often unrealistic. As a mentor, I needed the knowledge and skills to perform the technological tasks that were needed to mentor using this type of platform and my abilities were lacking. Because of limited technological ability, I was unable to provide promised resources to my interns. When considering the technological tools themselves, I found that IM sessions were not as productive or focused on teaching strategies as I wanted them to be. Use of this tool limited my ability to reach desired mentoring goals of improving the teaching practices of novice teachers. Online interaction was sometimes less formal and I questioned whether the online conversations were appropriate. Using online tools for mentoring was limiting when dealing with problematic situations.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Virtual mentoring as defined by Bierema and Merriam (2002) is, "a computer mediated, mutually beneficial relationship between a mentor and a protégé which provides learning, advising, encouraging, promoting and modeling that is often boundaryless, egalitarian, and qualitatively different than traditional face-to-face mentoring."(p. 14) This definition provides a starting point for conversation about the use of web-based tools for mentoring novice teachers in a virtual environment. This study allowed novice teachers, together with me, their mentor, to report our impressions of using on-line tools and to explore the advantages and limits of virtual mentoring, as suggested by Gareis and Nussbaum-Beach (2007).

Online mentoring allowed me to recognize how boundaries, relationships, conversations, and even the mentoring process itself can be expanded, limited, or redefined. As did Sundli (2007), I found that the use of online tools for communicating allowed the novice teachers and myself to redefine our roles in the mentoring process and promote mentoring environments that were mutually collaborative rather than authoritative. Creating an online environment that met these criteria required virtual mentoring in conjunction with face-to-face mentoring.

Redefining Boundaries in the Mentoring Process

Using web-based tools for mentoring novice teachers allowed my interns and I to redefine the boundaries of time and space that limit traditional mentoring practices. Like Colky and Young (2006), I discovered that online mentoring can provide interns with greater access to their mentor at different times of the day and from a variety of locations.

Physical space in an online mentoring environment was expanded, as interaction was not limited to a single teacher in a single classroom, but to a network of classrooms and teachers. This finding was also evident in the Gareis and Nussbaum-Beach (2007) study. Expanding the boundaries of time, space, and access can provides greater convenience and increased opportunity for mentors and their protégés to engage in the mentoring process (Ensher et al., 2003). Because the interns and I had increased access to one another, we were able to more fully engage in the mentoring process and found the use of online tools to be convenient.

In an online environment, boundaries in personal relationships between mentors and novice teachers can be both expanded and limited. While there is some concern that online environments can be less personal and supportive than a face-to-face interaction (Ensher et al., 2003), online communications are often positive, supportive, confirming and appreciated by those who participate in the conversation (Gareis & Nussbaum-Beach, 2007). Virtual interactions often show evidence of emotional support, empathy, encouragement, and compassion (Delgado, 1999), key factors that impact the success of novice teachers and build positive relationships in the mentoring process (Anderson & Shannon, 1988). These positive conditions were also found in the present study.

Novice teachers in this study used technological tools to express appreciation and to acknowledge the feelings of others, creating a mutually supportive environment and developing a strong sense of community among the participants. Online interactions remained positive and respectful throughout the study. By receiving support and confirmation from their mentor and by thanking and acknowledging each other, the interns appeared to feel validated and supported when they communicated online. As a

mentor, I felt appreciated and sensed that my hard work was being acknowledged, something I had rarely felt in other mentoring situations.

Walther (1996) found that novice teachers who interact in an online environment often identify well with each other and with their mentor, sometimes even perceiving their relationships to be more favorable with those they interact with online than those they interact with face-to-face. While no data was collected on interns' perceptions of our relationship, I did find indirect evidence of this when interns would come to me for help, sometimes instead of their school-based facilitator. Occasionally, in a face-to-face interaction, an intern would tell me that they liked or got along better with me than with their facilitator. On one occasion, Randi told me that I was the only person who ever helped her with her teaching, a statement I knew was not necessarily true. The redefined boundaries of the mentoring relationship may have given her the perception that I was her only support. In addition, the positive relationship we had formed may have given her a higher level of satisfaction with our mentoring relationship, a phenomenon also studied by Ensher and Murphy (1997).

On the other hand, the boundaries of my relationship with the novice teachers in this study had to be constantly negotiated when I felt that I was growing too close to the interns or crossing professional lines. Having negotiated mentoring relationships with novice teachers in the past, I found that online interactions, coupled with face-to-face encounters, produced a more in-depth relationship with this group of interns as compared to previous years. As a mentor I was continually renegotiating boundaries by considering my motivations and striving to stay consistent in my interactions with all of the individual study participants, a practice Barnett (2008) also found beneficial for mentors.

Boundaries also had to be considered in the virtual conversations that took place in the online environment. Because of the public nature of virtual mentoring, there was a fine line between what was and was not acceptable to discuss online. Although it did not occur in this study, a breach of confidentiality, a misunderstood comment, or a negative interaction could be devastating to a mentoring relationship and to the entire online environment and its participants. Virtual communication was tricky to navigate, and as a mentor I struggled to find balance between support in the online environment and knowing what conversations must take place outside of it. Careful navigation of the online conversation was essential as miscommunication or misunderstanding of the tone and attitude of an online interaction is a possibility (Colkey & Young, 2006). Mentors must set conversational boundaries to protect the integrity, privacy and confidentiality of those who participate in virtual mentoring (Ensher et al., 2003).

Engaging in virtual mentoring allowed me to redefine boundaries in the mentoring process itself. As a mentor, I was able to prompt reflection among the interns by providing examples rather than dictating their thinking through prescriptive advice as is often the case in traditional mentoring interactions (Gareis & Nussbaum-Beach, 2007). Use of an online environment can enable a mentor to present material in a new and interesting format, individualize the content of mentoring situations and provide opportunities for choice during virtual interaction (Bean & Morewood, 2007). In this study, interns could decide how they would engage in the mentoring process and to what degree they needed the additional support of the online interaction. As a mentor, the virtual environment allowed me to consistently monitor the concerns, frustrations, and

celebrations of my interns. Using Internet tools for communication made me feel as if I were keeping my fingers on the pulse of my interns without being intrusive.

