A CASE STUDY OF THE PERSPECTIVES OF THREE FIRST-YEAR TEACHERS AND THEIR MENTORS ON MENTORING THROUGH THE USE OF ELECTRONIC MAIL

by

CHARLES DANIEL EVANS

(Under the Direction of Sally J. Zepeda)

ABSTRACT

In recent years, the idea of using electronic mail to mentor beginning teachers has rapidly emerged. A review of the literature revealed no studies that examined the perspectives of teachers on mentoring through the use of electronic mail. This case study was designed to learn the perspectives of three first-year teachers and their mentors on the use of electronic mail in mentoring, and to learn of any issues which may arise while participating in electronic mentoring. The six participants were chosen from a single middle school in Georgia. The researcher conducted two interviews with each of the participants, and one focus group interview with all participants at the conclusion of the study. The transcripts and other data sources were analyzed using the constant comparative method of data analysis. The major findings included some positive aspects of electronic mentoring such as the benefit of saving time through the use of electronic mail, and the ability to correspond at one's own convenience. Furthermore, some participants discussed the convenience of keeping electronic mentoring correspondence as records of issues discussed. The participants also discussed some negative aspects of electronic mentoring, such as the need for some face-to-face interaction in mentoring programs, the impersonal nature of electronic mentoring, and the need to be within physical proximity of

mentors. The findings also indicated that mentoring participants may find it difficult to portray tone in the texts of electronic mentoring correspondence, which may cause ideas or statements to be misconstrued. Additionally, the study found that participants preferred to discuss in-depth issues face-to-face, and use electronic mail for issues which could be addressed quickly and at the convenience of the participants. Through the analysis of the data, a darker side of electronic mentoring emerged as well. Findings indicated that some educators could possibly use records of electronic correspondence punitively against novice teachers. The participants agreed that electronic mentoring does not work effectively as the sole method of communication between mentors and protégés. The findings are presented, as well as implications of the study, and suggestions for further research in the area of electronic mentoring.

INDEX WORDS: Mentoring, telementoring, online mentoring, electronic mentoring, electronic collaboration.

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DEDICATION

I would like to dedicate this dissertation to my wife, Amber, and to my two beautiful daughters, Gracie and Zoe. First, to Amber, the "single mom." I will never forget all of the times you let me "lock myself up" in my office and write, while you took care of everything else. Believe me, I know whose job was harder! Words could never tell you how much I love and appreciate you and your continued support. Amber, I hate to borrow words from Napoleon, but you are the "sweet and unconquerable love of my life."

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CHAPTER 1

INTRODUCTION

The purpose of this study was to examine the perspectives of three first-year teachers and their mentors to gain insight on mentoring through the use of electronic mail. Studies have shown that mentoring novice teachers can positively influence newcomers in a variety of ways (Evertson & Smithey, 2000; Mullen, 2001; NCES, 2000). Veenman (1984) examined many issues faced by teachers entering the field of education. He, along with many others have reported that these issues can contribute to teacher burnout, ineffectual classroom practices, or departure from the profession (Friedman, 1995; Weiss, 1995).

Mentoring is one process that can help novice teachers increase their abilities to overcome issues they may face (Ballantyne & Hansford,1995; Hayes 2001). As knowledge in the field of education continually increases, one may assert that further developments in the field of mentoring could be needed, and that developments in the use of emergent technology (e.g., e-mail and instant messaging) could prove to be highly beneficial for beginning teachers (Odell & Wang, 2002). Harris (2000) described the increasing interest in mentoring programs within school systems, and she stated, "educators increasingly have begun to consider how mentoring programs could benefit teachers new to the profession" (p. 57).

With the rise of technology in schools, mentoring through the use of electronic mail (e-mail) could prove to be a valuable tool in providing constant communication and feedback for teachers new to the field. According to the National Center for Education Statistics (NCES), in the year 2000, 98% of public schools in the United States had access to the Internet (2003). The increase in accessibility to the Internet has significantly risen from only 35% in 1994. Since

computers are easily accessible for many, mentoring through the use of electronic mail could provide some conveniences not offered by traditional face-to-face mentoring. Knouse (2001) called this emerging new method of mentoring a way of finding "immediate access to tremendous amounts of information" (p. 164).

Benefits of mentoring electronically may include the ability for participants to choose times and places of their convenience to correspond (Walker, 2002). If e-mail addresses are established properly, participants may also maintain complete anonymity in their correspondence (Knouse, 2001). In reference to this anonymity, Knouse stated, "indeed, the relative anonymity of the Internet can provide a degree of privacy that is not possible with face-to-face contact with a traditional mentor" (p. 163). Additionally, by using asynchronous online communication, mentors and mentees alike are allowed as much time as necessary for the valuable element of reflection. In his discussion of the benefits and necessity of reflection, Schon (1983) said:

> As inquirers frame the problem of the situation, they determine the features to which they will attend, the order they will attempt to impose on the situation, the directions in which they will try to change it. In this process, they identify both the ends to be sought and the means to be employed. (p. 165)

In a study of mentoring for young adults who used e-mail, Perez and Dorman (2001) reported that this type of mentoring "supports collaborative learning which has been documented to improve academic achievement, improve behavior and attendance, increase self-confidence and motivation, and increase liking of school and classmates" (p. 122). The possibility of acquiring these benefits in mentoring demonstrates a need to further examine the process of electronic mentoring. The perspectives of beginning teachers and their mentors could provide valuable insight into using e-mail as a primary tool for mentoring novice teachers. This insight could possibly lead to the development of more effective mentoring programs.

The idea of using electronic mail for mentoring has been used in other contexts (Adams, 1999; Duff, 2000; Martin & Robertson, 2003). In one program, electronic mentoring was used to connect high school science students with practicing scientists (O'Neill & Wagner, 1996). Programs as this one have been surfacing in recent years, but electronic mentoring has only recently begun to surface in the field of education (Borja, 2002; Walker, 2002). Hobbs, Day, and Russo (2002) suggested this type of mentoring could "result in supportive dialog between a single teacher and mentor" (p. 353). As a result of these ideas, many questions are left unanswered concerning the use of the Internet and its role in the process of mentoring. This study was designed to examine the perspectives of three first year teachers and their mentors to gain insight on mentoring through the use of electronic mail. Their perspectives could provide valuable insight in developing more effective mentoring programs for beginning teachers.

Statement of the Problem

After conducting an extensive review of the literature, it was realized that very little was known about the perspectives of teachers concerning the process of mentoring novice teachers using electronic mail. Although journal articles have been written on the idea of using the Internet for mentoring new teachers (Bierema & Merriam, 2002; Borja, 2002), no research studies could be found to reveal the perspectives of practicing teachers on this process. Liddell (1997) conducted a study to examine the perspectives of graduate students and mentors relative to electronic mentoring. She wrote, "results revealed that mentoring on the Internet received positive evaluations from mentors and students" (p. 666). Because many teachers now have access to computers and the Internet (NCES, 2003), one may cautiously assume that the idea of using the Internet to mentor new teachers will only continue to surface. The absence of knowledge on the perspectives of teachers who have used electronic mail to mentor new teachers

will only continue unless studies are initiated to begin answering questions concerning this emerging idea.

Many mentoring studies have indicated that positive results can emerge from mentoring programs (Evertson & Smithey, 2000; Yost, 2002). With technology becoming more widely used, it is only logical that the use of electronic communication be considered to assist in the mentoring process; however, no studies to date have been found that have tested this process between new teachers and their mentors. As a result of the lack of findings regarding the use of e-mail as a way to mentor beginning teachers, the perspectives of educators concerning this type of mentoring remain virtually unknown.

Electronic mentoring could provide benefits that traditional mentoring cannot. The process of electronic mentoring can be done at home, in the classroom, or any other location where computers are accessible (Walker, 2002). Bierema and Merriam (2002) called this process a method of creating "mutually beneficial relationships between a mentor and a protégé that cross boundaries of race, class, and gender" (p. 211). With traditional face-to-face mentoring, participants have opportunities to discuss issues, but virtually all statements made in these interactions are done so spontaneously within conversations. If electronic mentoring is used, more time could be provided for the participants to consider questions or responses posed by mentoring partners.

An additional benefit that could be provided by electronic mentoring is anonymity (Knouse, 2001). Anonymity of participants can be easily achieved by creating e-mail addresses that do not display the participant's real name. If anonymity for mentoring participants is provided, one may wonder if electronic mentoring could result in more open and honest discussion of issues. Knouse (2001) stated, "protégés on the Internet may be more apt to discuss

sensitive issues or interpersonal problems with anonymous people in a mentoring chat room than they would with a person standing next to them" (p. 164). Due to the fact that no other locatable studies have sought to understand the perspectives of practicing teachers who have participated in electronic mentoring, these perspectives can perhaps uncover a new field of study.

Purpose of Study

The purpose of this study was to examine the perspectives of three first year teachers and their mentors to gain insight on mentoring through the use of electronic mail. A review of the literature revealed no studies on the perspectives of teachers concerning the process of mentoring using electronic mail. By learning the perspectives of teachers who have used e-mail as a tool for mentoring, educators could possibly use the findings of this study to create more effective mentoring programs for novice teachers. Perez and Dorman (2001) presented possible benefits of electronic mentoring. They wrote of the opportunity to "decrease negative stereotypes of other races or ethnic groups" (p. 122), and to increase "access to and interactivity with geographically distant experts, research, and resources" (p. 122). With these possibilities in mind, researchers may be able to use the findings of the current study to examine further the process, content, and impact of e-mentoring as a component of induction programs and mentoring.

Background of the Study

Mentoring has been examined from many different aspects, using numerous variables and settings, and yielding a variety of results (Beyene, Anglin, Sanchez, & Ballou, 2002; Cross, 1995; Odell & Wang, 2002; Schlee, 2000). By reviewing the existing literature, one can examine many different methods of developing mentoring programs, which target numerous areas of development in beginning teachers (Giebelhaus, & Bowman, 2002). In recent years, as

the Internet has become a common commodity within many school systems (NCES, 2003), a next logical step could be to examine electronic mentoring as a primary tool for mentoring. The purpose of this study was to examine the perspectives of three first year teachers and their mentors to gain insight on mentoring through the use of electronic mail. By examining the perspectives of teachers who have participated in this type of mentoring, valuable information may be learned to possibly develop more effective mentoring programs for beginning teachers.

Research Questions

The purpose of this study was to examine the perspectives of three first year teachers and their mentors to gain insight on mentoring through the use of electronic mail. An extensive review of the literature showed that the idea of mentoring using the Internet is now being used in some pre-service teacher preparation programs. Price and Chen (2003) stated, "unbounded by time and location, telementoring provides a forum for collaboration and collegiality between primary stakeholders in teacher preparation" (p. 105). The results of this study can be used by administrators to determine the extent of implementation of electronic mentoring in individual school settings. As the availability of electronic mail is rapidly increasing, the perspectives of teachers on the process of electronic mentoring may aid school administrators in establishing mentoring programs that use electronic mail in their individual schools. Hayward, DiMarco, and Kranz (2001) stated that e-mentoring may promote "an integration of classroom and cooperative education experiences" (p. 32). To learn the perspectives of teachers on the process of mentoring through the use of electronic mail, the following research questions were used for this study:

1. What are the perspectives of first-year teachers and their mentors concerning mentoring through the use of electronic mail?

2. What problems or issues might one experience while using electronic mail for the mentoring process?

Theoretical Framework

This study was based on the theoretical perspective of symbolic interactionism (Blumer, 1969; Charon, 1992; Meltzer, 1975). The originator of this term and one of the key leaders of this perspective was Herbert Blumer. To define symbolic interactionism, Blumer (1969) stated that:

> Symbolic Interactionism rests on three primary premises. First, that human beings act towards things on the basis of the meanings those things have for them. The second premise is that the meaning of such things is derived from, or arises out of the social interaction that one has with one's fellows. The third premise is that these meanings are handled in and modified through, an interpretive process used by the person in dealing with the things he encounters. (p. 2)

Meltzer stated, "symbolic interaction is the interaction that takes place among the various minds and meanings that characterize human societies" (p. 2). Charon (1992) reported "human action is not only caused by social interaction, but it also results from interaction within the individual" (p. 24). These concepts are the foundational ideas of symbolic interactionism. This perspective focuses on understanding interaction that occurs among individuals, and how situations and interaction cause one to act in response to various interactions and environments.

Blumer (1969) explained these ideas in more depth in his early writings on symbolic interactionism. He stated:

> The term "symbolic interaction" refers, of course, to the peculiar and distinctive character of interaction as it takes place between human beings. The peculiarity consists in the fact that human beings interpret or "define" each other's actions instead of merely reacting to each other's actions. Their "response" is not made directly to the actions of one another but instead is based on the meaning which they attach to such actions. Thus, human interaction is mediated by the use of symbols, by interpretation, or by ascertaining the meaning of one another's actions. This mediation is equivalent to inserting a process of interpretation between stimulus and response in the case of human behavior. (p. 180)

Silverman (2000) added, "symbolic interactionism focuses on how we attach symbolic meanings to interpersonal relations" (p. 77). These ideas and concepts summarized the purpose of symbolic interactionism. The researcher viewed this perspective as a useful tool to understand stimuli and responses, and results of interaction within the specific environment being studied. More specifically, this perspective was chosen due to its potential of providing insight into the electronic mentoring environment, and the interactions and perspectives that resulted from the the use of e-mail for the purposes of mentoring.

With these concepts considered, this study was designed to examine the perspectives of three first-year teachers and their mentors to gain insight on mentoring through the use of electronic mail. This study sought to discover how one might negotiate mentoring by means of electronic mail. Due to the fact that the online world is relatively new to the education field with respect to using electronic mail as a mentoring tool, one can learn how individuals attach meaning to this process through the construct of symbolic interactionism. Understanding the use of electronic mail and its place in mentoring can help to develop a broader perspective about mentoring programs.

Significance of the Study

This study was significant in that it could provide valuable insight into an emerging new method of working with novice teachers. Burgstahler and Cronheim (2001) described the online mentoring environment as "a favorable environment in which to provide peer and mentor support" (p. 59). The findings of this study can provide valuable information, which could help administrators determine the extent of use of electronic mail in future mentoring programs. Since online mentoring is a relatively new idea, many questions remain unanswered, and many questions exist regarding the role of this new tool in the mentoring process.

The idea of using the Internet to provide mentoring has begun to surface in various ways throughout recent years. Milloy (2003) discussed an online program which allowed preservice teachers the opportunity to communicate with middle school students prior to entering the teaching field. This valuable interaction helped the preservice teachers to learn the character and nature of a group of middle school students before dealing with students of these ages on a daily basis. In return, the students were able to learn more about the Internet, e-mail, and generally became more excited about language arts. All correspondence in this program was conducted through the use of the Internet. Since this program was beneficial to the preservice teachers involved, one may begin to consider the possible benefits that could be obtained by using this tool for teachers actually beginning their careers in education. Davis and Resta (2002) described this type of mentoring as "an effective method of supporting novice teachers" (p. 101).

Bierema and Merriam (2002) also discussed mentoring through the use of the Internet. They discussed some of the aspects provided by electronic mentoring that face-to-face mentoring cannot. One example of this is that the use of the Internet has no boundaries in regard to time or place. It can also eliminate race, class, and gender issues that may occur in traditional mentoring. Their discussion of this emerging idea supports convenience of corresponding at any time or place of the participant's choosing, and the ability to establish an "egalitarian nature of the exchange" (p. 211). It is the absence of research-based knowledge concerning these types of issues that gives significance to this study, and presents the need to study mentoring that uses e-mail as a tool.

An additional example of the use of online mentoring was found in an induction program established in New Zealand (Martin & Robertson, 2003). This program was established to provide aid to first-time school principals through the use of peer coaching, in-school support,

ongoing principal mentoring groups, and an online support community. These programs, as well as others, present the idea of e-mentoring in various aspects; however, no research studies could be found which examined the perspectives of first-year teachers and their mentors concerning the use of e-mail for mentoring purposes. As these articles demonstrate, this concept is rapidly emerging, and could prove to be a valuable tool in working with novice teachers. This study is significant in that the findings may provide insight on effective implementation of electronic mentoring, and the extent to which this type of mentoring should be implemented. The findings could also demonstrate how to avoid issues that may arise with online mentoring.

Assumptions of the Study

Throughout the period of this research, the following assumptions were held to be true:

1. All information given by the first-year teachers and their mentors was based on their own honest opinions of the process of mentoring through the use of electronic mail.
2. All information given by the first-year teachers and their mentors was freely given.
3. The first-year teachers and their mentors were the best source of data for this study.

Definition of Terms

The following definitions were adopted for use in this study:

Asynchronous Communication - Communication between two or more people not conducted simultaneously. When performed on the Internet, this type of communication is typically done when one person sends an electronic mail (e-mail), or posts a statement or question on a website

message board. The recipient(s) of these e-mails or postings can read and respond at their convenience.

Electronic Mail (e-mail) - asynchronous communication conducted by sending messages using an Internet service provider (ISP).

Limitations of the Study

The findings and conclusions of this study were based solely on the perspectives of the three beginning teachers and the three mentors who participated in the study; therefore, generalizability was impeded by the limited number of participants–three beginning teachers and three mentors.

Overview of the Research Procedures

To gain insight into the perspectives of first-year teachers and their mentors who have used electronic mail for the mentoring process, a qualitative research approach was used. The study was based on the perspectives of three first-year teachers and their mentors involved in a mentoring program that used electronic mail as an enhancement tool for the purpose of mentoring.

Throughout the study, the teachers participating in the study kept journals to record their feelings and perspectives on the actual process of electronic mentoring. These journals were used to remember events, conversations, and issues that arose during the mentoring process. To gather data, interviews served as the primary source of data. The researcher conducted two interviews with each of the participating teachers. The interviews focused on their perspectives of using e-mail for the purpose of mentoring. At the end of the study, one focus group interview was conducted to gain the perspectives of the group of first-year teachers and their mentors as a

whole. The researcher wrote fieldnotes during all interviews with the participating teachers. These interviews were transcribed to be used in data analysis.

All e-mail correspondence between the first-year teachers and their mentors was printed and kept for later data analysis. Journals of the participating teachers were collected to be used in data analysis as well. These five data sources, all electronic mail correspondence conducted throughout the study, interview fieldnotes with the participating teachers, interview transcriptions, journals kept by each participating teacher, and transcriptions from a single audio-recorded focus group meeting at the conclusion of the study, served as sources to examine the perspectives of the first-year teachers and their mentors to gain insight on mentoring through the use of electronic mail.

Organization of the Dissertation

Chapter 1 included the background for the study, as well as the rationale. In addition to these elements, it included the purpose of the study, the statement of the problem, the research questions, and the theoretical framework. Also included were the assumptions of the study, definition of terms, limitations of the study, and the significance of the study. Chapter 2 reviewed the literature related to the study, including mentoring and the various methods of mentoring that have been tested, and studies of the use of technology to support pre-service teachers.

In Chapter 3, data collection methods were discussed, as well as methods of qualitative data analysis. In addition to these aspects, issues pertaining to subjectivity, validity, and reliability were discussed. Chapter 4 revisited symbolic interactionism, and discussed the context of the Focus County School System and Center Middle School. Chapter 5 presented the case of the first mentoring pairing, Hannah and Kirsten, as well as their perspectives on

mentoring through the use of electronic mail. Chapter 6 presented the second mentoring pairing, Jordan and Mitzi, and discussed their perspectives on using electronic mail for mentoring, and Chapter 7 presented the third mentoring pairing, Leigh and Jeremy, and their perspectives on mentoring through the use of electronic mail.

Chapter 8 then presented the perspectives of the focus group interview on mentoring through the use of electronic mail. Chapter 9 provided a cross-case analysis of the three mentoring pairings, compared perspectives, discussed the perspectives of the participating teachers as they related to the research questions, and presented propositions based on the findings of the study. Finally, Chapter 10 provided a discussion of the findings with conclusions, implications, and recommendations for further research on electronic mail as a tool of mentoring.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

The purpose of this study was to examine the perspectives of three first-year teachers and their mentors to gain insight on mentoring through the use of electronic mail. A review of the literature revealed no studies examining the process of electronic mentoring from the perspectives of first-year teachers and their mentors. As technology grows and becomes more widely used, one may assert that using e-mail for mentoring could be a next logical step in providing support to novice teachers. In December of 1996, Nua Internet Surveys reported that only 55 million people worldwide had access to the internet. In May of 2002, Nua reported that that number had risen to approximately 580.78 million people across the globe. With the rise of technology within many school systems, using e-mail to mentor beginning teachers could become an easily accessible tool for giving additional support to newcomers to the field of education.

To examine the perspectives of three first-year teachers and their mentors concerning mentoring through the use of electronic mail, the following research questions guided this study:

3. What are the perspectives of first-year teachers and their mentors concerning mentoring through the use of electronic mail?.
4. What problems or issues might one experience while using electronic mail for the mentoring process?

To learn the perspectives of the participating teachers on the process of electronic mentoring, a qualitative research approach was used. Open-ended interviews with the participating teachers in this study were conducted to allow full disclosure of feelings, issues, and perspectives of using technology for the purpose of mentoring beginning teachers. These interviews were later transcribed and analyzed using coding and the constant comparative method to analyze and then to report the findings. To understand why this study was initiated, it is important to examine the existing literature on mentoring. The literature demonstrates how mentoring has been tested in many settings, and has produced a wealth of results to contribute to the work of acclimating newcomers to teaching; however, studies which examined mentoring through the use of electronic mail could not be found that specifically examined the perspectives of first-year teachers and their mentors concerning the use of e-mail as a means to mentor beginning teachers.

The mentor-mentee relationship dates back to as early as Ancient Greece during the time of the Trojan War (Harris, 2000). Since the time of the first mentor-mentee relationship in Ancient Greece, mentoring has been used within many settings such as the business world (Buss, 1996; Crandell, 1994; Waters, McCabe, Killerup, & Killerup, 2002), and in numerous aspects of education (Collier, 1999; Harnish & Wild, 1994). This chapter discussed the existing literature on mentoring and examined various aspects in which the mentoring process has been used and tested in educational settings. The review of the literature also examined the uses of the Internet in the mentoring of college, pre-service teachers, and in educational administration preparation programs as a means to connect students in a practicum with seasoned administrators.

The Importance of Mentoring for New Teachers

Studies have demonstrated the effectiveness of providing mentoring for new teachers throughout the first years of teaching (Evertson & Smithey, 2000; Yost, 2002). These studies have supported the idea that mentoring programs can possibly make lasting impressions on new teachers, and perhaps shape the duration and effectiveness of the newcomers' teaching careers. A study by Hobson (2002) reported that student teachers considered mentoring to be a key aspect of initial teacher training. Holloway (2002) stated that "a focused, systematic mentoring program has a positive influence on the performance of new teachers, and is advantageous to mentors as well" (p. 86).

The National Center for Education Statistics (NCES) (2000) completed a study on mentoring and how the process can significantly increase retention among teachers new to the field. According to the statistics, the NCES cited that 20% of new teachers leave the profession within the first 3 years of teaching. In urban areas specifically, up to 50% of teachers leave in their first year of teaching. For this reason, many districts have implemented mentoring programs to address the issues which cause these novice teachers to leave the profession. The NCES study reported that 70% of new teachers who had met with mentors at least once per week showed significant improvement in their instructional skills.

Statistics as these demonstrate the need to address issues faced by novice teachers and to provide support for them throughout their first years of teaching. Additionally, as Hobson (2002) and Holloway (2002) have indicated, mentoring programs may provide valuable support to beginning teachers, and must be continually evaluated and tested to increase the effectiveness of such programs.

Classroom Practices and Subject Knowledge

The areas of classroom and professional practices can be significantly influenced by the process of mentoring. Kochan and Trimble (2000) wrote that the "mentoring/co-mentoring relationships that are open and trusting can enhance the development of personal and professional collaborative work skills." (p. 27) Evertson and Smithey (2000) conducted a qualitative study to explore the effects of mentoring on the classroom behavior of protégés. The study involved two school districts in a large midwestern state. The two districts received funding for developing and evaluating a mentoring program for entry-level teachers. In the first district, 21 schools of various levels participated in the study. The second consisted of 14 participating schools. Evertson and Smithey served as consultants for mentoring workshops, conducted follow-up sessions with the mentors, and led training of those gathering data.

Teachers in the two districts were paired with new teachers to serve as mentors. Before the school year started, all of the protégés participated in workshops on effective classroom practice. The workshops covered issues such as effective classroom management, classroom organization, and establishment of rules and routines. The mentors were divided into two separate groups. One group attended a separate, four-day workshop and then attended follow-up meetings throughout the year. The other group did not receive any further assistance or orientation to the mentoring process.

Evertson and Smithey's (2000) study showed that new teachers involved with mentoring programs could organize and manage instruction more effectively at the beginning of the first year over the beginning teachers who were not involved in mentoring programs. The first-year teachers in the Evertson and Smithey study were also able to establish routines more easily than the first-year teachers who did not have the opportunity to be mentored. Additionally, the study

found that the students under these protégés had better classroom behavior, and students were engaged in learning more readily.

Boreen and Niday (2000) studied mentors and their influence on teaching theories and practices of novice teachers. To conduct the study, 60 novice teachers of a variety of levels of instruction and subjects were paired with veteran teacher mentors and peer mentors for an entire semester. Through interchanges of e-mail and other types of correspondence, a culture was created in which new teachers could frequently converse with their mentors. Of the 60 participants who began the study, only 3 did not complete the study. Data consisted of photocopies of the participants' e-mails, reflections on the project, notes taken during conferences, comments about the e-mail correspondence, and comments made by the mentors concerning phone, e-mail, and face-to-face interchanges. The data were compiled for qualitative data analysis.

Boreen and Niday (2000) found that mentoring provided new teachers with information and opportunities from their peers that would not have been available otherwise. In this study, the novice teachers were able to learn of new innovative ideas and websites, and to gain valuable information on teaching and learning. The findings indicated that this information would not have been available without the mentoring time allowed to these first-year teachers.

Studies on mentoring have also indicated that support to novice teachers is more effective when that support is ongoing. Jones and Lowe (1990) found that effective growth and development resulted primarily from ongoing support. Jones and Lowe wrote that development activities must include time to investigate questions and new situations, must include time to practice new techniques and strategies, and must allow new teachers time to plan new ideas to accommodate differences and individualized goals for students.

Ballantyne and Hansford (1995) conducted a qualitative study to examine the processes and outcomes of mentoring within a sample of 16 participants in Queensland Catholic primary schools. The roles and functions undertaken by mentor teachers were examined and evaluated for an entire school year in relation to the changing concerns, needs and expectations of beginning teachers, and issues involved in the development of mentoring relationships over the course of the first year of teaching. Ballantyne and Hansford found that mentoring was critical in addressing four major factors involving novice teachers: personal support, task-related assistance and advice, critical reflection, and feedback on practice. The participants in the Ballantyne and Hansford study believed that these four factors contributed to the success of the novice teachers, and these factors were critical in helping the newcomers in the beginning, and throughout the entire school year as the novice teachers' needs changed.

Harnish and Wild (1994) also gave insight into the aspect of critical reflection and feedback on practices that mentors can provide for beginning teachers. Harnish and Wild pointed out that change would more likely occur when it was influenced by peers. In their qualitative study of peer mentor projects within a college peer mentoring program, Harnish and Wild found that change "requires a catalyst and peer mentoring can be the catalyst to the individual" (p. 200). Collier (1999) stated that the presence of critical reflection time can be an important element in the daily teaching habits of new teachers as "they may be more likely to assimilate their understanding into the process of teaching" (p. 179).

Giebelhaus and Bowman (2002) conducted a study that questioned the value of mentoring in the lives of novice teachers. Using quantitative research methods, Giebelhaus and Bowman studied two groups of undergraduate students participating in a teacher preparation program. The 29 participants consisted of 8 men and 21 women who were seeking certification

in a variety of subject-matter areas at the elementary, middle, and high school levels. Giebelhaus and Bowman (2002) found that "prospective teachers who collaborate with cooperating teachers who have been trained, using a common framework for discussion, demonstrate more complete and effective planning, more effective classroom instruction, and greater reflectivity on practice" (p. 250).

A study by Smith (2001) sought to understand the effect of mentoring on the development of subject knowledge among physical education teachers. The study found that the disposition of novice teachers directly affected the acquisition of subject-matter knowledge. This disposition was influenced by mentor teachers, which, in turn, directly affected the acquisition of subject knowledge in physical education. In addition to the growth of subject knowledge, Hayes (2001) demonstrated that mentoring may have significant effects on the achievements of novice teachers, as well as their teaching and future professional development.

As these studies have indicated, mentoring addresses a number of issues faced by novice teachers, and may provide needed support in the areas of classroom instruction and subject knowledge. Since these studies were all conducted using traditional face-to-face mentoring, one may begin to question the possibility of providing the same positive results in the areas of classroom instruction and subject matter knowledge through the use of electronic mail for mentoring.

Perceptions and Beliefs

Yost (2002) found that mentoring can enhance teacher efficacy. Bandura (1977) defined efficacy as intellectual activity by which one forges one's beliefs about his or her ability to achieve a certain level of accomplishment. Teacher efficacy has been found to have a direct link to the manner in which students perform in the classroom (Dembo & Gibson, 1985; Woolfolk &

Hoy, 1990). Smylie (1986) also found that if teachers had confidence in their own abilities to control their classroom, they generally provided a learning environment with beneficial learning practices, and they were more likely to adopt and to implement classroom strategies. These studies coincided with Yost's findings to demonstrate the effectiveness of mentoring on the confidence and self-efficacy of novice teachers entering the field, which can significantly affect their students as well.

Mentoring has also been used to develop new teachers' perceptions and beliefs of the physical and social environment of schools. Bodycott, Walker, and Lee Chi Kin (2001) found that the beliefs on the physical and social environment held by new teachers entering the field can significantly influence their success in schools. Weiss (1999) conducted a study on the school environment and how it may affect the dedication and willingness of novice teachers to perform duties. Weiss' study was based on data from surveys from the years 1987-1988 and 1993-1994.

The sample for Weiss' (1999) study consisted of 2,676 entry-level teachers in elementary, middle, and high school settings. Using qualitative analysis, Weiss found that mentoring was an effective method of dispelling any misconceptions or myths held by new teachers as they entered the profession. Weiss' findings indicated that mentoring actually helped to acknowledge the uniqueness and importance of one's own environment. Additionally, Weiss found that by realizing the individual environment of the novice teacher, veteran teachers were able to respond more genuinely to the needs of the beginning teachers.

In her study of mentoring in the business world, Schlee (2000) concurred with the findings of Weiss (1999) concerning the importance of understanding individual situations. Schlee concluded:

> An added benefit of mentorships is the ability to tailor the relationship to the needs of the student. Some business students feel insecure about entering the world of business and need reassurance that business people can be kind and helpful. Other students may need help with their interviewing skills. Still others may need to learn how to network in the business community. No other career development program (internships, employer dinners, etc.) provides such flexibility and breadth of options to students. (p. 333)

Mullen (2001) described the effectiveness of mentoring on the preconceived ideas of teachers of children with disabilities. According to Mullen's study of a pre-service teacher of children with disabilities, special education teachers may experience significant fears and concerns prior to entering the classroom. Data were gathered from unstructured interviews and follow-up e-mail exchanges concerning pre-existing fears the interviewee experienced. Mullen's study found that mentoring intervention can provide opportunities for novice teachers to overcome these fears and concerns, and according to Mullen, increase teacher retention in the area of special education. The issues of retention, attrition, and teacher shortage are additional areas of concern which may be addressed by mentoring.

Mentoring may allow novice teachers to begin their teaching careers with a clear understanding of their environment, unhindered by preconceived notions or myths. Since this benefit may be provided by traditional face-to-face mentoring, the possibility exists that this benefit could be much greater through the use of electronic mail when pairing novice teachers with experienced teachers all over the world. The possibility of providing this support to beginning teachers everywhere merits further studies in all areas of mentoring through the use of electronic mail.

Prevention of Attrition, Burnout, and Shortage

In addition to giving teachers an effective beginning in their careers, mentoring has also been shown to help novice teachers avoid burnout in the first few years of teaching. Friedman

(1995) found that male teachers experienced burnout primarily as the result of the inattentiveness of students, while females experienced burnout primarily due to disrespect from students. Lack of respect was also a factor contributing to burnout among other faculty members. Mentoring allows the novice teacher time to consider these situations and to learn how to address them effectively.

Mills, Moore, and Keane (2001) conducted a qualitative study to determine which practices were most successful in retaining new teachers. To acquire this information, surveys were sent to 28 school districts in Michigan, of which 15 responded. Upon receiving surveys from the 15 responding districts from elementary, middle, and high school levels, the data were analyzed using qualitative data analysis methods. The findings of the Mills, et al. study demonstrated that mentoring addressed the issue of teachers shortage. Trust, communication, respect, cooperation, and understanding were key elements provided by mentoring which were reported to help keep novice teachers in the field, helping to prevent shortage of teachers. The findings also indicated that mentoring addressed the issue of teacher shortage most effectively where careful selection of mentor-protégé pairs occurred. Additionally, the concept of finding the best match for protégés was more effective where roles were understood by mentors and effective mentoring practices were incorporated.

As the Mills et al. (2001) study demonstrated, careful selection of mentoring partners is a critical element in successful mentoring programs. Through the use of electronic mail, the process of effective mentoring partners selection could become more easily achieved due to the availability of a significantly greater number of mentors in all subject matter areas. The possibility of accessing such a wide variety of mentoring participants demonstrates the significant need to conduct further studies on mentoring through the use of electronic mail.

Roles and Effective Practices in Mentoring

Many studies have contributed to the understanding of effective practices in mentoring new teachers. Heck and Wolcott (1997) helped to define the factors involved with successful completion of the probationary period of beginning teachers. According to their study, mentors must ensure that novice teachers experience increased socialization to gain increased preparation and readiness to teach once they are hired. Heck and Wolcott also reported a need for veteran teachers to provide an understanding of the environment and to provide the means for operating within that environment. Stanulis, Fallona, and Pearson (2002) also sought to discover critical elements for surviving the first year of teaching. Their findings suggested focusing on the role of the teacher and seeking involvement from universities in the initial year of teaching.

Using open-ended interviews, McNally and Martin (1998) conducted a qualitative study to provide clarification on the critical elements one should possess in becoming a mentor. The study was initiated by determining how mentors generally viewed the novice teacher's development. McNally and Martin also sought to explore the process of setting goals and the factors that influenced that process. Eight mentors were chosen representing six different discipline areas. The mentor teachers were interviewed in a semi-structured environment, and they were encouraged to discuss thoughts and perceptions about their roles as mentors. McNally and Martin found that a key element in effective mentoring was selecting mentors who possessed an array of teaching styles and strategies that could be presented and tested by the novice teachers.

Fairbanks, Freedman, and Freedman (2000) reported that effective mentors should be models of effective interpersonal skills to enhance relationships between teachers, students, and other professionals. Jones (2001) gave more specific directions in reporting that mentors should

be able to advise, train, establish partnerships, assess, and to establish friendships. Martin (1994) preceded these studies by finding that key elements to effective mentoring began with the selection of mentors. Subsequently, one must prepare mentors for varying tasks, establish mentor-mentee interaction, maintain one's mentoring roles throughout the entire process, and mentor in the context of the protégé's individual situation.

Bainer and Didham (1994) studied the dimensional structure of mentoring and support behaviors that were naturally developed in adults involved with mentoring programs. This quantitative study of 488 elementary teachers yielded 6 major factors of mentoring and support: mentoring, supporting, collaborating, career strategizing, supervising, and grounding. Beyene, Anglin, Sanchez, and Ballou (2002) studied the aspects of mentoring as well, but from the perspectives of the protégés. The study examined 133 participants from diverse backgrounds and 36 major areas of academic study. The purpose of the Beyene, et al. study was to present the "relational elements in mentoring relationships from the protégé's perspectives" (p. 91). Data were collected using a questionnaire which was developed "on key concepts identified from a review of the literature on mentoring" (p. 92).

The questions addressed the definition of mentoring, personal experiences, and perspectives on mentoring relationships. In reference to data analysis, Beyene et al. (2002) reported that, "the results are presented using simple descriptive statistics for quantitative items and using first-order thematic analysis for the open-ended qualitative data" (p. 91). The participants indicated that "key ingredients for successful mentor-protégé relationships were communication, trust, knowledge, connection (care), nurturance, mutual interest, open-mindedness, respect, and patience" (p. 97).

Allen, Russell, and Maetzke (1997) also examined mentoring from the perspectives of the protégés. The study "investigated several factors related to protégé's satisfaction with a formal peer mentoring program" (p. 488). Allen, et al. used surveys to examine the perspectives of 68 full-time students in a southeastern university, who were participating in a peer mentoring program. Quantitative methods were used to analyze the data gathered from the surveys. The key findings of their study indicated that mentoring should be an ongoing process consisting of "a series of developmental activities with different mentoring functions being of relative importance at different stages of development" (p. 498). The Allen et al. study also demonstrated that effective mentoring programs can directly affect the involvement of protégés in future mentoring programs, and Allen, et al. asserted "the results of this study also indicated that protégés' satisfaction with the current mentorship was positively related to his or her willingness to serve as a mentor to others in the future" (p. 500).

Cross (1995) found that mentors should not only support the newly qualified teachers (NQTs), but also the entire school should be available as a support network. Cross stated, "there must be a genuine positive response from within the school itself. From governors to main-scale teachers, all have a role to play in supporting the NQT and all must be prepared to give freely of themselves" (p. 41). Cross also stated that the school must be prepared to "support the NQT in terms of time and money" (p. 41), and there must be a "good match between mentor and mentee" (p. 41).

All of these studies have demonstrated that mentoring can significantly affect beginning teachers in countless ways during the early stages of their teaching careers. The common factor in these studies is that they were conducted in settings in which mentoring was achieved through face-to-face contact.

Mentoring Through the Use of Technology

The concept of using the Internet for the purpose of mentoring in education is still a relatively novel idea. The idea has existed in areas other than education, but very few research studies exist on electronic mentoring. One study discussed the need to conduct mentoring to improve the use of technology in the classroom (MacArthur et al., 1995).

One of the earliest instances of electronic mentoring outside the world of education was reported in 1998. The Occupational Outlook Quarterly (New Programs, 1998) reported on a program designed to offer electronic mentoring opportunities to women students of science, mathematics, and engineering. In this program, "students gain encouragement, guidance, access to professional networks, and advice from a mentor" (p. 41) through the ability to electronically interact with a variety of mentors. These women students were able to experience growth and to gain insight by communicating with mentors in various fields of industry.

Rao (1999) reported on software developments which could link children electronically to adult mentors of the Hewlett-Packard company. The article reported that "employees have mentored 4,000 students, from fifth grade to college, at hundreds of schools nationally and abroad" (p. 106). Wah (2000) followed by also discussing the idea of electronic mentoring. She reported that electronic mentoring could provide aspects that face-to-face mentoring cannot, such as the ability to correspond at any time desired, and the availability of anonymity if the participants choose to remain anonymous. Later, Knouse (2001) discussed the advantages of using the Internet for mentoring purposes and stated, "protégés can be coached by various mentors on job-related problems and participate in interpersonal activities" (p. 164).

One of the earliest reports of educational uses of online mentoring originated at the University of California at Berkeley (Electronic Mentoring, 1995). This project, called the

Electronic Mentoring, Teaching, and Information Resource Network, offered students of various subject areas the means to link with instructors around the globe. The program focused on "outreach services, transition assistance, peer advising, counseling and academic advising, computer skills enhancement, faculty mentorships, research experience, and graduate preparation" (p. 55).

Duff (2000) discussed an online mentoring program which linked students of Ursuline Academy to professional women. This program was designed to allow students the opportunity to learn about various careers and discuss issues that one may face in a particular career. She stated that the "growth of technology brings new opportunities for mentoring; the Internet can offer online tutoring, ask-an-expert coaching, and linking of students with successful professionals in careers of mutual interest" (p. 49).

Sanchez and Harris (1996) reported on the Electronic Emissary Project, which was designed to link teachers with subject-area experts, other teachers, and students for internet discussions concerning varying curriculum-based topics. O'Neill and Wagner (1996) discussed a project in which high school students could be directly linked to scientists for the purpose of mentoring and discussion. These articles reported on programs, but little research-based studies on electronic mentoring surfaced throughout the reports and program description during this time.

Research on Electronic Mentoring

In 1999, one of the first studies on electronic mentoring surfaced. Using the Electronic Emissary Project, a project founded in early 1993 to provide support to beginning teachers in various fields of instruction, Harris and Jones (1999) studied the message flow and function patterns of electronic mentoring between 10 teams of subject matter experts (SMEs), students,

and teachers of various schools, levels of instruction, and areas of concentration. The purpose of Harris and Jones' (1999) quantitative study was to better understand the electronic communications and "flow of messages exchanged in the context of curriculum-based projects" (p. 36).

The researchers logged and maintained all correspondence for later data analysis. These data were generated from the "electronic communications of 10 learning teams that corresponded during the 1993 spring semester as a part of the Electronic Emissary project" (p. 37). All messages sent among participants were copied and saved, and automatically forwarded to all other team members. Harris and Jones (1999) reported, "In this way, all messages, separated by team and ordered chronologically, were available for review and analysis by the researchers" (p. 37).

Two types of data were generated for this quantitative study. First, an automated program was used to maintain all mail correspondence and to separate the content of these e-mails into various categories. The program "yielded information on numbers of lines, words, and characters contained in each message" (p. 37). A second type of data was the flow types of the messages. Harris and Jones (1999) reported, "The most common message flow types were SME to teacher (24.4%) and teacher to SME (23.8%)" (p. 37). Other message flow types were divided into various miscellaneous categories (51.8%). In addition to this finding, they summarized by stating, "the SME's sent the most messages altogether, and their communications were generally longer than those sent by teachers and students" (p. 37). They also reported, "It appears that the SME's, overall, were communicating the most in these exchanges" (p. 37).