Because of the nature of the online environment, a mentor is not limited by easily forgotten verbal interactions, but enabled to create and maintain a record of interaction that can be easily studied and shared (Ensher et al., 2003). As a mentor, my influence was enhanced when I was able to study and reflect upon what the interns were saying in their online conversations, which were saved and archived. This aspect of virtual interaction enabled me to provide mentoring at a more personal level based on the individual needs of the interns. It also enabled the interns themselves to return to the conversations again and again to solidify their learning and further reflect on experiences. I made better-informed mentoring decisions and was able to re-evaluate biases and presuppositions I had about some of the interns prior to the study.

Online communication allowed the interns to take the time to optimize their self-presentation and more thoughtfully record their thinking. Having an online record of exchanges was advantageous as it enabled me to document success, show professional growth, and clarify misunderstandings. Online tools allowed me to view my mentors from a different perspective, thus opening new windows of opportunity as I revisited posts to search for future mentoring possibilities.

Redefining Roles of Mentors and Interns

Mentors assume different roles, both directive and responsive, at different times throughout a mentoring cycle (Young et al., 2005). However, online mentoring allowed me to consider an additional mentoring role as being that of a reflector upon mentoring processes. I found that my mentoring responsibilities did not end with directing and

responding, but also with reflecting and refining my practice. In traditional mentoring practices, only the novice teachers are called upon to reflect, not the mentors, and yet the mentor's monologue often dominates the mentoring situation (Sundli, 2007). In this study, the online tools provided a platform where comments and discussions, both my own and the interns, could be reread and reviewed. Because of this, the opportunity for reflection upon my own practice was vast.

Using online tools, or any new tools, in the mentoring process causes a mentor to question her practice. As a mentor, I often had to move forward despite my questions and then evaluate the results and move on. After this process had taken place, changes could be made and new questions formulated. This questioning cycle developed my ability for reflection-in-action (Schön, 1990) and enabled me to tackle problems as they arose during the study.

Just as my role as a mentor was redefined in this study, the role of the interns also shifted as they engaged themselves in being mentored, but also in mentoring each other. Bean and Morewood (2007) have shown that novice teachers are able to self-regulate their participation in the mentoring process and self-construct meaning and understanding through interaction with the technology. One beneficial aspect of using technology in the mentoring process is that it allows novice teachers to participate, not only with their mentor, but with other novice teachers as well (Jonassen, 1995). Through the blogs that were posted in this study, it was clear to see that the interns were interacting with one another, and simultaneously with me.

Evidence of critical thinking and higher-order learning was often evident in an online environment (Jonassen, 2000). Over time, the interns in this study began reflecting

consistently about their teaching and giving advice more often than they asked for it. Many virtual interactions contained evidence of interns sharing and reflecting upon teaching experiences, a powerful purpose for engaging in online communication. As a mentor these interactions enabled me to see how experience was shaping the professional growth of each intern. For the interns, sharing and reflecting upon experiences allowed them to explain what they were doing, thinking and feeling in a public environment that, in this study, was nurturing and supportive. It also gave them opportunities to teach one another about what was working and what was not, knowing that their mentor was nearby to help.

Similar to the findings of Bierema and Merriam (2002), the online environment did not center on the mentor, or consist of the mentor dispensing advice to the protégés. Rather, the interactions created a relationship that was beneficial to both parties. Because of the redefinition of the roles of both mentors and interns in this study, the online environment was mutually collaborative in nature. In some instances, the group became the mentor as questions and experiences were being posed or shared with the group, and answered by members of the group. This finding supports the notion that online mentoring forums can be a complement to traditional one-on-one mentoring episodes (Gareis & Nussbaum-Beach, 2007).

Virtual environments can allow both parties to communicate in private, as well as group discussions, sometimes simultaneously (McMullen et al., 1988) and can create an environment where all parties are valued and included in the conversation (Helgesen, 1995). Findings of the current study show that online mentoring interaction had the

potential to teach, give direction and suggest resources to many people simultaneously, providing a mentoring bang-for-the-buck.

Combining Virtual and Face-to-Face Interactions

While there are many benefits to using online tools for mentoring, the value of face-to-face mentoring remains a critical component in maintaining successful mentoring relationships. An essential purpose of face-to-face mentoring is to develop novice teachers who are reflective, consistently self-assess, problem solve, and eventually improve their practice (Pitton, 2006). Virtual interaction complemented this purpose and provided opportunities to show evidence of these teaching qualities. Today's novice teachers can benefit from a variety of mentoring modes and relationships, given the dynamic career environment of today's classrooms (Ensher et al., 2003). In the current study, it was clear that both types of mentoring were beneficial and one was not complete without the other.

Novice teachers who have both online mentoring experiences in conjunction with face-to-face mentoring experience will be most likely to combine the two and enter into a different kind of mentoring relationship (Ensher et al., 2003), as was evidenced in this study. However, when mentoring interactions are primarily virtual, with little or no face-to-face interaction, the possibility for miscommunication can increase and participants may begin to devalue and neglect one another during online interaction (Ensher et al., 2003). While this study did not employ either online or face-to-face mentoring alone, there was considerable evidence that each type enhanced the other. Finding support the claim that mentors and novice teachers need to use multiple methods of interaction in the

mentoring process in order to maintain a reasonable comfort level in the mentoring relationship and learn from and about each other in multiple contexts.

Recommendations for Future Research

Virtual mentoring, as it occurred in the context of this study, was a time consuming process for both myself as a mentor and for the interns who participated. In some cases, the amount of time it took to maintain the blog, respond to comments, create new posts, and engage in IM sessions was overwhelming. Ongoing examination of the process of using online tools could uncover ways that virtual mentoring could be conducted in a more realistic amount of time. This includes study about the value of using different tools for different purposes, study on setting time related boundaries in online mentoring relationships, examination of how the use of a mentoring website changes over time, and a more careful consideration of what online interactions are most meaningful and result in the greatest benefit to novice teachers.

The findings of this study showed that different online tools were used for different purposes and that the style and content of an interaction differed depending on the tool that had been used. IM sessions were used for a slightly different purpose than blogs. In many instances, the IM sessions were less formal and more centered on discussion of concerns unrelated to actual classroom teaching while blogs contained more evidence of sharing and reflecting about teaching. Blogs offered an opportunity for novice teachers to write, revise, reread, and edit online interactions before publishing them to the group. IM sessions occurred in real time, offering less opportunity to think about or revise the interaction before publishing it. This resulted in the creation of different types of interaction that were relative to the tool that had been used to create

them. Further study of the various types of technological tools available for use in the mentoring process is needed. Closer examination of how those tools function and for what purposes they could be used would be beneficial.