The Harris and Jones (1999) study found that the subject matter experts talked more online than protégés, although the inquiry of students was the focus of the interactions. The

results also demonstrated that the requesting aspect and the reporting aspect within the electronic correspondence followed very different frequency flow patterns. One finding of this study gave early insight into the possibility of using electronic mentoring between teachers. Harris and Jones (1999) reported, "the most common speech act observed involved reporting of information, especially personal and general information and ideas, opinions, and emotions" (p. 45). This statement may have been an early indication that electronic mentoring is a valuable method of sharing information among teachers in mentoring programs; however, with the absence of research-based knowledge on electronic mentoring, this statement only demonstrates a need to further investigate electronic mentoring as a feasible and effective method of providing support to novice teachers. Harris and Jones' study was seminal in nature as it was one of the first locatable studies that examined electronic mentoring within education.

Eisenman and Thornton (1999) conducted a qualitative study on an online program that offered support to teachers in their first year of teaching. Forty recent college graduates were contacted to participate in the study, of which 27 agreed. Through the use of surveys, the study sought "to determine what value they saw in coming together to form an electronic mentoring network" (p. 81). From these surveys, discussions on time management, dealing with parents, concerns, and curricular issues began to surface. The study served as a "need assessment to direct the development of a long range mentoring plan" (p. 82). Eisenman and Thornton reported, "there is less time for planning, reflection and dialogue about teaching and learning" (p. 82), and that "existing mentoring programs may not provide the types of support necessary to the continued professional development of the novice teacher" (p. 82). Eisenman and Thornton concluded by stating that the electronic mentoring program described in their study "provides the

necessary bridge between the new teachers' professional preparation and their lived experiences in the field" (p. 82).

Davis and Resta (2002) conducted a study to examine electronic mentoring to support novice teachers in their efforts to conduct action research projects. This qualitative study sought to determine how electronic collaboration, both synchronous and asynchronous, could aid novice teachers in continuing research projects during the first three years of teaching. This research idea was birthed as a result of "incorporating a classroom-based inquiry project into a beginning teacher graduate/induction program" (p. 102). The program, called the Teacher Fellows Program, "provides mentoring and support during the initial induction period of teaching" (p. 102). The participants in this program conducted inquiry projects and observed areas of their own "classroom instruction they would like to improve, an instructional innovation they wished to implement, or an area of their own instructional behavior they wanted to examine" (p. 102).

As the program developed, the Teacher Fellows Program faculty began to wonder how this support might be continued into the first years of teaching. This led to the establishment of online collaboration between the program graduates and the researchers. With the implementation of continued online support for the novice teachers graduating from this program, the researchers began to question the extent to which support could be offered using the Internet. As a result of this finding, the present study was developed.

In Davis and Resta's (2002) study, data were collected from e-mails, surveys, and follow-up interviews. The participants in the study consisted of the researchers, an assistant professor in the Teacher Fellows Program, and nine novice teachers. Since the Teacher Fellows Program helped teachers through their first-year of teaching, the Davis and Resta study sought to examine second and third-year teachers who had officially left the program after the first year of teaching.

The participants corresponded through the use of e-mail throughout the 12 weeks of this study. Each week, the participants discussed issues that were going well, concerns, challenges, and asked questions. Davis and Resta (2002) maintained all e-mail correspondences and used qualitative content analysis methods to categorize emerging themes.

The data suggested that electronic mentoring was an effective method of offering support to novice teachers. Davis and Resta (2002) stated, "the increased use of computer-mediated communication and collaboration is helping teacher educators overcome barriers such as time and place in their efforts to mentor and support novice teachers" (p. 101). The findings indicated that "scaffolding and sharing information were the means of assistance used most frequently during the online collaboration" (p. 106). One participant in the study stated, "My weekly collaboration became a weekly reflection. Sometimes when I thought my research was going horribly, sitting down and writing about it helped to make things seem not so bad" (107). The concept of reflection, as mentioned by the participant, seemed to support Schon's (1983) discussions of the benefits and necessity of reflection. Davis and Resta's study also presented further questions on the benefits of online mentoring in regard to reflection time offered by using the Internet for collaboration. This demonstrates the need to further examine this rapidly emerging method of supporting novice teachers.

Burgstahler and Cronheim (2001) conducted a study to examine electronic mentoring from the viewpoint of students with disabilities. They sought to compare peer to peer e-mail interactions with mentor-protégé interactions, and to explore "whether computer-mediated communication can be used to initiate and sustain peer-peer and mentor-protégé relationships and alleviate barriers to in-person communication faced by individuals with disabilities" (p. 59). To find the answers to these questions, the researchers chose the Disabilities, Opportunities,

Internetworking, and Technology (DO-IT) program at the University of Washington as a means of collecting data. This program "works to increase the successful participation of individuals with disabilities in postsecondary academic programs and careers through outreach programs to students with disabilities, disability awareness training, and information dissemination" (p. 62).

Burgstahler and Cronheim (2001) examined online collaboration and responses to surveys conducted within the program. The participants were protégés, peers, and mentors from the DO-IT program. Through the use of electronic mail, "scholars used computers, adaptive technology, and the Internet year-round to communicate with each other and with DO-IT Mentors as well as to access information resources" (p. 62). For this qualitative study, data were collected from the e-mail messages, written surveys, and focus group discussions of 49 participants, over 2 years. Each participant sent copies of all electronic correspondence to the researchers for qualitative coding. Burgstahler and Cronheim (2001) reported, "a total of 12,539 e-mail messages exchanged between 40 Scholars and 34 Mentors were collected over a period of two years" (65).

Burgstahler and Cronheim's study (2001) found that the electronic community is a "favorable environment in which to provide peer and mentor support for high school students with disabilities" (p. 59). The study also demonstrated that peer-to-peer online collaboration yields similar results to mentor-protégé online collaboration; however, peer-to-peer online mentoring can be more personal. Burgstahler and Cronheim reported that computer-mediated communication "can be used to sustain peer-peer and mentor-protégé relationships" (p. 70). Participants "reported positive experiences with using the Internet as a communication tool" (p. 70).

Burgstahler and Cronheim (2001) also reported that "electronic communication is not subject to the barriers to in-person and telephone communication imposed by time and schedule conflicts and physical distances" (p. 70). The participants in Burgstahler and Cronheim's study reported that overall they "consider benefits of electronic mail over other types of communication to include the ability to communicate over great distances easily, conveniently, quickly, inexpensively, and without the need to synchronize schedules" (p. 70). Burgstahler and Cronheim recommended that "practitioners and parents should consider using the Internet as a vehicle for developing and supporting peer and mentor relationships" (p. 72).

The findings of the Burstahler and Cronheim (2001) study suggested that electronic mentoring may provide a means of support which could eliminate some barriers existing in traditional face-to-face mentoring. In addition to this idea, when conducted asynchronously, online mentoring may eliminate the stress of keeping meeting schedules, and may allow novice teachers to discuss issues with experienced teachers anywhere in the world. These concepts demonstrate a substantial need to conduct further research on online mentoring to learn if these benefits exist where electronic mentoring is used between first-year teachers and their mentors.

Allen and Slutsky (2003) conducted a study which examined the cognitive benefits and community-building capacity of using electronic mailing lists in an undergraduate college course. This study was initiated from the belief held by the researchers that since college students use computers frequently, educators should take advantage of the opportunity to use computers to enhance student learning. The study sought to learn the benefits of online collaboration in reference to students' cognitive processes, based on Bloom's Taxonomy (Bloom, 1960), and the ability to establish learning communities. An electronic mailing list was

established to allow students the opportunity to correspond with other members without the hassle of arranging meetings times.

The participants for the Allen and Slutsky (2003) study were students working toward degrees and certification in Early Childhood Education. The students participated in the study during three semesters of coursework. The participants, all females, ranged from ages 20 to 40. The researchers reported that the participants "began to feel more comfortable with one another" (p. 2) and that the "electronic mailing list began to get more and more use" (p. 2). Allen and Slutsky reported, "After examining the quality of the electronic mailing list communication that was being exchanged, it became clear that the students were using the electronic list for thinking at a variety of levels" (p. 2).

Allen and Slutsky (2003) used qualitative analysis methods and the cognitive content analysis based on Bloom's taxonomy (1979) to assess the content of the online collaboration and to "identify the cognitive content of each message" (p. 5). The findings of Allen and Slutsky's study suggested that "the electronic mailing list is a powerful tool that can be used in a variety of cognitive ways" (p. 9). Allen and Slutsky also reported that, "the electronic mailing list is a cognitive tool, in that it enables students to present thoughts and ideas at a variety of cognitive levels and for a variety of reasons" (p. 9). Allen and Slutsky's study demonstrates the need to further examine online mentoring among first-year teachers and their mentors to learn of the possibility of causing protégés to think at a variety of levels concerning their own classroom practices and strategies.

Electronic Mentoring Between Teachers

Electronic mentoring is a growing concept, as the literature has demonstrated; however, very little is known about this process where it is used between teachers. One of the earliest

writings of this type of mentoring emerged in 2002 when Bierema and Merriam reported that electronic mentoring programs between teachers are "mutually beneficial" (p. 211) for participants. To distinguish electronic mentoring from traditional methods of mentoring, Bierema and Merriam wrote that "e-mentoring is distinguished from face-to-face mentoring because of its boundaryless configuration and the egalitarian nature of the exchange" (p. 211).

Borja (2002) discussed the establishment of an asynchronous electronic mentoring database in an Illinois school district which allowed novice teachers the opportunity to gain insight and to seek advice from veteran teachers across the region. This program began to grow immediately following its development. Borja stated that "within 24 hours of this posting, the novice got one reply from a fellow teacher, then three more from others the next day" (p. 12), thus demonstrating the possibility of receiving a wealth of advice by asynchronously posting issues and questions on the Internet.

Walker (2002) discussed the use of electronic mailing lists to reach out to preservice teachers. She discussed the importance of providing "preservice teachers with frequent opportunities to interact with others and actively seek assistance" (p. 139). Walker stated that by participating in online environments, preservice teachers become comfortable with interacting with other teachers. Additionally, Walker found that veteran educators have the opportunity to encourage novice teachers and to help facilitate their growth and development as teachers through the use of technology.

Harris (2002) reported on various electronic mentoring programs that had been developed by this time. In reference to education, she stated that:

> When a direct and interactive response from someone very knowledgeable in a particular subject area is needed, and when a student's curiosity is piqued strongly enough to sustain multiple interactions with a communicative subject matter expert, telementoring relationships should be pursued. (p. 53)

Overbaugh (2002) followed by discussing electronic mentoring as an asynchronous means of advising students. He mentioned that "the instructor can distribute questions about a reading or clarify an assignment by posting the message to the list, which, in turn, distributes the messages to every subscriber" (p. 117).

Milloy (2003) described a program in which faculty members of the Jefferson County (Kentucky) school district were electronically linked with education students at Indiana University Southeast. These students were also given the opportunity to provide language arts advice to seventh-grade students in Louisville. The program supported interaction between the preservice teachers and students before beginning their careers. Field (2003) also discussed many electronic mentoring programs which link students to members of various careers of interest to the students.

Price and Chen (2003) described advantages provided by electronic mentoring. On electronic mentoring, they stated "unbounded by time and location, telementoring provides a forum for collaboration and collegiality between primary stakeholders in teacher preparation" (p. 105). Sinclair (2003) discussed this collaboration in the aspect of personal interaction, and she suggested that online mentoring be used only to enhance face-to-face mentoring, rather than replace it. However, the concept of using electronic mentoring as an enhancement was only written as opinion, rather than as a statement based on research data. Martin and Robertson (2003) discussed online mentoring as an enhancement to induction programs designed for first-time school principals, and they reported that in New Zealand, the specific program only used electronic mentoring as a supplement to peer coaching, residential courses, in-school support, and mentoring programs.

Hobbs, Day, and Russo (2002) summarized the current status of online mentoring programs, and their benefit to novice teachers. Upon studying electronic mentoring specifically as it related to Special Education teachers, they reported that many questions still exist in regard to this type of mentoring. Hobbs et al. (2002) added:

> The need for mentoring and retention of new Special Educators, and the critical shortage engendered by the high rate of their attrition, requires that all avenues of potential support, including non-traditional venues such as virtual team processes, be explored and maximized. (p. 358)

This statement supports the need to further examine electronic mentoring for novice teachers in all fields of instruction. If online mentoring is found to be beneficial to beginning teachers, it could be a process which is very easily established, yet provides lasting results.

Currently, electronic mentoring is a rapidly emerging idea in the field of mentoring and support of new teachers; however, a substantial amount of data is lacking to provide insight into the benefits, issues, and possible shortcomings of mentoring through the use of electronic mail. Bierema and Merriam (2002) reported the possibility of providing "mutually beneficial" (p. 211) support, which is able to cross boundaries established by face-to-face mentoring, and Borja (2002) discussed the ability provided by electronic mentoring to quickly obtain asynchronous advice through the use of the Internet. Other articles have demonstrated the possibility of providing online instruction (Overbaugh, 2002), resources (Price & Chen, 2003), advice (Harris, 2002), and insight into the nature of students (Milloy, 2003) as the result of using electronic mail for mentoring. All of the ideas demonstrate the need to conduct further studies on this rapidly emerging idea of electronic mentoring.

Chapter Summary

Studies have demonstrated the effectiveness and benefits of mentoring for beginning teachers (Evertson & Smithey, 2000; Yost, 2002). With statistics showing that between 20 and

50% of teachers are leaving the profession within the first few years of teaching (NCES, 2000), one may assert that there is a substantial need to further develop mentoring programs. As Hobson (2002) pointed out, mentoring has become a critical aspect of induction programs. Holloway (2002) demonstrated that systematic mentoring provided numerous benefits for novice teachers. Additionally, mentoring can enhance the classroom practices and subject matter knowledge of novice teachers (Evertson & Smithey, 2000). Evertson and Smithey's study showed that new teachers involved with mentoring programs could organize and manage instruction more effectively at the beginning of the first year over the beginning teachers who were not involved in mentoring programs.

Boreen and Niday (2000) found that mentoring provides resources and information which are not easily found by novice teachers outside of mentoring programs. Studies on mentoring have also indicated that support to novice teachers is more effective when that support is ongoing (Allen et al., 1997; Jones & Lowe, 1990). Giebelhaus and Bowman (2002) found that mentoring results in more effective planning by novice teachers, more effective classroom instruction, and improved reflectivity. Ballantyne and Hansford (1995) demonstrated that personal support, task-related assistance, advice, critical reflection, and feedback on practice were critical elements of effective mentoring programs.

Harnish and Wild (1994) pointed out the necessity of using peers to achieve the benefits of mentoring, reporting that peers can be the catalyst for change in many novice teachers. Yost (2002) found that peer influence and mentoring can enhance teacher efficacy. In addition to addressing self-efficacy, Mullen (2001) found that mentoring intervention can provide opportunities for novice teachers to overcome fears and concerns before entering the classroom, and according to Mullen, increase teacher retention in the area of special education. Mills et al.

(2001) listed the critical elements of teacher retention as trust, communication, respect, cooperation, and understanding, and they discussed the availability of these elements through mentoring.

Fairbanks, Freedman, and Freedman (2000) summarized that mentors should be models of effective interpersonal skills to enhance relationships between teachers, students, and other professionals. Martin (1994) preceded these studies by finding that key elements to effective mentoring begin with careful selection of mentors. Bainer and Didham (1994) reported six major factors of mentoring and support: mentoring, supporting, collaborating, career strategizing, supervising, and grounding. All of these studies demonstrated the numerous benefits that can be provided through mentoring novice teachers. Much is known about the results of mentoring when the process is done through face-to-face contact; however, mentoring through the use of electronic mail is still a relatively new concept in education, and its effectiveness when used between first-year teachers and their mentors is virtually unknown.

Wah (2000) wrote that electronic mentoring could provide aspects that face-to-face mentoring cannot, such as the ability to correspond at any time desired, and the availability of anonymity if the participants choose to remain anonymous. Duff (2000) discussed an online mentoring program which linked students of Ursuline Academy to professional women for career guidance. Eisenman and Thornton (1999) found that the electronic mentoring program described in their study "provides the necessary bridge between the new teachers' professional preparation and their lived experiences in the field" (p. 82). Davis and Resta (2002) stated that "the increased use of computer-mediated communication and collaboration is helping teacher educators overcome barriers such as time and place in their efforts to mentor and support novice teachers" (p. 101).

Burgstahler and Cronheim's (2001) study found that the electronic community is a "favorable environment in which to provide peer and mentor support for high school students with disabilities" (p. 59). Allen and Slutsky's (2003) study demonstrated the need to further examine online mentoring among first-year teachers and their mentors to examine the possibility of promoting protégés to think at a variety of levels concerning their own classroom practices and strategies. In 2002, Bierema and Merriam reported that electronic mentoring programs between teachers are "mutually beneficial" (p. 211) for participants. To distinguish electronic mentoring from traditional methods of mentoring, Bierema and Merriam wrote that "e-mentoring is distinguished from face-to-face mentoring because of its boundaryless configuration and the egalitarian nature of the exchange" (p. 211). Walker (2002) stated that by participating in online environments, preservice teachers became comfortable with interacting with other teachers. Martin and Robertson (2003) discussed online mentoring as an enhancement to induction programs designed for first-time school principals.

Electronic mentoring is a rapidly emerging idea in the field of mentoring and support of new teachers; however, a substantial amount of data is lacking to provide insight into the benefits, issues, and possible shortcomings of mentoring through the use of electronic mail. In this chapter, the discussion of using the internet for the purposes of mentoring has demonstrated that very few studies exist on the topic of online mentoring. Of the research studies that do exist on using the internet for mentoring beginning teachers, none have examined the perspectives of teachers who have participated in mentoring through the use of electronic mail. By examining the perspectives of teachers in this manner, more information will be available on the extent of implementation of online mentoring programs.

CHAPTER 3

RESEARCH DESIGN AND METHODS

The purpose of this study was to examine the perspectives of three first-year teachers and their mentors to gain insight on mentoring through the use of electronic mail. The study was developed after an extensive review of the literature revealed that mentoring had not yet been extensively tested using electronic mail as a tool to promote communication between beginning teachers and their mentors. The review of the literature on mentoring new teachers revealed that mentoring online is still a relatively novel idea; however, the idea of using the Internet to mentor in other contexts has already surfaced (business and industry, K-12 students, pre-service teacher and administrative programs).

O'Neill and Wagner (1996) wrote of a program which linked high school students to scientists. Rao (1999) discussed efforts being taken to develop software to provide online mentoring between adults and children. Duff (2000) outlined an online mentoring program which allowed students at the Ursuline Academy of Dallas, Texas to communicate with professional women on issues concerning the business world. In 2003, Field wrote of a program in which middle school girls could be electronically linked to women in many different occupations.

In more recent years, the idea of using the Internet to mentor protégés has gained interest in the field of education, and many have begun to consider its place in PreK-12 school settings. As Adams (1999) reported, some previous electronic mentoring programs have involved students in schools of various levels, but no studies have emerged that have examined the perspectives of teachers (both beginning and veteran) concerning the process of mentoring through the use of

electronic mail in educational settings. Borja (2002) outlined a program in Illinois which provided online help to new teachers. This help was available from other new teachers, master teachers, doctoral students, and college professors. In the article, the author speculated that this idea would develop and other programs would be implemented over the following years. Borja stated:

> E-mentoring, also called telementoring, is just starting to catch on in K-12 education. Today, only a few venues offer online teacher-mentoring, but experts predict that in a few years, new teachers across the country will be able to access local or regional teacher databases. (p. 13)

Davis and Resta presented a study which investigated the influence of e-mail on novice teachers in their efforts to conduct action research projects (2002). Burgstahler and Cronheim conducted a study to determine if computer-mediated communication could be used to sustain mentoring relationships between mentors and protégés (2001). Their study also sought to compare face-to-face mentoring with online mentoring. Milloy (2003) wrote of a program which linked preservice teachers at Indiana University Southeast with middle school language arts students of the Jefferson County, Kentucky school district. This program offered preservice teachers an opportunity to receive valuable interaction with students before beginning their teaching careers.

These studies and articles are only part of the evidence demonstrating the rise of electronic mentoring in education. Mentoring preservice and first-year teachers using the Internet is an emerging concept, but there is still much to learn about the process. One may assert that teachers who have participated in the process of electronic mentoring could possibly offer a wealth of information based on their experiences in the field. Based on this assumption and the lack of literature on using the internet to mentor novice teachers, the perspectives of teachers who have used electronic mentoring are still unknown. This study was developed to

examine the perspectives of three first-year teachers and their mentors to gain insight on mentoring through the use of electronic mail.

Symbolic Interactionism

This study was based on the theoretical perspective of symbolic interactionism (Blumer, 1969; Charon, 1992; Meltzer, 1975) to learn the perspectives of three first-year teachers and their mentors who had used electronic mail as a tool for mentoring beginning teachers. These perspectives would be based on the interactions occurring between the beginning teachers and their mentors using electronic mail as a tool. The originator of this perspective, Herbert Blumer (1969), described symbolic interactionism in this way:

> The term "symbolic interactionism" refers to the peculiar and distinctive character of interaction as it takes place between human beings. The peculiarity consists in the fact that human beings interpret or "define" each other's actions instead of merely reacting to each other's actions. Their "response" is not made directly to the actions of one another but instead is based on the meaning which they attach to such actions. Thus, human interaction is mediated by the use of symbols, by interpretation, or by ascertaining the meanings of one another's actions. This mediation is equivalent to inserting a process of interpretation between stimulus and response in the case of human behavior. (p. 78)

Blumer (1969) also wrote that "symbolic interactionism is seen as a social product, formed in and through activities of people as they interact" (p. 2).