Throughout the study I found that even though the interns were considered "digital natives" (Prenskey, 2001; 2005), I could not assume that they were naturally proficient at using technological tools. In many cases they did not necessarily have the skills, knowledge, or availability of technological resources to fully engage in the mentoring process in our online environment. Interns who did not have Internet access at home, never engaged in IM sessions even though they had the capability to do it while they were at school. There were a few possible explanations. A few of the participants had never engaged in IM sessions before and were not familiar with the technology, even though I had assumed they would be. An additional explanation was that the interns had access to their facilitator during school hours and may have taken their questions and concerns to the facilitator who could immediately help or listen. This is reasonable given that all seven interns indicated that their most preferred method of communication was face-to-face.

Early survey results indicated that some of the interns were not proficient at using blogging or IM tools and did not frequently use or prefer them as a method of communication. However, interviews conducted at the end of the study, contained evidence from all seven interns that they had enjoyed using these tools and had found them to be valuable for purposes they had not previously considered. Further study of how the technological skill of a novice teacher affects her ability to interact in an online

environment is needed. Additional study of the changes that take place in attitudes and perceptions while using online tools for mentoring would be equally interesting.

A closer of examination of using face-to-face interaction in conjunction with virtual interaction would be beneficial. For example, determining the ratio of face-to-face interaction needed as opposed to the ratio of virtual interaction needed in a mentoring relationship would allow mentors to maximize their mentoring efforts. Further examination of the optimal order (e.g., face-to-face first, then virtual) of interaction would enhance the mentoring relationship. Given that the possibilities for virtual mentoring are as "endless as the Internet itself" (Bierema & Merriam, 2002, p. 223) the opportunities for studying how mentors can use online tools in the mentoring process are limitless.

REFERENCES

Anderson, E. M., & Shannon, A. (1988). Toward a conceptualization of mentoring. *Journal of Teacher Education*, *39*, 38-42.

Ashkenas, R., Ulrich, D., Jick, T., & Kerr, S. (1995). *The boundaryless organization: Breaking the chains of organizational structure*. San Francisco: Jossey-Bass.

Barnett, J. E. (2008). Mentoring, boundaries and multiple relationships: Opportunities and challenges. *Mentoring and Tutoring for Partnership in Learning*, *16*(1), 3-16.

Bean, R., Ezell, H., Heisey, N., Ankrum, J., Zigmond, N., & Morewood, A. (2008). Outcomes of on-line professional development in Pennsylvania. In D. Rowe, R. Jimenez, D. Compton, D. Dickinson, Y. Kim, K. Leander, & V. Risko (Eds.), *56th Yearbook of the National Reading Conference (*pp. 111-121 *)*. Oakcreek, WI: National Reading Conference.

Bean, R. M., & Morewood, A. L. (2007). Best practices in professional development improving literacy instruction. In L. G. Gambrell, L. M. Morrow, & M. Pressley (Eds.) *Best practices in literacy instruction* (pp. 373-396). New York: Guilford.

Bean, R. M., & Swan, A. L. (2002, December). *Evaluating the success of a professional development initiative: Satisfaction is not enough!* Paper presented at the annual meeting of the National Reading Conference, Miami, FL.

Beattie, J., Spooner, F., Jordan, L., Algozzine, B., & Spooner, M. (2002). Evaluating instruction in distance learning classes. *Teacher Education and Special Education*, *25*,124-132.

Bierema, L. L., & Merriam, S. B. (2002). E-mentoring: Using computer mediated communication to enhance the mentoring process. *Innovative Higher Education*, *26*, 211-227.

Blogger, (n.d.). *What's a blog?* Retrieved online on June 3, 2009 at http://www.blogger.com/tour_start.g.

Botzakis, S., & Malloy, J.A. (2006). International reports on literacy research: Teacher Preparation. *Reading Research Quarterly*, *41*, 132-137.

Bradley, L., & Gordon, S. P. (1994). Comparing the ideal to the real in state-mandated teacher induction programs. *Journal of Staff Development*, *15*(3), 44-48.

Buckman, L., & Lesesne, T. (1999). Dynamic duos. *School Library Journal*, *45*(8), 45.

Buery, R. (n.d.). *Building electronic bridges to connect mentors and young people*. Retrieved June 3, 2008 at http://uwnyc.org/technews/v3_n6_a2.html.

Bullough, R.V. (2005). Teacher vulnerability and teachability: A case study of a mentor and two interns. *Teacher Education Quarterly*, *32*(2), 23-39.

Christensen, C., Horn, M.B., & Johnson, C.W. (2008). *Disrupting class: How disruptive innovation will change the way the world learns*. New York: Mcgraw-Hill.

Cheng, Y., Clift, R. T., & Klecka, C. L. (2004). Exploring the potential of electronic mentoring. *Action in Teacher Education*, *26*(3), 2-9.

Cochran-Smith, M. (2001a). Learning to teach against the new grain. *Journal of Teacher Education*, *52*, 3-4.

Cochran-Smith, M. (2001b). The outcomes question in teacher education. *Teaching and Teacher Education*, 17, 527-546.

Colky, D. L., & Young, W. H. (2006). Mentoring in the virtual organization: Keys to building successful schools and businesses. *Mentoring & Tutoring*, *14*, 433-447.

Davidow, W. H., & Malone, M. S. (1992). *The virtual corporation*. New York: Harper Business.

Delgado, M. (1999). Lifesaving 101: How a veteran teacher can help a beginner. *Educational Leadership*, *56*(8), 27-29.

Doering, A., Hughes, J., & Huffman, D. (2003). Preservice teachers: Are we thinking with technology*? Journal of Research on Technology in Education*, *35*, 342-361.

Ensher, E. A., Heun, C., & Blanchard, A. (2003). Online mentoring and computer-mediate communication: New directions in research. *Journal of Vocational Behavior*, *63*, 264-288.

Ensher, E. A., & Murphy, S. E. (1997). Effects of race, gender, perceived similarity, and contact on mentor relationships. *Journal of Vocational Behavior*, *50*, 460-481.