In its early stages of development, symbolic interactionism had its varying schools of thought. Manis and Meltzer (1967) categorized these views as the Chicago and the Iowa varieties of the perspective. These two categories were separated primarily by differences in methodology; however, the goals and intents of the perspective remained virtually the same. Although symbolic interactionism had its varying schools of thought, Meltzer (1975) stated that one of its foundational constructs is based on the examination of "the meaning element in everyday activities" (p. 53). Charon (1992) wrote that symbolic interactionism "focuses on the nature of social interaction, the dynamic social activities taking place among persons" (p. 23).

Charon (1992) further discussed symbolic interactionism by describing the need to understand one's self, and one's role in interaction with others. He stated that the self is simply "something that the individual acts toward" (p. 88). This idea gives foundation to the purpose of this study. The examination of the participating teachers' perspectives concerning mentoring through the use of electronic mail could reveal the benefits or negative aspects of this type of mentoring from the viewpoint of one's self. The researcher believed that by choosing this theoretical perspective, the participants were more likely to discuss the interaction that took place as it related to themselves, and the personal feelings they had concerning that interaction, based on Charon's (1992) idea that "actions toward self are central to our understanding of all situations" (p. 87).

In his discussion of interaction and its role within symbolic interactionism, Charon (1992) stated:

> Symbolic interactionism is a perspective in social psychology that is especially relevant to the concerns of sociology. Four ideas summarize this whole perspective. First, instead of focusing on the individual and his or her personality characteristics, or on how the social structure or social situation causes individual behavior, symbolic interactionism focuses on the nature of the social interaction, the dynamic social activities taking place among persons. (p. 23)

By examining the perspectives of teachers who have participated in electronic mentoring, one could assert that insight would be given into the nature of the interactions that took place online, which is different from the traditional paradigm of mentoring that occurs face-to-face.

Charon (1992) also discussed how human beings and society experience constant change. As a result, it was necessary to examine the human side of interaction since society changes through the process of interaction itself. Charon explained this by saying:

> In focusing on the interaction itself as the unit of study, the symbolic interactionist creates a more active image of the human being and rejects the image of the passive, determined organism. Individuals interact; societies are made up of interacting

> individuals. People are constantly undergoing change in interaction, and society is changing through interaction. Interaction means human beings act in relation to one another, they take one another's acts into account as they act. (p. 23)

From the aspect of symbolic interactionism, Charon's idea that "people are constantly undergoing change" (p. 23) could demonstrate the need for this study, as it becomes necessary to further test mentoring due its development in recent years. Electronic mail, as a tool for mentoring, required further testing based on the lack of literature on the subject. The perspectives of teachers on the topic of mentoring through the use of electronic mail could provide insight into the progression of mentoring with a new tool, and the progression of mentoring interaction as well.

It is important to examine the perspectives of the first-year teachers and their mentors so that electronic mentoring may also be understood from the standpoint of the human interaction. Since mentoring may sometimes have direct effects on the internal feelings of the individual, such as uncertainty (Stanulis, Fallona, & Pearson, 2002), or confidence and self-esteem (Hayes, 2001), it becomes necessary to understand how this type of interaction using electronic mail affects those involved. Meltzer (1975) believed that the behavior of people is influenced not by instincts or external social stimuli, but by "a reflective and socially derived interpretation of the internal and external stimuli that are present" (p. 2). Since this study was based on the perspectives of teachers on the process of mentoring through the use of electronic mail, the approach of symbolic interactionism was chosen as the method of learning about the interaction that occurred from the viewpoint of the first-year teachers and their mentors.

Symbolic interactionism was chosen as the best theoretical perspective for this study due to its focus on the human side of interaction and its call for reflection on the stimuli in the internal and external environment. This approach provided the best frame of reference for understanding the perspectives of the participating first-year teachers and their mentors who had

taken part in mentoring using electronic mail. A theoretical approach, which focused on the elements of human interaction, reflection, and the stimuli of the electronic mentoring environment, were key to providing a clear understanding of the perspectives of the teachers involved with this study.

Research Questions

This study was developed to examine the perspectives of three first-year teachers and the mentors to gain insight on mentoring through the use of electronic mail. An extensive review of the literature showed that the idea of mentoring using electronic mail is now being considered by some in educational settings. The results of this study can be used by administrators to determine the extent of implementation of electronic mentoring in individual school settings. As the availability of electronic mail is rapidly increasing, the perspectives of teachers on the process of electronic mentoring may aid school administrators in establishing effective mentoring programs in their individual schools. To learn the perspectives of the three first-year teachers and their mentors on the process of electronic mentoring, the following research questions were used for this study:

1. What are the perspectives of first-year teachers and their mentors concerning mentoring through the use of electronic mail?
2. What problems or issues might one experience while using electronic mail for the mentoring process?

Rationale for Qualitative Methods

To learn the perspectives of the three first-year teachers and their mentors who have participated in mentoring through the use of electronic mail, a qualitative research approach was used. Demarrais (1998) wrote that "scholars have turned to qualitative methods to better

understand human behaviors, communications, perceptions, and motivations" (p. ix). The review of the literature revealed a lack of knowledge concerning these aspects where electronic mentoring was used. This approach was chosen due to the possibility of discussing electronic mentoring on an informal level, and gaining insight into the perspectives of the participating teachers on a more formal level through an organized study.

One valuable aspect of qualitative research is the use of interviewing for gathering data. Kvale (1996) wrote that "the qualitative research interview attempts to understand the world from the subjects' point of view, to unfold the meaning of peoples' experiences" (p. 1). With this in mind, interviewing was used in this study to gather data in an informal manner on the perspectives of first-year teachers and their mentors concerning telementoring. These informal interviews offered the opportunity to examine the participants' perspectives through conversation, without any restrictions or limitations on what was shared by the participating teachers.

Kvale (1996) also wrote that there were "few prestructured or standardized procedures for conducting these forms of interview" (p. 13). He stated that informal interviews "invoke different forms of interaction that produce different kinds of knowledge" (p. 19). The qualitative approach was selected for this study to gain knowledge through the conversational interaction of the informal interviews with three mentors and the three beginning teachers with whom they worked.

Design of the Study

A case study approach was selected to examine the perspectives of three first-year teachers and their mentors to gain insight on mentoring through the use of electronic mail. Where multiple data sources exist, case studies, due to the reliance on interviews, provide details

from the viewpoints of the participants, and give insight into their perspectives as they related to the interaction occurring in the study (Tellis, 1997). This approach was also selected due to its structure as a triangulated research strategy, which addresses the ethics of ensuring validity in research processes (Yin, 1984).

Yin (1984) described four applications for effective case study research:

1. To explain complex causal links in real-life interventions
2. To describe the real-life context in which the intervention has occurred
3. To describe the intervention itself
4. To explore those situations in which the intervention being evaluated has no clear set of outcomes

These four elements strongly related to the knowledge being sought in this study. By learning the perspectives of first-year teachers and their mentors concerning mentoring through the use of electronic mail, one may assert that there existed an increased possibility of learning more about the processes involved in mentoring through the use of electronic mail.

For this study, three first-year teachers and their mentors were selected from a Georgia middle school, Center Middle School (pseudonym). Interviews served as the primary source of data in this case study. The researcher conducted two interviews with each of the participating teachers. The interviews focused on the perspectives regarding the use of electronic mail for mentoring. At the end of the study, one focus group interview was conducted to gain the perspectives of the group of teachers as a whole. These interviews were transcribed to be used later in data analysis. The researcher wrote fieldnotes throughout all of the interviews.

The participating teachers corresponded throughout the study using electronic mail. All e-mail correspondence was printed and kept for later data analysis. Journals of the participating

teachers were collected to be used in data analysis as well. These five data sources: electronic mail correspondence, interview fieldnotes, interview transcriptions, journals kept by all participating teachers, and the focus group transcription, all served as sources to compile findings on the perspectives of the first-year teachers and their mentors to gain insight on mentoring through the use of electronic mail.

The existence of multiple data sources within this study served as a method of triangulation (Stake, 1995; Yin, 1984). The five data sources were compiled. The constant comparative method of data analysis directed the researcher in recognizing emerging themes and trends within the various sources of data. The themes and findings emerging from the constant comparative method were compiled, summarized, and then reported.

Data Sources

To acquire as much insight as possible on the perspectives of the teachers participating in this study, data from open-ended interactions were sought. Data for this study emerged from five major sources:

1. All electronic mail (e-mails) correspondence between the first-year teachers and their mentors.
2. Fieldnotes from individual interviews with participants, and from the focus group interview conducted with all participants at the conclusion of the study.
3. Interview transcriptions from all interviews conducted throughout the study.
4. Journals kept by all teachers participating in the study. In these journals, the teachers recorded issues they faced, feelings, and perspectives on the process of electronic mentoring.

5. Transcriptions from a single audio-recorded focus group meeting at the conclusion of the study.

Electronic mails (s) were used to gather information on a continual basis throughout the study. E-mails were sent by the researcher at a minimum of once per week. The purpose of these e-mails was to ask questions pertaining to the process of electronic mentoring and to provide an opportunity for the participating teachers to express their issues, concerns, and general perspectives on using the internet as the primary mentoring tool. All e-mails were printed and stored by the researcher to be used in later data analysis. The e-mails were then stored on disks as backups in case of system crashes, and they were printed for use in data analysis.

Fieldnotes from interviews were also used as a data source for this study. Three interviews were conducted with each of the participating teachers during the course of the study. Additionally, a final interview was conducted with all of the participants together as a focus group interview. During these interviews, the researcher wrote fieldnotes on the ideas being presented by the participating teachers. These notes would also be used as cues for additional questions to be asked later if additional interviews were necessary. The fieldnotes also served as cues on the contexts of the conversations during data analyses conducted after the interviews were completed.

After completing all interviews for this study, the interviews were transcribed for analysis. The researcher sought to find themes and commonalities within the texts and to synchronize the perspectives from all of the participating teachers. As such, the constant comparative method of data analysis was used. While reading the data, the researcher began to

recognize emerging categories and developed preliminary codes, which were later collapsed into seven specific categories of perspectives.

Profile of the Participants

For this study, three first-year teachers and their mentors were chosen to participate in mentoring through the use of electronic mail. The participants all taught in a single Georgia middle school. The participating teachers were all directed by the school's Instructional Lead Teacher to correspond through the use of the Internet at a minimum of twice weekly. The researcher sent e-mails to the participants as necessary to stay informed of progress, offer encouragement, and to learn the status of data being generated by the participants. Journals documenting the perspectives of the participating teachers on using electronic mail for mentoring were kept.

Of the six participants in this study, all were caucasian, two were males, and four were females. The first participant chosen for the study was a first-year, male, eighth-grade science teacher. Having worked in law enforcement for several years, this novice teacher made the decision to change careers and to teach full-time. He was paired with an experienced science teacher with 17 years experience in teaching various subjects. The second first-year teacher chosen was a female, seventh-grade math teacher. She was paired with the Instructional Lead Teacher of the school. The Instructional Lead Teacher had 12 years of teaching experience in math, language arts, and reading.

The final first-year teacher chosen for this study was a female, sixth-grade science teacher. This participant had worked one year in middle school as a paraprofessional, and one year in elementary school as a student teacher and long-term substitute. She was paired with a male sixth-grade science teacher with 13 years experience in teaching science.

Data Sources and Selection Procedures

The participant selection process for this study was purposeful. Patton (1990) explained that the "logic and power of purposeful sampling lies in selecting information-rich cases for study" (p. 169), which will "illuminate the questions under study" (p. 169). Stainback and Stainback (1988) added that "the choice of participants is based on the researcher's perception of their ability to facilitate the expansion of the data base" (p. 30)

In the fall of the year in which this research study was conducted, three first-year teachers began working at the same school in which the researcher taught. Due to the convenience of the location, the researcher contacted the three first-year teachers and the mentors with whom they worked and explained the study purpose and procedures. All teachers agreed to participate in the study and to provide requested data to the researcher. The participants agreed to give two audio-taped interviews with the researcher, one focus-group interview, forward all e-mail correspondence to the researcher, review interview transcriptions provided by the researcher, and to maintain a journal documenting their perspectives of mentoring through the use of electronic mail.

The three first-year teachers and their mentors began corresponding using electronic mail in August of 2003. The Instructional Lead Teacher of the school had directed the mentoring pairings in the school to correspond using e-mail at a minimum of twice weekly. Their e-mails addressed a variety of issues ranging from meeting reminders to advice on personal decisions. The first mentoring pairing, Hannah and Kirsten, discussed personal and academic issues faced by Kirsten, while the second mentoring pairing, Jordan and Mitzi, only discussed procedural issues such as where to get textbooks and reminders for meeting times. The third mentoring

pairing, Leigh and Jeremy, primarily discussed grading procedures and lesson plans. Table 1 presents a sampling of the content of the e-mails sent by the participants of this study.

Table 1

Sampling of the Content of E-Mails Sent by the Study Participants

Study Participant	Content Sample
Kirsten	"Someone told the assistant principal that I used to play soccer and he has asked me to coach the girls' team. I need advice."
Hannah	"Coaching is complex in that you must work out game, practice, and do bus schedules, deal with parents, and still find time to do your regular work. Go with your heart."
Jordan	"I want to remind you that tomorrow (Thursday) we have a science curriculum meeting in my room at 2:15"
Mitzi	"Do you know when pictures will be taken on Friday?"
Leigh	"If you would like for me to, I'd be glad to look over your lesson plans to give you some feedback before you turn them in."
Jeremy	"I was pleasantly surprised with my quiz results. I had an 80% pass rate."

The e-mails sent by the participants were collected and analyzed by the researcher to discover their perspectives on mentoring through the use of electronic mail, and to learn of any issues that may arise while participating in electronic mentoring. Additionally, the e-mails provided assistance to the researcher in developing profiles of the individual participants and profiles of the relationships between the three mentoring pairings.

In addition to the e-mail correspondence collected by the researcher, the participants also wrote journal entries documenting their perspectives on using electronic mail for mentoring. The participating teachers were directed to write one journal entry per week and forward it to the researcher using e-mail. Although some of the journal entries were brief, they later provided confirmation and support to the teachers' perspectives offered during the two individual interviews, and the focus group interview with all of the participants. Table 2 presents a sampling of the content of the journal entries written by the three first-year teachers and their mentors.

Table 2

Sampling of the Journal Entries of the Study Participants

Study Participant	Content Sample
Kirsten	"I was really upset that some of the grades were so poor. I had to go talk Hannah in person so she could look at the tests."
Hannah	"As much as I sit in front of this computer, you'd think it would get easier to mentor Kirsten through e-mail, but it is actually more difficult."
Jordan	"The e-mail route saves time, and allows me to help Mitzi be aware of all the details a first-year teacher deals with."
Mitzi	"E-mentoring seems to take much more time, and I would never want to discuss serious issues on the Internet because it would just take too much time to type it."
Leigh	"It is convenient to answer questions that Jeremy might have immediately by responding through the e-mail."
Jeremy	"You might miss out on some things if the Internet causes you to cut down on face-to-face interactions."

An additional data source was provided through the interviews with the study participants. Each participant was interviewed twice by the researcher and then participated in a focus group interview, which was conducted at the end of the study. Throughout the interviews, the researcher asked open-ended questions which were designed to allow the participants to openly discuss electronic mentoring and to specifically address the research questions of this study. Table 3 provides a sampling of some of the questions asked by the researcher and the subject which they addressed.

Table 3

Sampling of the Questions Asked by the Researcher During Open-Ended Interviews

Topic	Question Asked by the Researcher
Profile of the Participant	"Could you tell me about your educational background?"
Profile of the Participant	"Would you mind telling me what led you to the teaching field?"
Perspectives on Electronic Mentoring	"Could you tell me your perspectives on using e-mail for mentoring?"
Issues that may arise in Electronic Mentoring	"Could you tell me about any issues you may have faced in using e-mail for mentoring?"

Before beginning the interviews, the researcher had designed the set of open-ended interview questions. As the interviews progressed, the researcher asked for further elaboration on various comments made by the participants to gain further insight into mentoring through the use of electronic mail. Each of the initial interviews lasted an average of one hour each. The second interviews with each of the participants lasted between 40 and 55 minutes.

The researcher also wrote fieldnotes throughout all of the interviews with the participating teachers. The fieldnotes contained short phrases and words which were written as the interviewees spoke. The researcher used the phrases and words as reminders to ask additional questions which may have provided further insight into the perspectives of the three first-year teachers and their mentors. The researcher also used the fieldnotes to remember facial expressions. By remembering certain facial expressions, the researcher could more clearly understand the content and strength of the statements made by the participants. Table 4 presents a sampling of the fieldnotes written by the researcher during the interviews.

Table 4

Sampling of the Fieldnotes Taken by the Researcher During Open-Ended Interviews

Study Participant	Fieldnotes Notations
Hannah	"Rem: ask K [Kirsten] about the "big bad boss" relationship"
Kirsten	"loves profession - face shows it"
Jordan	"face-jokes a lot" "looks happy with job"
Mitzi	"VERY busy!" "can't get it all done"
Leigh	"laughing - didn't want to teach in middle school"
Jeremy	"feels swamped! - face shows it, eyes wide"

Once all data were gathered, the researcher began to read through the data to become more familiar with the contents and to begin preparation for the data analysis phase of the study.

Data Analysis

To compile the findings of this study, the constant comparative method of data analysis was used. The method served as a tool to examine the perspectives of the first-year teachers and

their mentors, and as a way to test the themes occurring within the data. The constant comparative method was developed by Glaser and Strauss (1967). Glaser and Strauss (1967) described this method of analysis as one that allows the researcher to analyze data "more systematically" (p. 102) than previous methods. Additionally, Glaser and Strauss (1967) wrote that "the constant comparative method is concerned with generating and plausibly suggesting (but not provisionally testing) many categories, properties, and hypotheses about general problems" (p. 104).

Merriam (1988) describes this method as a "process whereby the data gradually evolve into a core of emerging theory" (p. 144). Merriam (1988) adds that "categories are derived by constantly comparing one incident or unit of information with another" (p. 142). Glaser and Strauss (1967) described the four components of the constant comparative method: comparing incidents applicable to each category, integrating categories and their properties, delimiting the theory, and writing the theory (p. 105). Stainback and Stainback's (1988) description of the constant comparative method stated that, "data from a number of cases are collected first and then categories, patterns, consistencies, and inconsistencies in the data are analyzed to build a pattern of relationships that evolve into a theory" (p. 41)

The researcher used the constant comparative method to analyze the data collected in this study. The data were compared constantly to recognize the emerging themes, and these emerging codes which would eventually lead to the development of themes, were sorted into various categories and subcategories. These categories and subcategories allowed the researcher to, based on Stainback and Stainback's (1988) outline, "discover basic patterns and relationships" (p. 41), and to "compare specific incidents in the data, refine the categories,

identify their properties, explore their relationships with one another, and integrate them into a coherent theory" (p. 42).

Data analysis began in January of 2004, at the conclusion of the study. After completing all interviews with the participating teachers, the interviews were transcribed to be used later in data analysis. All data sources were then compiled and the researcher began analyzing the data at the conclusion of the study. Initially, the researcher read the transcripts numerous times to become more familiar with the data and to begin to recognize general categories of perspectives offered by the participating teachers. The initial categories were very broad, and provided a starting point from which the researcher would later separate the participating teachers' perspectives into more specific subcategories. The researcher developed codes for each of the initial categories to provide for a quicker, more efficient way of separating the data. Table 5 presents a sampling of the initial codes of categories used by the researcher to sort the perspectives of the participating teachers.

Table 5

Sampling of Initial Codes Used for Categorizing Data

Code	Code Category/Meaning
P1M-J	Mentoring pairing 1 (P1)/Mentor speaking (M)/Discussed journaling (J)
P1M-D	Mentoring pairing 1 (P1)/Mentor speaking (M)/Discussed documentation
P1P-I	Mentoring pairing 1 (P1)/Protégé speaking (P)/Discussed issues addressed
P1P-F2F	Mentoring pairing 1 (P1)/Protégé speaking (P)/Discussed face-to-face mentoring
P2M-B	Mentoring pairing 2 (P2)/Mentor speaking (M)/Discussed benefits
P2M-MR	Mentoring pairing 2 (P2)/Mentor speaking (M)/Discussed mentoring relationship
P2M-C	Mentoring pairing 2 (P2)/Mentor speaking (M)/Discussed communication
P2P-TO	Mentoring pairing 2 (P2)/Protégé speaking (M)/Discussed tone
P2P-T	Mentoring pairing 2 (P2)/Protégé speaking (M)/Discussed time
P3M-R	Mentoring pairing 3 (P3)/Mentor speaking (M)/Discussed records
P3P-TI	Mentoring pairing 3 (P3)/Protégé speaking (P)/Discussed technical issues

Initially, each perspective was sorted into a very broad category. As the researcher further read and analyzed the data, the perspectives in each of the broad categories were

separated into more specific groups. The specific groups were based on the reasoning behind each perspective. One example of a broad category existed in the comments made by the participating teachers concerning face-to-face mentoring in comparison to electronic mentoring. Throughout the first few readings of the data, the researcher sorted all comments made about face-to-face mentoring into one broad category called *face-to-face*. As the researcher read further, the perspectives offered on face-to-face mentoring were sorted into various subcategories of face-to-face mentoring. Table 6 presents an example of how the researcher separated the perspectives of face-to-face mentoring into smaller, more specific subcategories.