Farris-Berg, K. (2005). *Listening to student voices on technology: Today's tech-savvy students are stuck in text dominated schools*. An initiative published by Education/Evolving, a joint venture of the Center for Policy Studies at Hamline University. Retrieved June 2, 2009 at http://www.educationevolving.org/pdf/tech_savy_students.pdf

Frey, T. (2008). Determining the impact of online practicum facilitation for inservice teachers. *Journal of Technology and Teacher Education*, *16*, 181-210.

Friedman, S. (2007). Coming together for children: Six community partnerships make a big difference. *Young Children*, *62*(2), 34-41.

Gareis, C. R., & Nussbaum-Beach, S. (2007). Electronically mentoring to develop accomplished professional teachers. *Journal of Personnel Evaluation in Education*, *20*, 227-246.

Grant, S. (2007). Learning through 'being' and 'doing.' *Action Research*, *5*, 265-274.

Helgesen, S. (1995). *The web of inclusion*. New York: Doubleday.

Huling, A. L. (1988, April). *A synthesis of research on teacher induction programs and practices*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA. (ERIC Document Reproduction Service No. ED 302 546).

Janesick, V.J. (2000). The choreography of qualitative research design: Minuets, improvisations and crystallization. In N.K. Denzin & Y.S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed.) pp. 379-400. Thousand Oaks, CA: Sage.

Johnson, B., & Christensen, L. (2004). *Educational research* (2nd ed.). Boston: Pearson.

Jonassen, D. (1995). Computers as cognitive tools: Learning with technology, not from technology. *Journal of Computing in Higher Education*, *6*, 40-73.

Jonassen, D. (2000). *Computers as mindtools for schools: Engaging critical thinking*. Columbus, MO: Prentice Hall.

Joyce, B., & Showers, B. (1980). Improving inservice training: The messages of research. *Educational Leadership*, *37*, 379–385.

Klecka, C., Clift, R., & Cheng, Y. (2005). Are electronic conferences a solution in search of an urban problem? *Urban Education*, *40*, 412-429.

Knapczyk, D. R., Hew, K., Frey, T. J., Wall-Marencik, W. (2005). Evaluation of online mentoring of practicum experiences for limited licensed teachers. *Teacher Education and Special Education*, *28*, 207-220.

Kram, K.E. (1983). Phases of the mentor relationship. *Academy of Management Journal*, *26*, 608-625.

Laffey, J., & Musser, D. (1998). Attitudes of preservice teachers about using technology in teaching. *Journal of Technology in Teacher Education*, *6*, 223-241.

Leu, D. J. (2006). New literacies, reading research, and the challenges of change: A Deictic perspective. In J. Hoffman, D. Schallaert, C. Fairbanks, J. Worthy, B. Maloch (Eds.), *55th yearbook of the National Reading Conference*, (pp. 1-20). Oakcreek, WI: National Reading Conference.

Lewin, K. (1946/1948). Action research and minority problems. In G. W. Lewin (Ed.), *Resolving social conflicts,* (pp. 201-216). New York: Harper & Row.

Lewis, C. W. (2002). *International Telementoring Report*. Retrieved online on June 2, 2009 at http://www.telementor.org/resources.cfm.

Ludlow, B. L., & Brannan, S. A. (1999). Distance education programs preparing personnel for rural areas: Current practices, emerging trends, and future directions. *Rural Special Education Quarterly, 18*(3), 5-21.

Mandel, S. (2006). What new teachers really need. *Educational Leadership*, *63*(6), 66-69.

Marshall, J. (1981). Making sense as personal process. In P. Reason & J. Rowan (Eds.), *Human Inquiry: A sourcebook of new paradigm research* (pp. 395-399). Chichester, UK: John Wiley.

McKenzie, J. (2001). Head of the class: How teachers learn technology best. *American School Board Journal*, *188*(1), 20-23.

McMullen, D. W., Goldbaum, H., Wolffe, R. J., & Sattler, J. L. (1988, February). *Using asynchronous learning technology to make connections among faculty, students and teachers.* Paper presented at the Annual Meeting of the American Association of Colleges for Teacher Education, New Orleans, LA.

MentorNet (2002). 2000-01 *MentorNet Evaluation Report*. Retrieved online on June 2, 2009 at http://mentornet.net/documentation/about/results/evaluation.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded source book.* Thousand Oaks, CA: Sage.

Nash, D. (2001). Enter the mentor. *Parenting for High Potential*, *12*, 18-21.

No Child Left Behind Act of 2001, Pub. L. No. 107-100, 115 Stat. 1425 (2002).

Nystrand, M. (2006). The social and historical context for writing research. In C. MacArthur, S. Graham, & J. Fitzgerald (Eds.) *Handbook of writing research*. New York: Guilford.

Panel on Educational Technology. (1997). Summary of findings and recommendations from report to the president on the use of technology to strengthen K-12 education in the United States. President's Committee of Advisors on Science and Technology (2000) In. R. D. Pearson (Ed.), *Technology and learning* (pp. 3-19). San Francisco: Jossey-Bass.

Pitton, D. E. (2006). *Mentoring novice teachers: Fostering a dialogue process*. (2nd ed.). Thousand Oaks, CA: Corwin.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, *9*(5), 1-2.

Prensky, M. (2005). Listen to the natives. *Educational Leadership*, *63*(4), 8-13.

Purves, A. (1998). *The web of text and web of god: An essay on the third information transformation.* New York: Guilford.

Reiman, A. J., & Theis-Sprinthall, L. (1998). *Mentoring and supervision for teacher development*. New York:Longman.

Roehrig, A. D., Bohn, C. M., Turner, J. E., & Pressley, M. (2008). Mentoring beginning primary teachers for exemplary teaching practices. *Teaching and Teacher Education*, *24*, 684-702.

Robb, F. R. (1997). *The telementoring revolution: Three case studies for T-524*. International Education. Harvard Graduate School of Education. Retrieved online on June 2, 2009 at http://www.ctcnet.org.

Schön, D.A. (1990). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. San Fransisco: Jossey Bass.

Seabrooks, J. J., Kenney, S., & LaMontagne, M. (2000). Collaboration and virtual mentoring: Building relationships between pre-service and in-service special education teachers. *Journal of Information Technology for Teacher Education*, *9*, 219-236.

Segall, R. (2000). Online shrinks. *Psychology Today*, *32*(3), 38-44.

Seigle, D. (2003). Technology: Mentors on the net: Extending learning through telementoring. *Gifted Child Today*, *26*(4), 51-54.

Simpson, M. (2006). Field experience in distance delivered initial teacher education programmes. *Journal of Technology and Teacher Education*, *14*, 241-254.

Spencer, R. (2007). It's not what I expected: A qualitative study of youth mentoring relationship failures. *Journal of Adolescent Research*, *22*, 331-354.

Sundli, L. (2007). Mentoring: A new mantra for education? *Teaching and Teacher Education*, *23*, 201-214.

U.S. Congress, Office of Technology Assessment. (1995). *Teachers and technology: Making the connection* (OTA-HER-616). Washington, DC: U.S. Government Printing Office.

U.S. Department of Education (2005). *The secretary's fourth annual report on teacher quality: A highly qualified teacher in every classroom*. Washington, DC: Office of Postsecondary Education.

Walther, J. B. (1996). Computer mediated communication: Impersonal, interpersonal and hyperpersonal interaction. *Communication Research*, *23*, 3-43.

Watson, S. (2006). Virtual mentoring in higher education: Teacher education and cyber connections. *International Journal of Teaching and Learning in Higher Education*, *18*, 168-179.

Webopedia (n.d.) Instant Messaging. Retrieved online on June 20, 2009 at http://www.webopedia.com/TERM/I/instant.message.html.

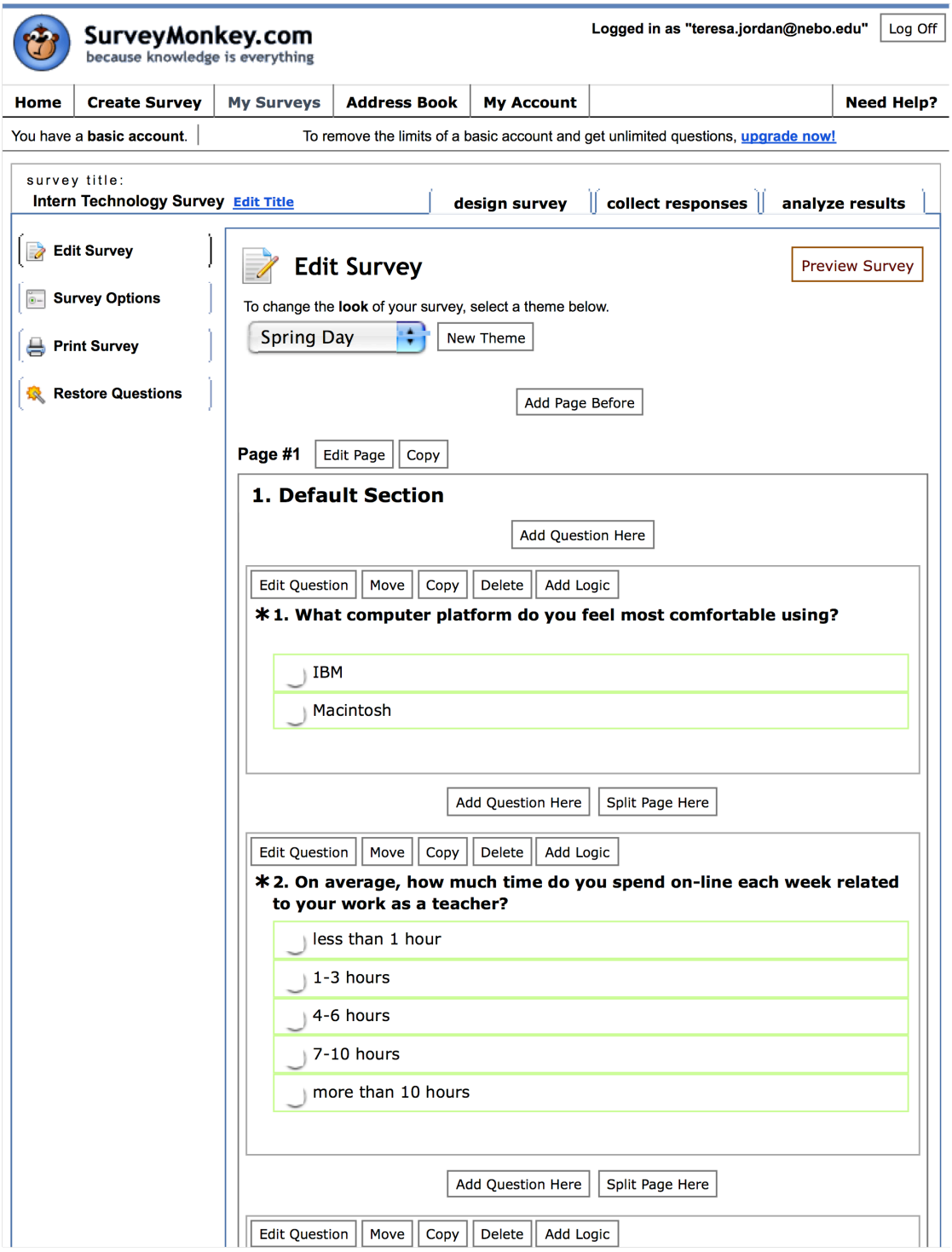
Young, J. R., Bullough, R. V., Draper, R. J., Smith, L. K., & Erickson, L. B. (2005). Novice teacher growth and personal models of mentoring: Choosing compassion over inquiry. *Mentoring and Tutoring*, *13*, 169-188.

APPENDIXES

Appendix A

Intern Technology Survey

Intern Technology Survey



***3. On average, how much time do you spend on-line each week that is NOT related to your work as a teacher?**

- less than 1 hour
- 1-3 hours
- 4-6 hours
- 7-10 hours
- more than 10 hours

Add Question Here | Split Page Here

Edit Question | Move | Copy | Delete

***4. When you are on-line, which activities do you engage in and how frequently do you do them?**

	daily	weekly	monthly	never
e-mailing				
surfing the web				
blogging				
instant messaging (live chat)				
downloading music				
playing games				
watching/viewing media				

Add Question Here | Split Page Here

Edit Question | Move | Copy | Delete

***5. What other on-line activities do you participate in that were not listed in question #4?**

Add Question Here | Split Page Here

Edit Question | Move | Copy | Delete

***6. When you surf the web (related to your job as a teacher) what are you most commonly looking for?**

Add Question Here | Split Page Here

Edit Question | Move | Copy | Delete | Add Logic

7. How would you describe yourself given the following statements about internet use?

- I use the internet mostly for personal reasons.
- I use the internet mostly for my job or for school work.
- I use the internet for personal and work/school related reasons equally.