Table 6

Sampling of Subcategories of Data

Face-to-face category	Subcategories	Perspectives
Face-to-Face Perspectives	Easier than electronic mentoring	"If I wanted to convey something deeper I would probably want to go talk to her in person. "
	Need physical proximity:	"She can see things and if I have a question on a test score I could go 'hey this is how this person did' and she can see the test and be able to point things out to me."
	Personal contact:	"They need somebody flesh and blood they can get to in those instances where 'forget it I'm just quitting teaching after this year or after today'."

Once the subcategories were developed, the researcher began to compare each data set with the other data sets. Through this process, the researcher was able to recognize the common themes that were addressed by some or all of the participants. Once the common themes were recognized, the researcher was able to develop three major propositions concerning mentoring through the use of electronic mail, and the issues that may arise while using electronic mentoring.

Trustworthiness

According to Patton (1980), an "investigator's commitment is to understand the world as it is, to be true to complexities and multiple perspectives as they emerge, and to be balanced in reporting both confirming and disconfirming evidence" (p. 55). Trustworthiness is an essential element of conducting research (Merriam, 1998), and according to Lincoln and Guba (1985), trustworthiness consists of four components: validity, reliability, generalizability, and neutrality. These four components guided the researcher throughout the course of this study.

To establish trustworthiness, the researcher took measures such as reviewing transcripts with participants, submitting findings for peer review, and approaching data collection and its analyses in an a priori manner to avoid developing and finding anticipated outcomes. To reduce bias, the researcher examined his beliefs, ideas, and values related to beginning teachers, mentoring, and the use of technology. Further, the researcher wrote his beliefs prior to the study as belief statements, and then examined these statements throughout the collection and analysis of data.

Validity

Stainback and Stainback (1988) wrote that findings can be considered valid if "there is a fit between what is intended to be studied and what actually is studied" (p. 97). Merriam (1988) elaborated on the need to establish validity to eliminate concerns that may arise with the components of trustworthiness. Merriam (1988) wrote "because of the nature of this type of research, these concerns may loom larger than in experimental designs wherein validity and reliability are accounted for at the start" (p. 163). To establish and to maintain validity, the researcher used the research questions as a continual reminder of the goal and purpose of the study to ensure that what was intended to be studied was the actual focus of the study. As

transcripts were reviewed, all follow-up questions were developed with the research questions in mind. Additionally, after the first interviews with the participating teachers were conducted, transcripts were given to the participants for review and discussion with the researcher. The process of bringing the data back to the participants was repeated throughout the data collection and analysis process, which according to Merriam (1988) adds credence to the final analysis.

Patton (1980) wrote that in qualitative research the "researcher is the instrument" (p. 143). Patton (1980) elaborated by stating, "validity in qualitative methods, therefore, hinges to a great extent on the skill, competence, and rigor of the person doing fieldwork" (p. 143). With this concept in mind, the researcher conducted the study under the direction of his major professor, who was skilled in conducting qualitative research studies. This person reviewed the study design, methods, and interview questions to promote validity in the research processes and reporting of findings. The researcher also asked two peers, both doctoral students at the University of Georgia, to act as independent auditors.

Reliability

Stainback and Stainback (1988) defined reliability as "the consistency and stability of data or findings" (p. 98). Stainback and Stainback further stated that "reliability is typically considered to be synonymous with the consistency of data produced by observations" (p. 98). To establish reliability, reduce biases, and strengthen the finding of this study, triangulation was used. Merriam (1988) wrote "methodological triangulation combines dissimilar methods such as interviews, observations, and physical evidence to study the same unit" (p. 69). With these concepts in mind, the researcher acquired multiple data sources and used peer consultation to ensure consistency in the data produced from the interviews and archival analysis of the e-mails and journal entries from the beginning teachers.

As Stainback and Stainback (1988) explained, reliability exists where data actually represent what was observed. Bogden and Biklen (1982) elaborated by saying, "qualitative researchers tend to view reliability as a fit between what they record as data, and what actually occurs in the setting under study, rather than the literal consistency across different observations" (p. 48). To establish reliability, the researcher reviewed the data sources with the participants to ensure accuracy in documenting the actual occurrences of electronic mentoring.

Generalizability

Generalizability in qualitative research is very difficult to achieve (Stainback & Stainback, 1988). Stainback and Stainback (1998) reported the reason for this difficulty is that "there are many subtle and unique differences operating in different natural settings" (p. 102), and that "no two people, groups of people or settings are likely to be the same" (p. 102). As Merriam (1988) pointed out, many have argued that "applying generalizations is hardly useful" (p. 173). Merriam (1988) described one of the true purposes of case study research where she wrote, "one selects a case study approach because one wishes to understand the particular in depth, not because one wants to know what is generally true of the many" (p. 173). With these concepts in mind, the researcher sought to learn the perspectives of the teachers participating in this study so that insight could be gained on their specific experiences in using electronic mail for mentoring.

This study reported findings obtained through the use of the constant comparative method of data analysis. The findings are not generalizable to populations outside of the sample used in this study. The sample consisted of only three first-year teachers and the three mentors with whom they worked. Additionally, the findings are limited by the context of the situation and the meanings the participants attached to electronic communication. The researcher sought to learn

the perspectives of the participating teachers concerning telementoring to gain insight on the process, and to offer preliminary findings to support future research.

Neutrality

Before beginning this study, the researcher sought to maintain neutrality. Merriam (1998) wrote that an effective method of enhancing validity could be to document the researcher's biases at the onset of the study. To establish neutrality and to provide safeguards against biases, the researcher recorded his personal interests and biases before conducting the first interview. This was done as a result of the researchers' passion concerning providing aid to novice teachers and the use of electronic mail.

Throughout the process of data analysis, the researcher used bracketing to search for commonalities. Additionally, external audits were conducted by the researcher's major professor and two outside auditors as a method of locating any possible biases in reporting the findings. The researcher attempted to conduct the study and to report the findings in a neutral manner, which was, according to Patton (1980), "balanced in reporting both confirming and disconfirming evidence" (p. 55) in a way that the reader could judge the results.

Limitations of the study

The findings and conclusions of this study were based solely on the perspectives of the beginning teachers and their mentors who participated in the study, and therefore, generalizability was impeded by the limited number of participants—three beginning teachers and three mentors.

Chapter Summary

This study sought to examine the perspectives of three first-year teachers and their mentors who mentored through the use of electronic mail. Based on a review of the literature, this study would help to fill a gap in the findings of existing studies concerning the various methods to carry out mentoring of beginning teachers. To learn the perspectives of teachers concerning using electronic mail for mentoring, three first-year teachers and their mentors were chosen to participate in this study. Their careers with effective teaching and classroom management strategies, and support to deal with issues one may face during the first year of teaching.

To gather data from these veteran teachers, a qualitative research approach was used. The data consisted of five major sources. These sources included all electronic mails sent between the researcher and the participating teachers, all fieldnotes from interviews conducted throughout the study, interview transcriptions from all interviews conducted, journals kept by the veteran teachers on their feelings and perspectives experienced during the study, and a transcription of a single focus group meeting at the conclusion of the study. All data was kept until analyzed at the conclusion of this study.

To analyze the data gathered, coding and the constant comparative approach were used. This approach was used to recognize themes occurring within the data and to summarize the findings on the perspectives of the veteran teachers concerning the process of electronic mentoring. Multiple sources of data were incorporated to strengthen reliability, validity, and generalizability.

CHAPTER 4

CONTEXT OF THE RESEARCH SETTING

This study examined the perspectives of three first-year teachers and their mentors to gain insight on mentoring through the use of electronic mail. With the rise of technology in schools, electronic mentoring could prove to be a valuable tool in providing constant communication and feedback for beginning teachers. The perspectives of beginning teachers and their mentors concerning the use of electronic mail could provide valuable insight into using the internet as a primary tool for mentoring novice teachers. This insight could possibly lead to the development of more effective mentoring programs. The research questions that guided this study were:

1. What are the perspectives of first-year teachers and their mentors concerning mentoring through the use of electronic mail?
2. What problems or issues might one experience while using electronic mail for the mentoring process?

To find the answers to these questions, the researcher conducted case studies within a qualitative research approach, and used the constant comparative method (Glaser & Strauss, 1967) to analyze the data from the case studies. Multiple data sources were gathered to acquire as much insight as possible on the perspectives of the teachers participating in this study. The data emerged from five major sources:

1. All electronic mail correspondence (e-mails) between the first-year teachers and their mentors.

2. Fieldnotes from individual interviews with participants, and from the focus group interview conducted with all participants at the conclusion of the study.
3. Interview transcriptions from all interviews conducted throughout the study.
4. Journals kept by all teachers participating in the study. In these journals, the teachers recorded issues they faced, feelings, and perspectives on the process of using e-mail as part of the mentoring process.
5. Transcriptions from a single audio-recorded focus group meeting at the conclusion of the study.

Data from these sources were compiled and analyzed using the constant comparative method to provide insight into mentoring through the use of electronic mail.

Context of the Study

Since this study was comprised of three individual case studies, the context in which the study occurred is paramount to understanding the findings, which were based on the perspectives of the participating teachers. By studying the context of the school district and the middle school in which the study took place, a clearer understanding of the environment and the factors which influenced the study can be gained.

Focus County School System

The research occurred in the Fall of 2003 at Center Middle School (pseudonym) in the Focus County School System (pseudonym), located in the state of Georgia. The Focus County School System was comprised of 32 schools, which included, 19 elementary schools, 6 middle schools, 6 high schools and 1 evening high school. The total student population for the system was 22,453 at the time of this study. Of this number, 11,680 (52%) were male and 10,773 (48%) were female. Focus County employed 1,618 certified staff members for its 32 schools. In 1998,

this number was at 1,156, creating a growth of 462 certified staff members over the previous 5 years.

The school system had become very diverse in previous years due to an increase in population among the Hispanic community of Focus County. The increase had been occurring due to the availability of jobs in Focus County in the poultry industry. Many Hispanics had come from Mexico and other Hispanic countries seeking employment. In 1998, Focus County reported having 2,639 (14.1%) Hispanic students. At the time of this study, that number had grown to 5,845 (26.03%). The school system was also comprised of 14,647 (65.23%) Caucasian students, 1,227 (5.46%) African American students, 226 (1.01%) Asian students, 93 (.041%) American Indian students, and 415 (1.85%) multi-racial students. Table 7 demonstrates the changes in each of these categories from the 1998-1999 school year to the time of the study in the Fall of 2003.

Table 7

Changes in Diversity in the Focus County School System

Ethnic Group	1998-1999	Fall 2003
Caucasian	77.8%	65.23%
African American	6.1%	5.46%
Hispanic	14.1%	26.03%
Asian	.8%	1.01%
American Indian	.5%	.041%
Multi-racial	.7%	1.85%

Changes in diversity had been creating challenges for the Focus County School System in the years preceding the study. The challenges stemmed from the rise of students with limited English proficiency, the need for adjustment in teaching strategies to target diversity, and the wide range of socioeconomic status across the county. During the 1998-1999 school year, eighth grade students were assessed using the norm-referenced test Iowa Test of Basic Skills (ITBS). The results from that test demonstrated that students across the Focus County school system

were performing at 51% in Reading Comprehension, 56% in Reading Vocabulary, 56% in Mathematics, 55% in Language Arts, 57% in Science, and 51% in Social Studies.

During the 2001-2002 school year, Focus County students were assessed using the Criterion-Referenced Competency Test (CRCT). Results from the CRCT revealed that 71% of eighth grade students countywide met or exceeded standards in Language Arts, 79% met or exceeded standards in Reading, 67% met or exceeded standards in Mathematics, 78% met or exceeded standards in Science, and 84% met or exceeded standards in Social Studies. These scores demonstrated success in teaching and learning, but also revealed areas in need of improvement across the school system.

The Focus County School System had no system-wide plan for mentoring teachers new to the profession, or teachers new to the school system. Mentoring programs and plans were delegated to the discretion of the individual schools' administrators and leaders. Each school in the system could design its own induction program, mentoring program, and plan for seeing novice teachers through the first few years of teaching. The duration of these programs was also left to the discretion of the individual school leaders. At the time of this study, Center Middle School (pseudonym) had developed an induction and mentoring program which provided support to novice teachers and teachers new to the school.

Center Middle School

Center Middle School is located in a flourishing, diverse community in the southern part of Focus County. The community that fed into the school contained a wide population of socioeconomic status and areas of varying ethnicities. The diversity of the community had created challenges within the school in various areas of instruction such as English and Reading related to comprehension. The challenges stemmed primarily from the increasing number of

students who were limited in their proficiency in the English language. The school had also changed in its diversity over the preceding 5 years. In the Fall of 2003, the school reported an enrollment of 875 students, of which 40% were Hispanic, 50% were Caucasian, 8% were African American, 1% Asian, and 1% of other ethnic backgrounds. In the 2003 report of Center Middle School by the Southern Accreditation of Colleges and Schools (SACS), it was reported that the school had turned this diversity into a strength, and that faculty were targeting students of all nationalities and levels of ability.

The Center Middle School staff was comprised of 73 certified faculty members. Of the 73 staff members, 23 held Bachelor Degrees, 40 held Master Degrees, and 10 held Specialist degrees. The school leadership team consisted of the school principal, the two assistant principals, the instructional lead teacher, and the two school counselors. The number of staff members had grown over the preceding years from 63 in 1998. From 1998 until the time of this study, most of the hiring that had occurred had been to replace teachers moving to other schools or into new fields of instruction. Before the 2000-2001 school year, the school principal had to hire 16 teachers for the following year. The need to hire this number was the result of many moving to other schools, two teachers retiring that year, and funds that were allocated to add two teachers for following year as well. Of the 16 teachers hired that year, 4 were entering their first year in teaching.

Center Middle School had experienced a significant number of novice teachers over the preceding years leading up to this study. In the 1998-1999 school year, the school had three teachers completing their first year in the profession. Twenty-six of the staff members were in the range of 1-10 years of experience. The 2001-2002 school report card reported four novice teachers completing their first year of teaching at Center Middle School. Table 8 below shows

the number of novice teachers and teachers with less than 10 years experience at Center Middle School from 1998 to 2003.

Table 8

Record of First-year Teachers and Teachers With Less Than 10 Years of Experience

Experience Level	1998-1999	1999-2000	2000-2001	2001-2001	Fall 2003
First-year Teachers	3	3	4	4	3
Teachers with 1-10 Years of Experience	26	21	17	21	19

Due to the steady number of novice teachers entering the school each year and the diversity of the student population, the faculty of Center Middle had frequently considered methods to reach all students and to ensure success and achievement among all grade levels through effective teaching practices. The 1997-1998 school report card for Center Middle School reported scores and achievement levels for 8th grade students as measured by the Iowa Test of Basic Skills. At that time, Center Middle School students were performing at 54% in the category of Reading Comprehension, they were performing at 58% in Mathematics, they were performing at 54% in Reading Vocabulary, they were performing at 62% in Language Arts, they were performing at 62% in Science, and the students were performing at 61% in Social Studies.

The 2001-2002 report card listed scores from the Criterion-Referenced Competency Test (CRCT). That report showed that 64% of students at Center Middle School met or exceeded standards in Language Arts, 77% met or exceeded standards in Reading, 65% met or exceeded standards in Mathematics, 72% met or exceeded standards in Science, and 82% met or exceeded standards in Social Studies. The results demonstrated effectiveness in instruction, but also demonstrated a need to target the low-achieving students, and those who were not yet proficient in the English language. The results also demonstrated a need to work closely with novice teachers to ensure effective teaching and evaluation strategies.

The administration's concern for student achievement and the steady number of novice and inexperienced teachers entering the school created a need for the implementation of an established induction and mentoring program at the school. The Center Middle School leaders implemented a program in which all teachers new to the school would come to the campus for a complete tour of the school as soon as they were hired. Additionally, each teacher completing the 1st, 2nd, or 3rd year of teaching was assigned a mentor within the school. The administration was responsible for selecting and assigning the mentoring pairs. The mentors and protégés would meet as soon as possible to begin establishing relationships and learning areas of need.

Mentors were required to meet regularly and to document meeting times and conversational topics. Mentors and protégés were left to use their own discretion in deciding mentoring topics, meeting times, and meeting locations. In the Fall of 2003, the instructional lead teacher implemented an enhancement to the mentoring program in which all mentors and protégés would correspond using electronic mail at a minimum of once per week. The purpose of these e-mails was to provide a quick and easily-accessible method of corresponding, and if desired, reduce the amount of time needed for face-to-face mentoring. Upon learning of this addition to the mentoring program, the researcher sent requests to the school principal and the Focus County assistant superintendent requesting permission to conduct this study at Center Middle School.

The researcher obtained permission and began to send requests to the first-year teachers and their mentors asking if they would be willing to participate in this study. Three first-year teachers and their three mentors all agreed to participate. The researcher then submitted an Institutional Review Board request to The University of Georgia and received approval to

conduct the study. All participants were given an approved consent form to sign and were given the study guidelines. All participants agreed and began fulfilling their obligations for the study.

Throughout the duration of this study, the researcher conducted two interviews with each of the participants, and one focus group interview with all of the participants at the conclusion of the study. During each of the interviews, the researcher wrote fieldnotes to remember key aspects of the interviews. All of the interviews were transcribed by the researcher for analysis. The participants also wrote journals once per week documenting their perspectives on using electronic mail for the purposes of mentoring. Additionally, all e-mail correspondence was forwarded to the researcher for analysis.

The data sources, along with an understanding of the school district and school contexts helped the researcher to understand the perspectives of the three first-year teachers and their mentors on the process of mentoring through the use of electronic mail. Strauss and Corbin (1990) elaborated on the necessity of understanding context stating, "context represents the particular set of conditions within which the action / interactional strategies are taken" (p. 96). Data sources for this study included

1. All electronic mail correspondence (e-mails) between the first-year teachers and their mentors.
2. Fieldnotes from individual interviews with participants, and from the focus group interview conducted with all participants at the conclusion of the study.
3. Interview transcriptions from all interviews conducted throughout the study.
4. Journals kept by all teachers participating in the study. In these journals, the teachers recorded issues they faced, feelings, and perspectives on the process of using e-mail as part of the mentoring process.

5. Transcriptions from a single audio-recorded focus group meeting at the conclusion of the study.

Before presenting the data from the first case, it is important to further examine symbolic interactionism, and how it served as the theoretical framework for this study.

Symbolic Interactionism Revisited

This study was designed within the theoretical framework of symbolic interactionism (Blumer, 1969). Symbolic interactionism provided an accurate framework in which to examine the perspectives of the three first-year teachers and their mentors on mentoring through electronic mail. Blumer (1969), the originator of symbolic interactionism, explained that the framework was based on three premises:

> First, that human beings act towards things on the basis of the meanings those things have for them. The second premise is that the meaning of such things is derived from, or arises out of the social interaction that one has with one's fellows. The third premise is that these meanings are handled in and modified through, an interpretive process used by the person in dealing with the things he encounters. (p. 2)

Based on Blumer's explanation of symbolic interactionism, this study was relevant to all three of the premises, providing evidence that his theoretical framework was the "best fit" structure for seeking the answers to the research questions of this study.

Blumer further explained his three premises that provided the foundations of symbolic interactionism. In reference to his first premise that "human beings act toward things on the basis of the meanings those things have for them" (p. 2), Blumer explained:

> Such things include everything that the human being may note in his world – physical objects, such as trees or chairs; other human beings, such as a mother or a store clerk; categories of human beings, such as guiding ideals, such as individual independence or honesty; activities of others, such as their commands or requests; and such situations as an individual encounters in his daily life. (p. 2)

The six participants in this study were placed in an interactive environment with one another using electronic mail. The research questions were designed to learn the perspectives of the participating teachers on mentoring through the use of electronic mail, and this study was based on a gap in the existing literature on mentoring and online technology. By structuring the study within the guidelines of symbolic interactionism, the researcher was able to learn how the participants interacted with one another through electronic mail, and to gain an understanding of the ideals they placed on the process of mentoring through electronic mail.

The second premise of Blumer's theory "that the meaning of such things is derived from, or arises out of the social interaction that one has with one's fellows" (p. 2) also applied to this study and the research questions which guided it. The framework of symbolic interactionism provided an appropriate structure for the study since the research questions were designed to learn the perspectives of the participating teachers. The researcher believed that the participants' perspectives would also reveal insight into the interaction of using electronic mail for mentoring, and the meaning which the participants place on that interaction. The meaning of the mentoring interaction through the use of electronic mail also helped the researcher understand the issues that could arise while participating in electronic mentoring.

Blumer's third premise "that these meanings are handled in and modified through, an interpretive process used by the person in dealing with the things he encounters" (p. 2) was also applicable to this study. This premise provided a basis to structure to this study. The interviews allowed the researcher to understand each participant's own interpretation of the various aspects of electronic mentoring. The participants' individual interpretations revealed both positive and negative aspects of e-mentoring. Additionally, the researcher learned how each of the teachers

dealt with those issues, and how they would change the structure of e-mentoring in future programs.