Add Question Here | Split Page Here

Edit Question | Move | Copy | Delete

***8. How would you rate yourself on the following web-based activities?**

	Expert (Do it all the time)	Average (I know the basics)	Beginner (Someone has to show me)	Non-User (I never do this)
Using search engines to find information				
Downloading and/or uploading files				
Creating/maintaining blogs				
Navigating a web site				
Creating webcasts or podcasts				
Creating web sites				
Chatting on-line (Instant Messaging)				
E-mailing				

Add Question Here | Split Page Here

Edit Question | Move | Copy | Delete

***9. On a daily basis, how do you prefer to communicate with others? (Rate according to your preference)**

	I don't prefer this and use it	I don't mind this and use it	I like this and use it	This is my most preferred

	very little	occasionally	frequently	method of communication
Talking face to face				
Talking by phone				
Texting				
e-mailing				
Instant Messaging				
Creating & reading blogs				

Add Question Here | Split Page Here

Edit Question | Move | Copy | Delete

*** 10. Please describe yourself as a user of the internet. What types of things do you do on-line? How do you use web-based tools and programs? How do you feel about using the internet?**

Add Question Here

Add Page After

Appendix B

Blog Post with Comments Sample

Blog Post with Comments Sample

Saturday, February 21, 2009
Erin
Lately I've noticed that my students are starting to get more restless and bored in my class. We've now been in school for five months and they are kind of bored with the daily routine. I decided that I needed to change some things. I changed the way our class was arranged. I was surprised how much this helped to mix up the class. Another thing that I've done is sometimes I will switch the order of things that I teach. My students are so use to the schedule where it sometimes gets mundane. Once a week I'll switch two subjects. I've found that this has helped with their restlessness. Which is a good thing because we still have three months!
Posted by Erin at 3:07 PM

2 comments:

Nicole said...

I like the idea of changing your routine around, and I am glad it works. I wish I could do that for my restless students, but with all the rotations we have it makes it essentially impossible.
Nicole
February 23, 2009 11:47 AM

Teresa said...

Great idea Erin. Another thing you can try is adding just one little thing to your schedule that seems fun and interesting to the students. One year, I started doing what I called "Brags". The students could submit a "brag" about something they noticed one of the other students in the class doing well. Then, every Friday, we would gather at the back rug for the last few minutes of the day and I would pull a little "brag sheet" from the bag bucket and I'd read it. It would sound something like, "Cody wants to BRAG on Kayla because he saw her helping a first grader who was crying at recess. Then we would do a little Cheer for Kayla from our "Cheer Box". I will do a posting on the Cheer Box so you can see what I'm talking about.
February 25, 2009 1:15 PM

Post a Comment
Newer Post Older Post Home
Subscribe to: Post Comments (Atom)

Appendix C

IM Session Sample

IM Session Sample

3/13/09
Clear Chat History

7:17pm Hannah
hello!

7:17pm Teresa
Well hello there!
What brings you to facebook this fine evening?

7:19pm Teresa
Aren't you so relieved to have your teacher work sample done?!

7:24pm Hannah
yes its awesome! I've got so mcuh time now!
i cant believe the school year is almost over

7:25pm Teresa
I know. This year has flown by.
How is everything going with your class?

7:26pm Hannah
great! They are so good. Everythings is going so smoothly
Do you have any idea when we'll start hearing about jobs for next year?

7:27pm Teresa
Ugh! Things are so crazy. I think they still have a hiring freeze on right now.
But, once the freeze is lifted, you will start to see LOTS of job postings.

7:28pm Hannah
yeah. Im not too worried. I'm sure I'll go somewhere. I'm trying to remain very flexible

7:28pm Teresa
I think they were waiting for the legislative session to end to see what budget issues they would have.
Things should start happening soon.

Appendix D

Interview Guide for Interns

Interview Guide for Interns

Post Interview Questions

Interviewer will say: "I will now begin the interview. It will not be necessary for you to state your name because this interview will be confidential and all information transcribed. This will be considered interview #1".

***Say: The first two questions relate to blogging**:*

1. What experience did you have with blogs and blogging before participating in this study? After participating in this study?

2. As a new teacher, what do you think are the benefits of blogging to communicate with your mentor? What are the drawbacks?

Say: The next two questions relate to instant messaging sessions:

1. Did you participate in any instant messaging sessions? (If no, skip to the next section) If yes, ask, "How many would you say?"

2. Describe your experiences instant messaging with your mentor. (Guiding questions could be: 1) What did you talk about? 2) Was it convenient or inconvenient? 3) In what ways did the conversations help or hinder you?

Say: The last five questions are random study related questions.

1. How does working with your mentor face-to-face compare to working with your mentor using technological tools?

2. If you were asked to mentor a new teacher next year, how would you use technological tools in the mentoring process?

3. How did interns interact with one another during this study?

4. If this study were to be replicated, what suggestions would you have for improvement?

5. Would your involvement in this study be considered high involvement, medium involvement or low involvement, and why?

Appendix E

Researcher Reflection Blog (RRB) Sample

MY MENTOR JOURNEY

WEDNESDAY, FEBRUARY 25, 2009

Today....

As of today, things are going well. I am concerned that the Instant Messaging does not seem to be working. I think it's because it is not convenient. I almost needs to be pre-planned in order to fit it in. I'm wondering if IM in the context of a classroom teacher just isn't viable. After all, in the business world, workers are constantly at their desks and constantly on their computer and that is SO not the case for teachers. Maybe this tool isn't as useful.

Aleasha is back and has been participating. I am glad to see her getting involved in the study. I am starting to worry about how I will conduct the final interviews....Kami may not be available. I am wondering about having my facilitators do the interviews. Maybe that would encourage them to try some on-line communication with their students.

I need help uploading word documents to my blog. I just don't know how to do it and it is paralyzing me right now. I have several documents just waiting to be uploaded. I've got to figure it out. I wonder if I called the district office, if someone would help me out with this.