Meltzer (1975) described symbolic interactionism as "the interaction that takes place among the various minds and meanings that characterize human society" (p. 1). He further explained that it "rests upon taking oneself (self-objectification) and others (taking the role of the other) into account" (p. 1). Within the structure of symbolic interactionism, the researcher was able to learn about the interaction that occurred through the use of electronic mail. Additionally, the researcher was able learn how the veteran teachers viewed electronic mentoring, not only how it related to them personally, but how it related to their protégés as well. The protégés also offered perspectives on the process of electronic mentoring as it related to them and also their mentors, which gave a demonstration of Meltzer's ideas on "taking oneself and others into account" (p. 1).

Charon (1992) offered a simple, but insightful summary on perspectives. Charon indicated, "perspectives are vitally important: they make it possible for human beings to make sense of what is 'out there'" (p. 4). The review of the literature strongly demonstrated that electronic mentoring is definitely emerging in the field of education. By structuring this study within the framework of symbolic interactionism, the researcher was able to address the research questions, to learn valuable insight into the process of electronic mentoring, and to understand how the process may be used in future educational settings.

The first mentoring pairing was Hannah and Kirsten (pseudonyms). The next chapter, Chapter 5, presents the perspectives of Hannah and Kirsten on mentoring through the use of electronic mail. A profile of both Hannah and Kirsten are offered, and the data from each of them are presented and discussed. Chapter 6 will present the case of the second mentoring

pairing, Jordan and Mitzi, and Chapter 7 will present the case of the third mentoring pairing, Leigh and Jeremy.

CHAPTER 5

HANNAH AND KIRSTEN

The previous chapter examined the context of the study including the Focus County School System, and Center Middle School, the school in which the participants worked. By understanding the context of the school system and the school environment, the findings of this case study could be more clearly interpreted. This chapter presents the first mentoring pairing and their perspectives on mentoring through the use of electronic mail.

The first mentoring pairing was Hannah and Kirsten (pseudonyms). Hannah, a 12 year veteran, was completing her second year as the Instructional Lead Teacher of Center Middle School. Hannah had mentored other novice teachers in years preceding this study, she had extensive experience as a teacher, and she also served as the Instructional Lead Teacher for Center Middle School. Hannah mentored Kirsten, a seventh grade math teacher in her first year in teaching.

The remainder of this chapter presents the perspectives of Hannah and Kirsten concerning mentoring through the use of electronic mail. The data are presented first from the perspectives of Hannah, followed by Kirsten's perspectives. At the end of this chapter, a content analysis is presented to summarize the frequency, average length, and content of Hannah's and Kirsten's communication via electronic mail.

The Mentor, Hannah

The first mentor chosen for this study was Hannah. Hannah was a 44 year old female with 12 years experience in education. All of her experience had been in the same middle school, Center Middle School. During her first four years of teaching, she taught eighth grade

language arts, Georgia History, and literature. She then spent six years teaching seventh grade math and literature. The following year she began serving as the Instructional Lead Teacher and at the time of this study, she was in her second year in the position. Hannah seemed to have a wealth of knowledge to offer her protégé due to her work experience, work ethic, and life experiences.

For the first 13 years of Hannah's life, she lived overseas in several different countries. When she was three years old, she and her family moved to Ethiopia. Later they lived in other countries such as Turkey, Mexico, and Thailand. Hannah spent roughly three years living in each of those countries. In her early school years, she attended an Arabic kindergarten. A few years later, she was able to skip the third grade. As a child, in addition to her native language English, Hannah became fluent in Arabic and Italian. She excelled in her studies and was later able to skip the 11th grade as well. At that time, she had enough credits to graduate from high school at the age of 16.

When Hannah's children were small, she began working in their schools as a volunteer aid. As time passed, she had more opportunities to work with children as a substitute teacher and began to consider education as a career. In reference to these children, in her interview, Hannah stated, "many of them said, 'You know, we learned more from you than we did from our real teacher,'" which prompted her to consider the idea of returning to college to earn her teaching certificate. Eventually, she did return, earned her teaching certificate, and began teaching.

Hannah was in her second year as the Instructional Lead Teacher at Center Middle School. In this position, Hannah was responsible for numerous areas such as the school-wide reading program, 7th and 8th grade literature plans, and at- risk students. Due to her various responsibilities, Hannah felt that she could not spend as much time as she would have liked

mentoring her first-year protégé. In reference to this situation, Hannah said, “she’s done a pretty good job, and I do check in with her, but I’m not free in any sense of the word to spend time in her classroom.” In discussing her duties, Hannah also stated, “that’s kept me from being able to actually spend as much time as I would like to with my protégé.”

In their electronic mail discussions, Hannah and her protégé primarily addressed instructional issues. They sought to understand test results of the protégé’s students, examined ways to modify instruction, grading, and discussed ways to target all of the students in the diverse class environment in which her protégé worked. The discussions rarely centered around operational issues such as reminders for meetings. Discussions of more deeply-rooted issues were the norm for Hannah. In one e-mail, Hannah offered encouragement to her protégé saying:

> I remember the look on your face and the sound of your voice as you realized that the students did not put forth nearly as much effort as you have for their classes. It will come!!! Do not despair!!! If you continue to teach and open doors of learning to them, holding your expectations within their reach, but high enough that they have to stretch, you'll see students who will appreciate you for the knowledge and skills they are gaining.

As instructional lead teacher, Hannah was accustomed to providing support and guidance to teachers throughout the entire school. A content analysis of the e-mail correspondence between Hannah and her protégé, Kirsten is presented at the end of this chapter.

In the second interview with Hannah, the researcher asked Hannah if she believed her position as instructional lead teacher had affected her relationship with her protégé, since she was considered a part of the school's administration. Hannah stated she believed she had taken measures to diminish the "big bad boss" image and hoped that her protégé saw her as a “source of help, rather than a boss.” The researcher noted in the fieldnotes to address that question when interviewing Hannah's protégé. Hannah was able to establish a relationship with Kirsten during the previous summer, and believed she had established a friendship, rather than a relationship as

Kirsten's boss. Hannah's experience in providing guidance, her desire to spend time in her protégé's classroom, and the lack of time to do so later surfaced in the findings as she discussed her perspectives on the process of mentoring through the use of electronic mail.

Hannah's Perspectives on Electronic Mentoring

Hannah discussed many aspects of the process of e-mentoring. Her perspectives included discussions of records, the time issues involved with e-mentoring, technical issues, and other facets of the process. Her first perspective included a discussion of the records that e-mentoring provides. Hannah described e-mentoring as a written journal of events which occur in mentoring and in everyday school events. Hannah related, "it's kind of like journaling which allows it to last past the time that you say it so someone has a permanent record of possibly how to do something." Additionally, she mentioned that e-mentoring "provided a written record" of previous activities. Hannah stated, "I do like the part that you do have a record of what you have and have not done." Hannah elaborated on these points by saying, "one of the things I find of great worth in e-mentoring is that you have the paper trail because the spoken word is wonderful but it lasts for a very short time."

In further discussions of the record-keeping aspect of e-mentoring, Hannah explained how the process could provide records of growth and concern. One aspect of this pertained to growth among new teachers. Hannah said,

> It would be a great thing at the end of the year to be able to look at these problems from the beginning of the year and ask if any of these are still problems for you so we could project into the future and look at what you've done. So it would be a wonderful encouragement tool at the beginning of the next school year.

Hannah also discussed how e-mentoring could provide records to administrators and school leaders. She elaborated on this idea by explaining that e-mentoring could offer records of "common threads" within a school setting. These common threads could pertain to problems

that exist among several staff members, and possibly give insight on the types of staff development activities needed in a school setting. Hannah contrasted these ideas by mentioning that e-mentoring records should never be available to administrators for punitive purposes. Hannah explained this idea by saying,

> I do not think that any administrator should be forwarded those things, number one, because then the administrator's eyes are colored when he or she goes into that classroom as to what those people are. And you know immediately that it's going to cut down on their honesty and their openness with each other.

Her perspectives on the record-keeping aspect of electronic mentoring revealed that the process should never be punitive, but should be used as a method of evaluation of growth and for identifying "common threads" within the various areas of a school setting.

Hannah further discussed electronic mentoring in reference to the time involved with the process. She discussed this in both positive and negative ways. One positive aspect mentioned by Hannah was that, when done asynchronously, the participants could respond at any time of their convenience on matters which did not need immediate attention. In one of her journal entries, Hannah wrote, "one of the largest advantages I've found has been being able to quickly stop whatever I'm working on and send Kirsten a message about whatever crosses my mind." An additional positive aspect of electronic mentoring Hannah discussed was that e-mentoring provided both the mentor and the protégé time "to consider issues and responses" before responding to the mentoring partner. This concept pertained to both the thought process involved with dealing with issues, and the wording of responses as well. Hannah stated that electronic mentoring allowed the participants the opportunity to "get deeper than momentary" in responses given to mentoring partners. She added that the time given to consider issues and thoughts could possibly cause the mentor to consider the protégé even more than in traditional face-to-face mentoring partnerships.

Additionally, Hannah further elaborated by saying that partners have time to "think about how to word things on both ends." She related this concept to a situation which she discussed with her protégé. The protégé was being asked by administrators to coach soccer, but the protégé was hesitant to accept due to the amount of time it would take from her focus on being a first-year teacher. The protégé immediately e-mailed Hannah stating, "I've never done something like that before," and "I wanted your advice on what to do." In reference to Hannah's advice to her protégé, she stated, "In my wording, I was very careful in saying I want to know how you feel first of all."

The time to consider wording helped her to get a sense of the situation before giving her response. She eventually returned the e-mail by writing, "I think it would be best for you to have no other focus than continuing to do the wonderful job you are presently doing." In reference to the outcome of this situation, Hannah said, "by having that extra time I could word it in such a way that she was able to say to the administration 'no I value my classes and I might want to think about following somebody for a few days to see if this is what I ever want to do'." The electronic mentoring process allowed Hannah more reflection time in the situation before eventually giving a response.

Hannah believed that reflection time was a critical element in the mentoring process. She discussed the freedom of reflection in electronic mentoring. She said that this valuable reflection time "would actually help somebody reflect a bit more before asking a question or putting down thoughts." Due to the lack of reflection time in some face-to-face mentoring situations, Hannah believed that she possibly would not have thought of the advice she gave her protégé had the conversation taken place in person. She said, "that's an issue that had I been standing in front of her, I might not have thought about its classroom impact."

Hannah further discussed the reflection time offered by electronic mentoring. She said,

> I think e-mentoring is going to work well as a reflection process, as something that does not require emergency contact. So since teaching is such a reflective practice, I think it's an awesome thing to be able to ask 'what do you think about this?' Inquiry and reflection, those are the two things that I see as major things for e-mentoring, the more and more I've thought about this.

Hannah offered more insight on this topic by explaining that reflection was "many times forgotten" in the daily activities of teachers and school leaders. She discussed the need for educators to reflect continually on instruction, behavior in the classroom, time management, and most importantly, what exactly the children were learning. She elaborated on this by saying, "how do I know that they learned it? See that's a major part of reflection that most teachers don't do that e-mentoring makes both parties do which is to look back at and look very, very deeply at."

Hannah described the daily rigors of teaching as elements which may deter educators from the reflection process and suggested that electronic mentoring was a method that could encourage mentors and protégés to consider these aspects of teaching and learning. She concluded her discussion of the reflective aspect of electronic mentoring by explaining the effect reflection can have on novice teachers when they consider classroom management, instruction, and other aspects of teaching. She stated, "in the end, those are the things that can either keep a teacher or have him or her leave the profession."

The negative aspects of the time involved with electronic mentoring were also discussed. One aspect of this was that in some circumstances, a protégé may need an immediate answer to a problem. If the novice teacher only had an e-mentor, rather than a mentor on location, there would be no one on site to offer the same type of help as a mentor who knew the protégé's personal teaching environment. The unavailability of an onsite mentor could create a problem

for novice teachers who need assistance in a timely manner. The first-year teacher would have to wait a certain amount of time to receive help if the mentor and protégé only corresponded through electronic mail.

She further stated, "e-mentoring isn't that good if you're trying to get an immediate answer unless you have instant messaging and you're forever able to stay right in front of your computer." She believed that this was especially true in cases where computer systems failed. In that situation, the protégé could be left without a mentor at all. For these reasons, Hannah believed that where e-mentoring is used, there should also be an onsite mentor available for each protégé to ensure that issues are addressed in a timely manner.

Hannah also believed that where mentors and protégés are available for face-to-face contact, it could sometimes be very time-consuming to use electronic mentoring. This concept was discussed in two ways: the time involved with actually typing the message, and the time involved with portraying one's tone in the message. Hannah stated that if one is in front of a computer regularly, electronic mentoring may be an easy form of quick communication; however, where face-to-face contact is available to the mentoring partners, it could be time-consuming for individuals to sit and to type a conversation or situation on the computer.

Hannah believed that in situations in which the participants do not have easy physical access to one another, electronic mentoring could be convenient, but still time-consuming with respect to typing. Additionally, fieldnotes indicated a look of certainty on her face as Hannah explained how electronic mentoring could be time-consuming in the aspect of tone. She believed that it would be necessary for mentoring partners to take extra time in typing e-mail correspondence to ensure that tone is understood by the mentoring partners. She further

elaborated by stating, "that's where you have to word very carefully so that your words are not misconstrued, and so that's where it becomes very time-consuming."

In one incident, Hannah received an e-mail from her protégé asking for advice on a particular situation. Hannah had to respond to her protégé by asking her how she was feeling as she wrote the message since she was not sure if the protégé was "in a panic or just seeking advice." The delay caused by the need to determine if the protégé was in a panic, "caused more time to pass before advice could be given" since Hannah had to wait for the response from her protégé before dealing with the issue. Hannah's discussion of taking extra time to convey the proper tone of voice in an e-mail message led her to give insight on other issues involving tone in the process of electronic mentoring.

Hannah discussed tone as a very important element of electronic mentoring that must be considered. As previously stated, in one situation, Hannah had to e-mail her protégé simply to ask how she felt about a situation because she was unsure if her protégé was in a panic, or simply seeking advice. This led Hannah to believe that in certain situations, it could be very difficult to portray tone in text, and sometimes the text could be misconstrued by those receiving the e-mails. To avoid these issues, she explained that one should possess a certain level of writing skills before participating in electronic mentoring. Additionally, if electronic mentoring is the only method of correspondence among mentoring partners, Hannah suggested that electronic mentors develop codes which indicate various types of tones and emotions. She said there should be "some type of way that you would be able to say this is a major bother or I'm dying right now."

Hannah believed that, in this aspect, face-to-face mentoring could be more effective since the participants could see one another's facial expressions and understand the contexts of

situations being discussed. She said, "a lot of times their tone and their body language tells me more than the words coming out of their mouth." Hannah further elaborated by saying, "you need to be able to look at somebody's eyes to know what it is that they are truly asking." She added that "flat words on a page do very little." Hannah added more in her journal entries writing, "I wonder if the printed word can truly convey the tone or emotion that sight and sound have the power to do." To summarize her feelings concerning electronic mentoring in comparison to face-to-face mentoring, Hannah mentioned circumstances in which she believed that face-to-face contact was absolutely necessary.

Hannah's perspectives on electronic mentoring revealed her belief that sometimes using e-mail for mentoring is simply not as effective as face-to-face mentoring. As previously discussed, she also related this belief to the aspect of tone. She held this belief firm and in one journal entry stated, "I have to be able to look at her face to know because words on the screen cannot convey the emotions behind them and lots of time it's the body language that creates what you know."

Hannah also discussed other circumstances in which she believed that face-to-face mentoring would be more effective than electronic mentoring. An example of this was in reviewing tests and data. In her journal entries, Hannah wrote that she believed in many situations, it would be necessary to review test papers to assist in analyzing problems in classroom settings or to simply discuss the events of the day. She wrote, "a major drawback to e-mentoring is that sometimes there are tests, etc. that must been seen to diagnose." Hannah further discussed the issue in her journal writing:

> In this case, it took about 15 minutes of me looking at individual sections of the test responses and asking Kirsten questions in between about how she taught this part and that would have been virtually impossible to do by e-mail.

Hannah continued by also stating that face-to-face contact could be critical in keeping educators in the profession. She elaborated in her journal entry, "they've got to have somebody flesh and blood they can get to in those instances where they say, 'forget it I'm just quitting teaching after this year or after today'." Hannah summarized by explaining that in any case of electronic mentoring, protégés should have an onsite mentor who can be physically available to assist or to provide advice and who can relate to the protégé with an understanding of the school setting and context.

Hannah discussed the importance of knowing one's school context when participating in mentoring. She believed that this could be critical in offering advice on situations. For instance, she explained that if a protégé had an e-mentor in another state, that mentor could not effectively offer the protégé advice on how to target students with limited English proficiency if the mentor worked in a school setting with little or no diversity. Hannah believed that as a result of this, mentor pairing should be done carefully to ensure that protégés have mentors who understand the unique settings and teaching environments of the protégés. She offered her perspective on how to address the issue by suggesting that e-mentoring partners have opportunities to become acquainted before the school year began. Hannah elaborated saying:

> I think it would be good for the protégé him or herself to offer information, and for the mentor to be able to ask any questions to fill in those gaps before beginning mentoring because as we move from being teachers as artists to teachers as scientists, we've got to have that background data, and I think it would be a blooming idiot who would not need to know the school context.

She further explained that, when possible, e-mentoring pairing should be done in the spring so that participants have time to become familiar with their partners and with the school context as well. Hannah said, "you do want someone who is grounded in not only instructional practices, but who also has an understanding of the school's context and the school's mission,

beliefs, and those types of things." Hannah elaborated on the situation by explaining that one of the reasons she had been able to help her protégé was due to the fact that she was "very familiar with the school context and knew how to get her the materials she needed." She explained a very beneficial aspect of her face-to-face mentoring partnership was "to be able to get her materials because I have that 'in'." She further explained, "being here, I know that I either have them [supplies] or I know where they are and can hand them to her." Hannah gave even more insight to this concept by saying, "you know that makes a difference to a teacher who is new, and if you're within two years of being here you don't have any idea of where those materials might be or who holds them."

Based on her experiences, overall, Hannah stated that electronic mentoring was not her "top choice of communication with her protégé." She saw value in electronic mentoring "where" mentors and protégés are not in physical proximity, but went further by stating that where possible, "mentoring partners should have physical access to one another from the beginning." Hannah discussed many benefits of electronic mentoring, such as the availability of corresponding when it was convenient for the participants and in maintaining records of "common threads" and issues that had been addressed. She further added to these ideas by stating that e-mentoring could possibly cause the mentors to consider the needs of their protégés more than with face-to-face mentoring due to the flexibility of time to consider issues before responding.

Hannah also discussed the issues that may arise with electronic mentoring, such as unavailability of mentors for urgent issues and termination of the entire process when computers crash. In referring to this idea, she said, "I think e-mentoring issues are things that can be back burner, not pressing issues of the moment or the hour." In one of her journal entries, Hannah

added to her comments saying, "a major disadvantage would be like last week when I was unable to be around a computer because of all the testing and make-up testing that I was administering." She then wrote, "in times like that, there is no way to communicate." Hannah believed that electronic mentoring was best used to promote inquiry and reflective processes, which should not take the place of face-to-face mentoring and the personal nature it offers. Hannah summarized by saying that at this time, “e-mentoring would not be her choice of communication with her protégé, but that the process should be further explored and researched.”

The Protégé, Kirsten

Hannah's protégé was a first-year mathematics teacher named Kirsten (pseudonym), age 22. Kirsten had lived her entire life in the same city in which Center Middle School was located. As a child, she attended a private school until the 8th grade, but did not like private school, so she entered a public school during 9th grade. Kirsten attended a college located near her home town and earned her degree in middle grades math. She had recently married, and she was scheduled to begin her Master's Degree the following summer. Her intentions were to continue her education through her Specialist Degree in Education and then focus on her family.

While finishing high school and in college, Kirsten worked at an appraisal service for five years. Later, before deciding to major in education, she had been studying marine biology. As a result, Kirsten worked at summer camps for children in Florida and participated in activities such as rescuing manatee. She also helped with rehabilitation and therapy and was able to include children in those activities as well. These activities were among some of the first opportunities Kirsten had to work with children.

After spending that time with kids, she decided to change her major to education. Kirsten stated that she had "definitely made the right career choice" by switching to education. In one of

her e-mails to her mentor, Hannah, Kirsten wrote, "I am very wonderful, and feel I have made the correct career choice so far. We shall see as the year goes on, but I am having a wonderful time." She concluded her e-mail by writing, "I feel as if I have finally found my nitch in the world."

Kirsten explained that her love of children, the love of math, and her nature of being "insanely organized" had helped her in her first months in teaching at Center Middle School. She said:

> I'm a very active person and math is a very hard subject to get kids interested in. You say the word math and they go 'ugh', but you try to show them that you have a love for it. That's really helped me with my teaching and all the different games and activities we have.

In the fieldnotes from her first interview, it was noted that Kirsten's face demonstrated that her comments on “loving the profession” were heartfelt. It was noted that she truly believed she had made the correct career decision and was content with her position and future.