POSTED BY TERESA AT 1:23 PM

0 COMMENTS:

Post a Comment

Home Older Post

Subscribe to: Post Comments (Atom)

Appendix F

Code Key with Definitions

Code Key With Definitions

Nature of Online Communication

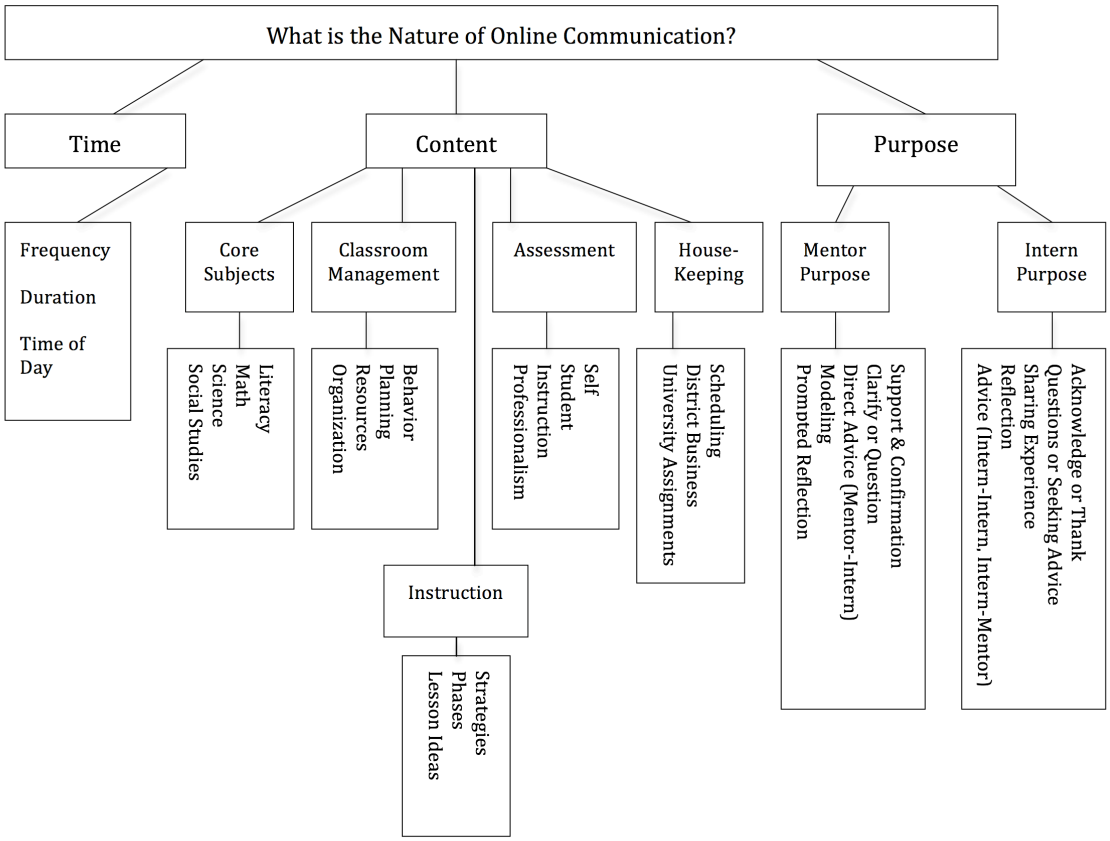
Category	Subcategory	Definition	Examples
Time			
	Frequency	How often online communication took place	How many blog & IM sessions per week?
	Duration	How long online communications lasted	How long IM sessions lasted?
	Time of Day	What time of day online communications took place	What time of day did interns blog and IM?
Content			
	Core Related	Unit of thought related to a core subject (literacy, math, science, social studies)	"My students are writing stories about..." "We did a science experiment."
	Classroom Management	Unit of thought related to student behavior, planning, organization or resources	"Two boys in my class are never on task." "I don't know how to organize my reading block."
	Assessment	Unit of thought related to assessment of self, students or instruction.	"My lesson went well today because I was more prepared."
	Housekeeping	Unit of thought related to scheduling, district business, or university assignments.	"What time are you coming next week? "When will the district start hiring for next year?"
	Instruction	Unit of thought related to classroom instruction.	"Today I used a KWL chart." "I taught vocabulary words before reading."
Mentor Purpose			
	Support and Confirmation	Unit of thought expressed thanks, empathy, reassurance, or validation	"I appreciated the extra effort in your lesson." "You did the right thing."
	Clarify or Question	Unit of thought included a question or asked for	"Tell me again why you don't start earlier?"

		clarification	"What centers are you doing?"
	Direct Advice	Unit of thought included direct mentor-to-intern advice	"Next time you should..." "Try it this way"
	Modeling	Unit of thought included mentor explaining or sharing ideas	"I once taught a lesson about..." "Sometimes I started a lesson by..."
	Prompted Reflection	Unit of thought encouraged intern to reflect	"How did your lesson go today?" "What are you thinking about...?
Intern Purpose			
	Acknowledge or Thank	Unit of thought expressed thanks or acknowledgement	"I really appreciate your help!" "Thanks for coming today."
	Questions or Seeking	Unit of thought included questions or sought information.	"Where can I get...?" "I need to find...."
	Sharing Experience	Unit of thought included stories, celebrations, issues, or problems	"Today I taught a lesson on..." "The students did such a good job on... "My class has been so noisy this week!"
	Reflection	Unit of thought included a reflection on practice or professionalism	"I am getting better and better at..." "I work well with my team and I'm learning a lot."
	Issues or Problems	Unit of thought related to a perceived problem or issue related to teaching.	"My students are not following the rules." "I am struggling with planning lessons."
	Advice	Unit of thought included advice from an intern to another intern or an intern to the mentor	"Next time you should try...." "It would be better if you tried..."