Kirsten explained that in the first few months of teaching, she had not experienced many problems or issues in her environment. She briefly mentioned a few discipline situations, but elaborated stating that her primary concerns had been with the students' levels of ability and their placement in appropriate classes. Kirsten stated:

> Really I haven't had many discipline issues. I guess just trying to figure out where the kids are the first two weeks of school, that was the one thing I know I was never trained for. I wish someone had said it was going to be crazy because when I started, I had two classes that had 35 students, and the state limit is 32. I had two and a half weeks where I had to do all kinds of diagnostic testing and was left on my own to figure out what kids I needed to move up or down so those were some major issues.

Kirsten experienced a great deal of stress in trying to "diagnose what level they needed to be in" and to bring her class in compliance with the state regulations. Kirsten described that as the major issue she had faced in the beginning of her career in teaching.

Due to her strong organizational skills, Kirsten was very efficient in calling parents and developing a system to track which parents she had called. Additionally, she sent letters to parents when necessary and used other methods of ensuring communication as well, such as sending letters. Kirsten went further saying, "I know how it feels to not know something about your kid." She had strong organizational skills and a strong desire to keep parents informed and perform her job effectively. In one e-mail to Kirsten, her mentor Hannah wrote, "It is wonderful to watch you start into your new career in teaching because your organizational habits allow you to be less stressed."

Kirsten's organizational and teaching skills had already shown benefits in the lives of the students she taught. Kirsten related this idea to a triumph she experienced at the beginning of the school year. She explained that she had dealt with a language barrier in certain students, and in one of them, had experienced success in reaching out to overcome that barrier. Kirsten explained:

> One of my Hispanic students was really struggling and one-on-one he wasn't getting it. And then all of a sudden, one day in the middle of class you could almost see the light bulb go off in his head. He got it and it was just a neat feeling to see the language barrier finally fall down and watch him finally get what I was saying and actually be able to apply it and then go ahead and explain it the next day in class to somebody else. It was neat and it was a really good feeling.

Kirsten explained that this triumph offered her "encouragement," and she viewed the situation as a "positive aspect to teaching." Kirsten really enjoyed knowing that she was able to reach that student.

Kirsten also stated that the kids in general were a "big positive" to teaching. She explained that the kids were "so full of life and personality and each one is different." Kirsten believed that her colleagues were a positive aspect of working in her school setting. She described her co-workers by saying:

> I found that the 7th grade people I work with, not even my team, but everybody I work with is very open, helpful, and very friendly. That helps a lot if I ever have a question I can just run across the hall and they know.

Kirsten viewed her colleagues as reliable people who were available to her in times of need, and she believed that her colleagues were "critical in providing a productive and positive school setting and mentoring program."

Kirsten's mentoring experience had been very positive as well. She was paired with Hannah, the school's Instructional Lead Teacher. Kirsten and Hannah had met during the previous spring at the time that Kirsten was hired by the school's principal. From that time, Kirsten corresponded with Hannah on occasion "to develop a relationship and to get [answers to] any questions" that she had. Kirsten explained that this time allowed her to get acquainted with Hannah as her mentor, colleague, and friend, rather than knowing her as "the boss." Kirsten related that getting to know Hannah "as a support" helped to dispel any "intimidation" that she may have felt as a result of Hannah being a member of the school's leadership team.

Kirsten stated that she had most needed her mentor's help during the first few weeks of teaching due to the diagnostic issues she was facing. Kirsten elaborated saying:

> The first two weeks was when I really needed her the most because I was doing all that diagnostic testing. Especially when they give you an upper level class of kids with 35 students, you don't want to move anyone because you know the parents are going to be on you if you tell them the kid needs to move down a level. So she really helped me look at the scores and figure out what to do with things, and so that was a big issue.

Hannah was able to help Kirsten sort out the scores and levels of instruction for each of the students involved with the situation. The situation grew more troublesome as Kirsten began to realize the impact caused by the language barrier. She explained that as they began word problems "I knew my Hispanic kids were going to have trouble with it, and of course, they bombed that first test." Kirsten elaborated saying that "some of the students were reading on a

3rd grade reading level," and she had not thought of the reading issue when creating the test. Kirsten related that her mentor was able to sit and help her devise a plan to re-teach and give a revised exam to the students.

Other issues faced by Kirsten were minor and required very little help from her mentor. She related these issues to small concepts which students did not understand and explained that her mentor was able to offer her other strategies to use in re-teaching the concepts. Kirsten believed that Hannah was "comfortable" in leaving her alone to teach. She said, "I guess she just feels comfortable in leaving me on my own because she feels like I know what I'm doing. Additionally, Kirsten added, "she [Hannah] knows if I ever have a question, I can always come ask her." Overall, Kirsten believed having her mentor, Hannah, was "very beneficial," and she stated that "if I didn't have a mentor, I think I would have felt a lot of pressure and in the first two weeks I probably would have cracked." Kirsten further elaborated that since she had her mentor, she felt as if she had "actually been able to breathe." Kirsten concluded saying, "I really think I would have been lost without her", and "if I didn't have her, I don't think I would have made it very far or this would have been awful."

Kirsten's Perspectives on Electronic Mentoring

Kirsten offered insight into the process of mentoring using electronic mail. Initially, it took a few weeks for her to become accustomed to using the e-mail system in her school, but she became accustomed to using the system and was able to communicate effectively through e-mail. Kirsten explained that certain benefits existed with electronic mentoring such as the ability to easily address simple issues and to receive written encouragement from her mentor, Hannah. An example of that encouragement came in one e-mail from Hannah. Hannah wrote, "you have officially completed one month of ten on your first year contract, and you have accomplished a

lot." Kirsten also discussed "simple issues" saying, "if I want to just say 'hey' or 'how are you' and 'here's my question', she can just e-mail me right back." Kirsten briefly discussed these benefits, but offered more insight into using electronic mail as opposed to face-to-face mentoring. She discussed the technical issues involved with electronic mentoring, issues with tone, school context, and other ideas encountered as she participated in electronic mentoring.

In the first interview with Kirsten, she made it clear that she did not prefer using electronic mail for mentoring. In one of her journal entries, she discussed an issue she had been dealing with in trying to find her mentor for a face-to-face discussion. Kirsten wrote:

> This is where I find that e-mail with a mentor is not all that great. I have tried to track you down all morning to talk to you about my test results for chapter 2, low-level ESOL. I need advice as to what to do for them. I had 50% mastery. I am also about to bust out crying because I feel like staying till 5:00 yesterday was a waste of time. The five students from my low-level that attended the study session still FAILED. I know you say it over and over again that it is not testing me, but with only 50% mastery, I feel like it is. Please advise.

Although she later explained that electronic mentoring does have its benefits, she felt it was not her preferred choice for corresponding with her mentor. Kirsten explained that she preferred personal contact and "one-on-one conversation." She further elaborated by saying, "I'm more of a face-to-face person and I don't think there would be as strong of a bond." Kirsten believed that there was value in meeting face-to-face with her mentor and related this concept to the successes shared by partners in mentoring. Kirsten stated, "you could convey things, but I don't think you would see the joy and the sparkle in somebody's eyes."

Kirsten further discussed the need for face-to-face mentoring in the aspect of reviewing data. As Hannah had discussed, Kirsten also believed that face-to-face mentoring would be more effective in reviewing students' work to analyze areas of need. Kirsten explained saying, "I could go and show her, and she could see the test and be able to point things out to me." She

also explained that in certain situations, on reviewing test results or student work, a novice teacher may not know the source of the problem facing students. Kirsten believed in that situation, the mentor would need to come in person to review the tests to discover the root of the issue facing the novice teacher. She elaborated in one of her journal writings saying, "a major drawback to e-mentoring is that sometimes there are tests, etc. that must been seen to diagnose." Kirsten also explained the difficulty that would have been involved with her personal situation in reviewing tests if only electronic mail were used. She further explained:

> I would have to scan in the tests and then e-mail her the tests because I didn't have it on the computer. So for her to be able to look at what the test questions asked, I would have had to scan it in, or type it all over again to e-mail her because it wasn't one that was on the computer.

Additionally, if Kirsten had typed the test all over again, she still would have had to scan each one of the students answers to give her mentor a clear picture of the problems facing the class. Once that was done, the mentor would have had to download each scan and review them separately, or print each one, which would have been very time-consuming.

Kirsten did indicate that some of the conversations relating to sharing strategies can be done either online or in person “as long as the mentor is able to give good instructions.” In summary, Kirsten stated that electronic mentoring should not replace traditional face-to-face mentoring, but only supplement and enhance the process where desired. Kirsten indicated some bias against using e-mail for mentoring for the simple reason that she did not spend a lot of time on the internet. Kirsten said, "I'm not a big online person" and explained that using e-mail for mentoring has its benefits, but would not be effective as a replacement to face-to-face mentoring.

Kirsten offered some of the same ideas her mentor presented on the topic of portraying tone in texts. Kirsten too believed that it was difficult to explain some concepts with the correct tone intended by the writer. Kirsten said:

> With e-mail and all that stuff you cant tell the person's tone or if they're frantic when they are talking to you. I mean there are times when you read an e-mail and you wonder if that person was yelling at me or were they just talking?

In her journal entries, Kirsten noted that some people "use all capital letters to imply yelling when sending messages on the internet, while others use all capitals to simplify the task of typing." In her case, Kirsten said she used all capitals "because I'm lazy." In her opinion, these types of technicalities could cause some confusion and misinterpretation in electronic mentoring. Kirsten further explained that in these situations, it would be necessary to return an e-mail seeking more information on how the original e-mail was intended. Kirsten elaborated saying, "it's hard to tell, but if you have the kind of good relationship that she and I have, you are able to ask 'are you crying, happy, sad, mad, depressed, or what are you'?"

In the early part of the school year when Kirsten was able to reach out to one of her students and make him understand the math concept, her mentor described that "her face lit up and showed that she was truly pleased with the outcome of the issue." When asked if this could have been accomplished or recognized using electronic mail only, Kirsten replied, "to be honest, I would say 'no.' I don't know if it's because I'm so used to working with numbers, or I'm not good with words." Kirsten further elaborated saying, "it would be difficult to be as descriptive as reading a person's face or their eyes or their smile." For these reasons, Kirsten summarized this concept by explaining that she believed it would not be possible to convey emotions as well as one could in face-to-face interaction.

As Hannah, Kirsten believed that mentors should be very familiar with the school context of the protégé, and should have experience in dealing with the same types of issues that the protégé would face. In reference to the cases of electronic mentoring where the mentoring partners did not work in the same types of settings, she stated "I would feel kind of like they

didn't really know the school I was in." She described how schools can be different from one to the next and that even neighboring schools can experience extremely different levels of diversity. Kirsten further explained saying:

> Even from when I student taught, to go from here to there is very different. I talked to the teacher that I worked with and she and I became very good friends and we would talk about our kids and some of the issues that I face with my kids like the language barrier. She has no idea how to deal with that and that's just 30 minutes away. They don't have even half the Hispanic population I have and that was an adjustment for me was dealing with the Hispanic population. So she can't relate to the problems that I have dealing with just the language barriers. She couldn't advise me on that so I think having the same type of school environment would definitely benefit.

With this idea in mind, Kirsten reiterated the necessity to make sure the mentor is familiar with the school's context, including population and diversity issues. She believed that the mentor must know how to address any possible issue the novice teacher may face.

Where electronic mentoring was the only method of mentoring, she explained that she would have to rely more on the people in her school to address issues she faced. She said, "I would definitely rely more on my teammates a little more just because they know the kids I'm working with." Kirsten further explained, "they would know the issues I'm facing and they might have ideas for me." She concluded saying, "but not being able to see and know the kids is a really big issue." In reference to the teachers in her building, Kirsten said, "knowing my students and what areas of weaknesses and strengths are there is a big help."

Kirsten believed that technical issues could be a significant issue where electronic mentoring was the sole method of mentoring. At the time of her first interview with the researcher, Kirsten had recently experienced a technical issue in the computer system at her school. She explained that "if our e-mail crashed, I would have to rely on the teachers around me more." A technical issues with the computer system at her school would have especially been a problem for Kirsten since she did not have a computer at home. In Kirsten's case, had the

school's computer system failed, she would have had absolutely no access to the internet unless she visited a public facility with computers with internet access. Kirsten explained:

> I got to thinking about if the only way you could communicate was through e-mail. If it was down for over a week, there wouldn't be a good way to talk to her unless I could go to her. So in that way we would do better talking one-on-one.

Kirsten later discussed what her course of action would have been if she had been left with no contact with her mentor. Kirsten said, "I probably would have been under a lot of pressure and would have had to rely on the teachers around me more."

In her journal entries, Kirsten also gave insight into other issues that could arise when computers failed and protégés were forced to discuss issues with other teachers in the same building. She explained that in mentoring partnerships, participants should "develop rapport and establish relationships" with their partners. Over time, hopefully protégés and mentors become more comfortable with discussing issues with one another. If computers systems fail, and the protégé was forced to discuss problems with another teacher, that novice teacher may not feel comfortable discussing the particular problem with the other veteran teacher, which could create hindrances in the communication and effectiveness of the mentoring correspondence. Kirsten elaborated saying, "with the team I have, I would feel comfortable, but with some of the other teachers I've seen in the past, 'no.'" Kirsten concluded by explaining that she believed face-to-face mentoring was more effective in maintaining "trust and more open relationships."

Kirsten provided valuable insight on her personal experiences in electronic mentoring, but much of what she offered was done so in the conditional tense. She was able to speculate how she would have felt in other situations, and evaluate the e-mentoring process with other variables in mind. Kirsten initially said that she did not have a computer at home and as a result, was "not a big online person." She did mention that in the past she spent more time on the

internet before she was married and teaching, thus indicating that her time and focus were taken by other areas of life. Kirsten further stated that since her mentor was the instructional lead teacher of the school, her mentor was not required to watch kids, and could more easily visit her at any time she needed. She also explained that since she did not have kids at home, she could spend time at home working on lesson plans. Kirsten indicated that if these variables were to change in her life, she would possibly rely more heavily on e-mail to communicate.

Kirsten explained that it was her present situation which primarily influenced her lack of need to use the internet. She stated:

> I think if my life was really different and maybe if I had kids at home or if I coached something and didn't have the after school hours I need to plan things, I would probably rely on the e-mail aspect of mentoring a little bit more.

She acknowledged that her mentor was accessible when needed and she did not feel a strong need to sit down and e-mail questions or concerns. Kirsten did mention the benefit of saving time on occasion by sitting down and writing a quick e-mail, rather than hunting her protégé, who could be at any location within the school, but she never experienced any pressing issues which needed immediate assistance.

Kirsten further explained that if she had children at home, her planning time at school could be taken doing lesson plans, rather than working on them at home. In this type of situation, she may rely more heavily on the process of electronic mentoring. She concluded by saying that she would obviously rely on it more if her mentor were in another school, but that she preferred having an onsite mentor over an e-mentor. Kirsten explained that if she had had access to the internet, she would have begun corresponding with her mentor Hannah more during the previous Spring and Summer. Her life situation demonstrated several variables which affected

her perception of electronic mentoring and were considered by the researcher in presenting the findings of this study.

Kirsten stated early in the interview that she preferred face-to-face mentoring over electronic mentoring. Although she had many influential variables in her life which caused her to prefer face-to-face mentoring, she offered valuable insight through her perspectives and presented valid information on the issues that may arise through the process of using electronic mail for mentoring. She stated that e-mentoring is a valuable tool for addressing simple issues between mentoring partners, and can be effective in offering encouragement to protégés. Kirsten believed that although these benefits existed with e-mentoring, it should never overshadow or replace the traditional face-to-face mentoring. She believed that e-mentoring had its place, and was best used as a supplement and enhancement tool to the personal nature offered by mentoring done in person. Kirsten concluded saying, "I think a combination of one-on-one face time and e-mentoring is the way to go for me. That's the way to go."

Content Analysis

Electronic mentoring correspondence occurred from August of 2003 until January of 2004. During that period, Hannah and Kirsten sent e-mails to one another and addressed a variety of issues. The tables below give a visual presentation of the frequency, average length, and content of the e-mail correspondence. Throughout the study, Hannah and Kirsten had frequent physical access to one another for face-to-face meetings in addition to their e-mail correspondence. As a result, their e-mail correspondence became limited, since they preferred to correspond face-to-face, when possible. Although their e-mail correspondence was limited by their desire to correspond face-to-face, the average length of their e-mails was greater than the

other participants in the study. Table 9 below presents the frequency of the e-mail correspondence between Hannah and Kirsten.

Table 9

Frequency of E-Mail Correspondence Among Hannah and Kirsten

Study Participant	Number of E-mails Sent
Hannah	12
Kirsten	12

Hannah and Kirsten exchanged a total of 24 e-mails during the 5 month period of this study. Since Hannah was the Instructional Lead Teacher at Center Middle School, her schedule was more flexible since she did not have any classes to teach. Hannah was able to visit more frequently Kirsten at her room when necessary, which perhaps limited the number of e-mails sent between them.

Table 10 presents the average length of the e-mail correspondence between Hannah and her protégé, Kirsten.

Table 10

Average Length of the E-Mails Sent by Hannah and Kirsten

Study Participant	Average Length of E-Mails Sent
Hannah	181 Words
Kirsten	149.6 Words

The e-mails sent between Hannah and Kirsten addressed issues such as test results, school procedures, school system guidelines, tough decisions faced by Kirsten, and the e-mails provided a means for Hannah to encourage Kirsten. Hannah's average length of e-mails was significantly greater than that of Kirsten; however the content of the e-mails were very similar between Hannah and Kirsten.

Table 11 presents the content of the mentoring correspondence sent by Hannah. The content of Hannah's e-mails addressed basic information, such as staff development credits, and also addressed more in-depth issues, such as evaluation of test results.

Table 11

Content of E-Mails Sent by Hannah

E-Mail	Content of E-Mail Exchanges
1	Encouragement
2	Encouragement
3	Encouragement/Time/Management
4	Information on staff development credits
5	Encouragement
6	Advice on taking a position as soccer coach
7	Encouragement
8	Discussed e-mentoring/Information on test results
9	Discussed e-mentoring
10	Discussed communication in e-mentoring
11	Discussed test results
12	Discussed a meeting time for review of test

Table 12 below presents the content of the mentoring correspondence sent by the protégé, Kirsten. Kirsten's e-mails followed many of the same topics as those of Hannah, her mentor.

Table 12

Content of E-Mails Sent by Kirsten

E-Mail	Content of E-Mail Exchanges
1	Encouragement
2	Encouragement/Management
3	Encouragement/Information on progress reports
4	Information on staff development credits
5	Encouragement
6	Advice on taking a position as soccer coach
7	Encouragement
8	Discussed e-mentoring/Information on test results
9	Discussed e-mentoring
10	Discussed communication in e-mentoring
11	Discussed test results
12	Discussed a meeting time for review of tests

The mentoring correspondence that occurred between Hannah and Kirsten was done both in person, and through the use of electronic mail. The availability of face-to-face contact between them prepared to diminish the need to use e-mail as the sole means to communicate. Since Hannah and Kirsten had a choice of which method to use for mentoring, they were offered a point of comparison by which to develop their perspectives of using electronic mail for mentoring. Their perspectives offered insight into the process of mentoring through the use of electronic mail, and the issues that may arise in the process. Chapter 6 examined the second mentoring pairing, Jordan and Mitzi.

CHAPTER 6

JORDAN AND MITZI

The second mentoring pairing was Jordan and Mitzi (pseudonyms). Jordan, a 13 year veteran, had taught science at Center Middle School his entire career. Jordan mentored Mitzi, a first-year science teacher. The correspondence between Jordan and Mitzi was limited to very basic dialogue centering around issues such as meetings, supplies, and other subjects pertaining to general information sharing. Since their communication did not necessarily pertain to issues of teaching and learning, Jordan's and Mitzi's perspectives provided additional insight into the issues of mentoring pairing and mentoring relationships.

This chapter presents the perspectives of Jordan and Mitzi concerning mentoring through the use of electronic mail. The data are presented first from the perspectives of Jordan, followed by Mitzi's perspectives. At the end of this chapter, a content analysis is presented to summarize the frequency, average length, and content of Jordan's and Mitzi's communication via electronic mail.

The Mentor, Jordan

Jordan was a 38 year-old science teacher who had taught at Center Middle School for 13 years. Jordan was born in North Carolina and moved to Georgia when he was six years old. He attended elementary school in the Focus County School System near Center Middle School. At that time, Center Middle School was a junior high school, so sixth grade was still a part of the elementary school program. Jordan later attended Center Middle School for seventh and eighth grade, he then completed his high school years at the high school in which

Center Middle School feeds. Jordan had lived almost his entire life in the community of the Focus County School System.

During Jordan's high school years, he participated in music activities such as the marching band and the chorus. He graduated from high school as an honor graduate and began taking classes at the local community college. While earning his Associate's Degree, Jordan played trombone in the college's jazz band, which earned scholarship money for him. After finishing his Associate's Degree, Jordan transferred to a nearby university to complete his Bachelor's Degree. There Jordan earned his degree in middle grades science education with an additional focus in reading. He continued his studies at the university and earned his Master's Degree in science, language arts, and reading.

Jordan completed his student teaching at Center Middle School. Jordan explained that his student teaching experience was tough, but that he had become a better teacher as a result of the pressure he was given as a student teacher. Jordan stated that he scored well on the teacher certification tests. He said, "I took the TCT and did well on that and passed all the state tests, and I scored 100% in methods and curriculum."