Appendix G

Flowchart of Coding Categories and Subcategories

Flowchart of Coding Categories and Subcategories



Appendix H

Example of Data Reduction Chart

Example of Data Reduction Chart

Content Analysis of INTERN posts

Acknowledge Or Thanks	Giving Advice	Sharing Experience (positive)	Questions Seeking Information	Specific Issues or Problem	Reflection Professional Growth	Text
				IP		Often times we just get too busy in the day and don't seem to have time for Utah history. IM1
		SE		IP		Our fourth grade mainly has our students work out of a massive packet so we do not use our books that much. However, my students hate the packet and so do I. I am not a big worksheet teacher, and the packet is boring. IM1
AT						That lesson sounds awesome! IM1
AT						Thank you for always helping me out, you are such a lifesaver! IM1
				IP		They are great! Don't get me wrong, I love them, but their behavior for me is horrible. I just feel like I have to be that mean teacher, and I feel like we can't have fun anymore because all we work on is behavior and I hate it. IM2
		SE			RPG	I feel like I am learning so much and I always have fun stories every day. I love it! IM2
		SE			RPG	I am so glad they were good for you today. That makes me happy, that they can be respectful. IM2
				IP		Did you know that there is currently a hiring freeze, so principals haven't been able to post any openings? IM2
AT		SE		IP	RPG	Thank you, their stories are lacking in punctuation, however, they are writing with excellent word choice in paragraphs! Yipee! Every test my students take they are performing exceptionally well, and higher than the other fourth grade classes. I sometimes forget how old they are and teach above and beyond, but they get it! IM2
	GA					I almost forgot, here is the website I was using that one morning. On the right hand side it shows the different categories, and then just click on free demo. www.readingupgrade.com/html/index.htm IM

Appendix I

Interview Analysis Table

Interview Analysis Table

1. What are the benefits and drawbacks to communicating online?	2. Experiences Instant Messaging	3. How does Face-to-Face compare with Virtual Interaction?	4. Suggestions for future use of Web Tools for Mentoring	5. What Was Your Involvement with the study? Why?
Reported Benefits *Easy way to communicate *I can do it any time *Bouncing ideas and asking questions was easy *Easy to ask questions *Great when you don't see the mentor much *Having a record of what you talked about. *Getting new ideas from people *Reflecting on what works and what doesn't *Get input from a lot of different people *The responses from your mentor can help other people as well. *You can use pictures to help you explain things better *You can do it when it is convenient for you *It is useful *I can get an answer when I want, not 5 days later *I can post my thoughts right when I am thinking about them *It's a familiar way to communicate *I can compose my thoughts and get it just right *Communication was so much easier	Positive *Talked about getting a job. *It was convenient *She was online and so was I so we chatted. *It gave me ideas about her schedule and when we could meet. *She let me know she cares about me *We talked about my lessons, my students and what I needed help with *It was convenient	Pro Virtual *I like both! *I felt comfortable either way *It's nice to do both *If you won't see the person for a while you can get a faster response than waiting *Chatting online can be faster *You can do it after hours. *Sometimes its hard to plan a time to meet in person. *You can save your mentor's responses *You can post a question as soon as you think of it so you don't forget *When we used the technology we talked more *She could be there when I needed help	Do *Start a blog just for sharing ideas and resources *Provide more resources on the blog applicable to grade level *Use e-mail to send electronic resources *Use blogs for teachers to keep a journal instead of writing on paper. *Use blogs to introduce your class to the other interns so they can relate to your better and give you better advice and help. *Do just face-to-face, then just online and compare the results *Use the site to provide lots of resources and teaching tools. I would post thoughts and upcoming events *Share web addresses and links to good information *Get others to do online chatting at the same time.	High - Medium *Medium involvement. I did everything and it was easy, not overwhelming *Medium involvement. I participated on the blog, but not on other things *My involvement was high, It was a great resource for my teaching

Reported Drawbacks *Don't get immediate response *Others don't check the blog and don't respond *It's sometimes easier to get feedback in person *Not having access could be a problem *Blogging during school hours could be a problem *You don't always get an immediate response *There is a lack of personal attention *It was hard to find time	Negative *I could never do it because I don't have internet access at home	Pro Face-to-Face *I like to do face-to-face because the feedback is more effective *You can see the mentors reaction and know what she's thinking. *I loved actually seeing my mentor *Nice because the conversation carries back and forth more easily *Face-to-face is better because it's more personal *I got more personal feedback that way	Don't *Wouldn't do it if only mentoring one person not enough interaction *Wait until later in the year to start a blog, use it the whole year *Begin the process earlier when interns are just starting out *Don't let the blog get inconsistent and stop using it	Low *I just wrote on the blog spot and responded to other posts. *I just got on the blog, wrote and responded to posts and did IM's *I never got to do IM's, but blogs so I didn't do very much.

Appendix J

Blog Post with Pictures and Text Sample

THURSDAY, FEBRUARY 5, 2009

Window to Reading/Writing Workshop

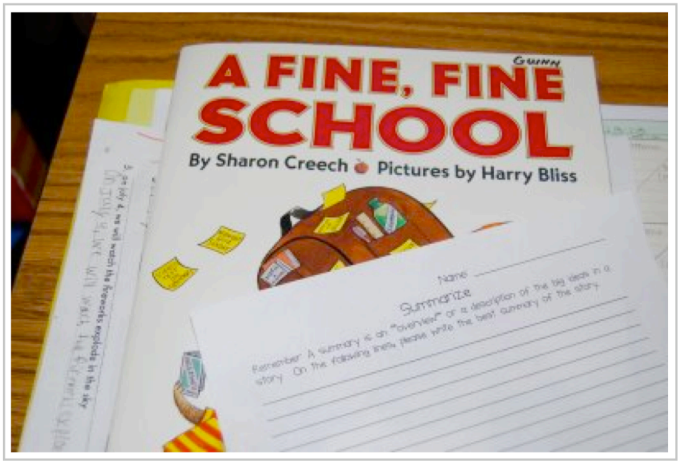
Erin's 3rd grade classroom (2/5/09)

In this post, I will be describing with pictures and text how Erin organizes her morning literacy block. I am thrilled to see how well she thought this through and how engaged her students are with literacy. I will be uploading the forms you see here once I receive them electronically. I hope everyone can get a few good ideas from her.

Erin begins her morning with a quick start sheet that has five problems. It is similar to daily oral language where students are revising sentences and working on grammar, usage and mechanics problems. They quickly correct it as a class.

Writer's Workshop

Erin begins Writer's Workshop with a mini-lesson and gathers her students at the back carpet to learn more about writing.
Today she read them a story called *A Fine, Fine School* students were asked to listen for main ideas, and Erin modeled writing the main ideas on chart paper. After the story, Erin modeled how to write a summary and then sent the students back to write a summary on the story.....



During Writer's Workshop, the students have access to all the materials they need. Here is how Erin has her writing center organized....