Jordan's previous work experience began while he was in high school. His first job was working at a hatchery. Jordan later worked at a grocery store near his high school bagging groceries. He described himself as "fairly aggressive" and was able to obtain promotions up to a management position before graduating from high school. Jordan worked at the grocery store through the end of his first year of college. At that time, he left college to enter a co-management position earning "good money." After working in that position for approximately two years, Jordan realized that he did not want to spend the rest of his life in that type of job, so he returned to college to finish his teaching degree. Jordan believed that his work experience

provided "a lot of life experience" as well. He explained, "that gave me a lot of people skills since I had to work with young adults, high school kids, and adults, and I was a 19 year-old young kid too." Once Jordan finished his teaching degree and certification, he left the grocery store and began working full time at Center Middle School. Since beginning his career at Center Middle School, Jordan had been spending summers and weekends working on construction projects with one of his colleagues.

At Center Middle School, Jordan had been involved with many activities at the school. For seven years preceding this study, Jordan had led the school's student council program. He had also been involved with the after-school program at Center Middle School, which provided additional tutoring and direction to low-achieving students. Additionally, Jordan had been involved with providing training to students participating in the Peer Mediation Group, which provided peer discussion for students experiencing conflicts with one another.

Jordan had also been selected to serve on the school's Leadership Advisory Committee (LAC), which operated as a means of communication between teachers and the administration, and the Curriculum and Instruction Committee (CIC), which worked to implement the state curriculum in the various academic areas of Center Middle School. Jordan summarized his experience saying, "all those things have made me a well-rounded, knowledgeable teacher who actually understands some of the decision-making, leadership aspects too."

At Center Middle School, Jordan had taught primarily science all of the 13 years of his teaching career. He had also taught reading classes every year, and he had experience in teaching reading and writing classes for nine years. Jordan had additional experience in teaching social studies, and he had taught under various types of class scheduling. At the time of this study, Jordan was teaching on a four-member team with each class lasting roughly 55 minutes.

Jordan explained that he had begun the school year wanting to experience some change in his daily routine. He elaborated saying:

> I had been in a similar situation for a long time and I was looking for a change. I love my subject material and I love the sixth grade, but I needed some change. This year we have some new teammates so we mixed it up a little bit. We have some new people on and that just gives a different atmosphere and they are fun to be with. They are creative, so that's good. I'm also in a new room this year and that adds some extra energy.

In reference to Jordan's new schedule, new team, and new classroom, Jordan summarized his school year saying, "it's been great." The researcher noted in the fieldnotes that Jordan's personality and facial expressions portrayed a light sense of humor and a contentment with his job.

Although Jordan's school year had gone well, he had still experienced some issues. One issue he had faced pertained to a visit by the Southern Accreditation of Colleges and Schools (SACS). Each school in the Focus County School system was visited by a SACS team once every five years. At the time of this study, Center Middle School was preparing for the accreditation visit, which would take place in November of 2003. Jordan was a member of the steering committee at Center Middle School which provided guidance to the faculty in preparing for the SACS visit. Jordan elaborated saying, "I've had to be in a leadership role, create documents, and get things on the table, so that's been a little bit extra pressure, but it's been a good experience too."

Jordan had also experienced some issues with the students and with planning time. Jordan had received a student from a middle school in another school system. The student had chronically broken school rules, and he was eventually arrested by local authorities. Additionally, Jordan had responsibilities in helping teachers that were new to Center Middle School. Of his four-member team, two teachers were new to the school. One had come from an

elementary school and the other from a high school. He said, "as a veteran I've had to help out, and that's an issue you always deal with in making sure they're on the right track." Jordan had experienced some decline in planning time as a result of his responsibilities to the new teachers and as a result of the increase in meeting times with his team. Jordan believed the meetings were critical in promoting effective teaching practices. He said, "if there are student issues, we talk about it immediately, and we all work together." Jordan elaborated further saying, "we're united, we have compassion for our kids, and they know that we respect them and care about them."

Jordan believed himself to be a positive person with a effective approach to the art of teaching. He said, "I like to be effective, and I like to have a plan. I also like to have a routine, be flexible and energetic." He stated that when plans, procedures, and routines were in place, class operations were "a lot smoother." Jordan believed his positive outlook had helped him create positive experiences in his teaching career.

Jordan had been voted Teacher of the Month by his fellow teachers at Center Middle School on a few occasions, and a few years earlier, he had been voted Teacher of the Year. He stated that he loved his job and was rewarded by seeing success in students' lives. Jordan said:

> I like to teach, I like the age level, and I like the subject. Every year I've had a great group of kids. I've had some tough kids but I've ended up having positive experiences with them. I think the coolest thing is having somebody that I know doesn't want to be here and end up having them like you. That's been a very good experience.

Jordan added that he believed Center Middle School had a strong faculty and administration. He said "we all work together as part of the staff" and "we've got a good faculty, and a pretty tight ship here with the administration." Jordan added that the teamwork and support offered by the faculty of Center Middle School enhanced instruction both "in and out" of mentoring relationships.

Jordan had not participated in mentoring before the year of this study. In the past, he had helped new teachers on a personal level and as the lead science teacher, but he had never been specifically assigned a protégé to mentor. Jordan believed his experience could help him foresee things which would become "roadblocks" or "pitfalls" in the first year of teaching. As a result, Jordan said in his present mentoring relationship with Mitzi, he took "extra conscientiousness making sure she knows things, and making sure she's not going to hit some of those pitfalls or walls that a new person does."

Jordan stated that his mentoring experience had been "rewarding" and that his involvement in the program had made him "make a real effort." He also stated that having guidelines and requirements on how often he communicated with Mitzi had made him "more aware of helping her along." Jordan further stated:

> A lot of times veterans tend to get into what they're doing. But just because you have a lot to do each day, you've got to think about your next step, and you don't have time to think about others, but this has made me focus on her and make sure I'm bringing her along as best I can.

Jordan did find his daily routine to be very time-consuming, but he had maintained an attitude which said to Mitzi, "I'm here if you need me."

Although Jordan had maintained an attitude of availability and had found the mentoring experience "rewarding," he believed that his and Mitzi's communication was very limited in content. The e-mails all pertained to very basic information such as meeting times and deadlines. Jordan elaborated saying, "most of my e-mails are like 'hey, we've got a science meeting today' or 'don't forget to turn in your progress reports'." In one e-mail, Jordan wrote "I just wanted to remind you that we have a science curriculum meeting tomorrow at 2:15 in my room. Also, I found your meter sticks in Mr. Thompson's (pseudonym) room." Jordan explained

that he did not have a strong personal relationship with Mitzi, but that he believed "she would feel comfortable" coming to him with a more in-depth issue.

Jordan further explained that Mitzi was placed on a different team and that she had made other acquaintances with other teachers on her team. He stated, "she's also got support from the other teachers on her team." Jordan also explained that their lack of in-depth mentoring could have been attributed to the fact that he was a male, and that they did not establish the same type of effective relationship that she may have formed with another female on the team. Jordan also speculated that possibly males do not communicate on the same personal level as females. In reference to that issue, Jordan took some of the blame on himself saying, "you know maybe as a guy, I just probably don't communicate with her as much as I should."

Jordan offered one final idea that perhaps Mitzi did not need much help since she had taught under a provisional certificate for a year, and she had also gained experience through her student teaching during the previous year. When the researcher initially asked Jordan if he and Mitzi had discussed any issues that were more in-depth than just meeting times, deadlines, and general information passing, he responded saying:

> I have not had much of that with Mitzi, which is me specifically, because number one, she's a little bit older than the average new teacher, she's not just out of college, so she has some life experience. She has a year of teaching under her, and I guess too it's because I'm a guy. None of these issues have come up other than just instructional, science, or curriculum. It's been just basic procedures and expectations about school stuff.

Jordan did conclude saying, "you know, I could see where that would really provide an opportunity to get into deeper issues, but me specifically, we haven't had that [type of] relationship."

Although the mentoring conversations between Jordan and Mitzi were limited in content, they did correspond regularly, and they provided insight into the process of mentoring through

the use of electronic mail. Jordan offered a variety of perspectives on the positive aspects of electronic mentoring, as well as the issues that may arise while participating in electronic mentoring. Jordan briefly compared electronic mentoring with face-to-face mentoring, and he offered advice on how to use both as a means of creating an effective mentoring program.

Jordan's Perspectives on Electronic Mentoring

Jordan offered extensive insight into mentoring through the use of electronic mail. He found electronic mentoring to be a process containing many benefits and some issues as well. He described time as one of the benefits of electronic mentoring. Jordan said, "it has been so convenient to sit down and pop off messages to Mitzi." He related this idea to the aspect of reading, sending, and responding to e-mail communication at one's convenience. Jordan elaborated saying, "when I have a minute, she may not have a minute, so I can put my minute down and she's going to have a minute at another time." In one journal entry, Jordan wrote, "teachers have a busy tie while teaching, even during planning. The e-mail route saves time, increases efficiency, and allow me [and] Mitzi [to] be aware of all the details a first-year teachers deals with."

Jordan also stated, "It's allowed me to send messages as I think of them. Jordan further explained that "the biggest pitfall in teaching is pacing and sequencing." He discussed the minimal amount of time required to sit down to help novice teachers stay on track with issues such as standardized testing. He stated:

> You know, we've got to cover so much with a lot of pressure from the CRCT [Criterion-Referenced Competency Test]. You've got to keep up. I can make sure Mitzi knows what we're supposed to do in chemistry, and can tell her to make sure to touch on acids and bases or whatever. That has been effective in discussing stuff that we don't need to go and sit down and talk about. I can just pop off the e-mail to her and she can respond to it.

In one e-mail sent by Jordan to Mitzi, he wrote, "Mitzi, this is a reminder about goals. You are on an at-risk team and your goals are to be 70% will make 300 on the CRCT instead of 80%." Jordan believed that electronic mentoring provided convenience of time and allowed the mentor or protégé to correspond "without the hassle of meetings."

Jordan compared electronic mentoring with traditional face-to-face mentoring. Initially Jordan explained that he preferred electronic mentoring. He said, "I really wouldn't want to do it another way." Jordan elaborated saying, "I wouldn't want to meet every Thursday with her for 20 minutes." He believed face-to-face meetings were not always necessary because, "you can do a meeting's worth of time slowly over time on the internet." Jordan went a step further in saying, "I think e-mentoring could be effective without ever being face-to-face." He applied this thought to communicating with more than one person. Jordan explained, "it's a hassle for me to go find three different people at three different grade levels when I can do one thing and send it all to them and then touch base with them as I see them." He further stated, "I think number one, I like it. It's been efficient to not have to go look for the person."

Although Jordan preferred electronic mentoring as a result of the convenience the process provided, he discussed the need to enhance the process of electronic mentoring with some face-to-face contact to maintain effectiveness. Jordan then explained that electronic mentoring was just "one slice of the pie." He said that the face-to-face contact was "a nice way to follow up on e-mails" and was effective in "making sure the tone is interpreted and making sure I know the intent of what I'm saying is getting through." Additionally, Jordan stated that it was sometimes necessary to meet face-to-face to "physically transfer materials or visually demonstrate an idea."

Jordan believed that electronic mentoring was effective in basic issues, such as those discussed by him and Mitzi, but believed that face-to-face mentoring should be used to "convey

something deeper." He said, "I would probably want to go talk to her in person." Jordan explained that one reason face-to-face contact would be more effective with deeper issues was that tone can be portrayed more easily. He explained saying:

> You can put certain things in writing and you can do certain things like underlining words or putting certain punctuations. I guess just the way you say things or the way you spell them out can convey tone in a message, but there's a limit, and it's more difficult to convey tone in text in my opinion.

Jordan further elaborated saying, "if I wanted to convey something deeper, I would probably want to go talk to her in person."

Jordan continued his discussion of face-to-face mentoring stating that face-to-face interaction was a necessary part of mentoring relationships. He said:

> I think that e-mentoring is one tool. If you look at what a mentor should be and what they should be doing, it's one tool. It gives you a very positive tool but it's one slice of the pie. You've still got to go spend time, and you've still got to stick your head in there and you've still got to ask questions when you see them at lunch or what not, but it provides an effective tool that does help with scheduling.

Jordan further added that the inclusion of some face-to-face mentoring with the electronic mentoring process "would be a greater benefit" than if one's mentoring partner was never seen. One reason for this idea was that Jordan believed there would be instances in which one may have to physically see something to assist the beginning teacher in dealing with an issue. He said that sometimes "you would have to see something" and that one may have to "be in close proximity because you have to deal with issues that you're dealing with too."

Jordan discussed further the negative side of not having face-to-face contact in mentoring. He explained that having only the Internet could "limit some of the things you talked about." Jordan also explained that "you only learn what people tell you on an e-mail" and "the way you perceive that person is all about what they could tell you." He further stated that "when you meet someone and you talk, you analyze what is going on." Jordan believed there would be

difficulty in gaining the same understanding of a situation using strictly e-mentoring, and stated "I think that would be a drawback."

Jordan discussed an additional issue that could arise in the process of mentoring through the use of electronic mail. He stated that he had to become familiar with the electronic mail system that would be used in the school's e-mentoring program. Jordan explained, "I was a little uncomfortable using the system" and "I was just incompetent because I didn't have much experience." Jordan added that "it's made me more computer literate" but that some may have issues in using computers due to their inexperience. He further elaborated saying that using strictly electronic mentoring would present a "drawback" since "people don't know how to use them [computers]."

Jordan offered perspectives on mentoring communication as it related to electronic mentoring. Jordan stated that "mentoring is all about communication, and the computer just kind of facilitates that." He believed that "the more tools you have for communication, the better mentoring is, and it makes you communicate more." In reference to his protégé, Jordan stated that with the availability of more mentoring tools, he had become "more aware of helping people along." Jordan further stated, "that's one point I want to make, and you know how busy I am here, but I know for a fact that I talk more."

Although Jordan believed electronic mentoring provided an enhancement to the communication needed in the mentoring process, he explained that writing skills were necessary to convey messages effectively and to ensure that the tone of the correspondence was understood. Jordan elaborated saying, "I do think the skill of the writer has to do with that" and "tone can be conveyed, but there are limits to that." He further explained, "I don't think it's easily and quickly conveyed, but you can write and create an emotion, or even tone to your writing."

Jordan summarized his thoughts by explaining that electronic mentoring could possibly be done strictly using the Internet with no face-to-face contact, and that the process would be effective, but not as effective as face-to-face mentoring, or a mixture of both. He believed that e-mentoring was only "one slice of the pie." At the end of the final interview with Jordan, the researcher asked him, "can I e-mail you if I have any further questions or want to clarify something?" Jordan responded saying, "as long as you're careful with your tone."

The Protégé, Mitzi

Jordan's protégé, Mitzi, was a 29 year old science teacher. Mitzi had a Bachelor's Degree in Wildlife Biology, and a Master's Degree in Science Education. Before working at Center Middle School, she had worked in a nature center doing public programs, such as day camp and animal care. Later, she began working at a fishery lab at a nearby university. She explained that her love of science and children led her to consider teaching, she said, "I enjoyed working at the nature center and I enjoyed working with the kids at that nature center. I obviously enjoyed science, so it seemed like that was a way I could have a stable position." She further explained that "there are not many jobs available at nature centers." These aspects all led her to eventually decide on entering education.

Mitzi was completing her first year of teaching, but she had a limited amount of educational experience before teaching at Center Middle School. Two years earlier, she had been in sixth grade science. In that position, she had taught with a provisional certificate while she was completing her college work and certification. The previous year, she had taught high school biology, physical science, and zoology while completing her student teaching. At the time of this study, she had been teaching sixth grade physical science once again, and she was completing her first year as a fully-certified teacher. She further explained saying, "I was on

provisional, and then was student teaching, and this is the first year where I've actually had my certificate."

Although Mitzi was only in her first year of teaching, she was already experiencing challenges in her school. She had been assigned to an at-risk pod at her school, and she was facing challenges in addressing diversity, students of low socioeconomic status, and students with little or no motivation to learn. This issue proved to be the greatest issue she was facing in her first year of teaching. She said, "I'm working with at-risk kids. I won't say they're extremely difficult to teach, but more of a challenge to me." She further elaborated saying, "they're slow and don't get it, their reading level is below, and then I have to teach them molecules." She concluded saying, "it becomes extremely difficult when they can't read." To address the issue of reaching the at-risk kids, she explained that she had been using "more hands-on strategies." She was also using "non-verbal and non-written teaching methods."

Despite Mitzi's challenges with the at-risk children in her classes, she expressed some very positive feelings toward her school and the faculty with whom she worked. She said:

> Well I enjoy working here. I think it's a good school, and I enjoy working with my team. I think the administration is running the school well. I think it's a good environment for kids to learn in and for teachers to teach in.

She explained that at a previous school in which she worked, she did not have the same positive experience she was having at Center Middle School. As a result, she believed her outlook on her new job was even more positive due to her previous negative experiences.

Mitzi had been paired with her mentor, Jordan, by the school's administration. She did not meet Jordan until the first day of pre-planning. With the business of beginning the school year, she rarely had time to meet with Jordan to begin establishing any type of mentoring relationship. During the week of pre-planning, she had been facing several meetings for new

teachers, meetings with her new teammates, organizing her classroom, developing lesson plans, and preparing for the school's open house, which occurred during the evening of the 4th day of preplanning. Mitzi explained that she and her mentor Jordan were not on the same teaching team; therefore, if she had questions concerning her kids or issues pertinent to her team, she would not consult her mentor. She would find other teachers on her team and discuss issues with them. From the very beginning, Mitzi and Jordan's relationship seemed destined to be limited and possibly mismatched.

Mitzi explained that Jordan did feel some responsibility for working with her and for keeping her informed of various tasks, but that their conversations never centered around teaching issues. In her first interview, she explained that she did not feel she had a mentoring relationship with Jordan since she always discussed issues with her teammates. She elaborated saying that their conversations were basically "nuts and bolts" and "he pretty much just lets me know when meetings are." Mitzi explained that she had never discussed any types of teaching issues with her mentor, Jordan.

Mitzi described her communication with Jordan as being based on "nuts and bolts," but their correspondence did reach slightly beyond meeting times. In one e-mail, Jordan wrote Mitzi to address new students and textbooks. He wrote, "I think Brittany and Jose did not bring me their textbooks before they withdrew. I will send some to you for your new students who are coming enrolling today. Where do they keep coming from?" She responded saying, "I got 7 new students today, it was a mess!" Their e-mail conversations also centered around issues such as exam schedules. Jordan sent her one e-mail saying, "Mitzi, this is just a reminder about Science exams. We usually give at least math and science exams in the sixth grade that are cumulative for the nine weeks."

Jordan and Mitzi's correspondence also addressed the curriculum and standardized tests that would be given in the spring of that school year. Mitzi e-mailed Jordan asking, "thanks for the CRCT books. When does this test usually occur?" He responded saying, "to answer your question, the CRCT date is usually in April, hopefully late April. The scope and sequence sketch that I gave you will help to ensure that we touch on everything before test time." Other e-mails centered around the same aspects of testing and materials.

Mitzi believed that her lack of communication with Jordan concerning teaching issues was due to the fact that they were not on the same teaching team, and that he had never initiated any discussions with her on those issues. She once again explained that it was not his fault, but that it was "just easier to ask someone on her team," since they all knew and taught the same students. To her, it would have made more sense to pair her with one of the other teachers on her team. She did conclude by saying she could discuss issues with Jordan, but she felt that "it's just not something he could bring up." On her team, she confided in one teacher specifically. In reference to that teacher she said, "if I have problems I go to her because I feel more comfortable talking with her and she has the same kids because she's on my team."

Mitzi's Perspectives on Electronic Mentoring

Mitzi was a very quiet person and would not extensively elaborate on her perspectives concerning mentoring through the use of electronic mail. As a result, her perspectives were very brief and the findings from her interviews were extremely limited. One will never know the reasoning behind the limited discussion of her perspectives, but the researcher noted a few variables which could have been influential. The fieldnotes from both interviews indicated that Mitzi was extremely busy and had great difficulty arranging a time to complete the interviews. Each time the interview was scheduled, she would cancel as the meeting time grew closer.

When the two interviews were finally completed, the researcher noted in the fieldnotes that she seemed overwhelmed with the many tasks facing her, and almost demonstrated a look of regret that she had agreed to participate in the study.

The researcher attempted to initiate more in-depth conversations with her by posing additional open-ended questions, but she remained very brief with her responses. Additionally, her perspectives were very limited concerning the electronic mentoring she completed with her mentor since their discussions were brief and limited to "nuts and bolts" issues such as meetings. When asked about her perspectives on electronic mentoring, she began by relating e-mentoring to mentors in general. She said:

> Depending on the people who are doing it, I just think that some teachers are going to be good mentors, and some teachers aren't going to be very good mentors. I think as far as me and Jordan are concerned, we're very different. We're different teachers, and our teaching styles are different. Our personalities are different, and I would say that my teammate is really my mentor.

She concluded this idea by explaining that when communicating with her teammate, she never used electronic mail, but always found her and discussed issues with her in person. Since she discussed issues with her teammate and only discussed simple details with her mentor using electronic mail, she could not offer extensive perspectives on mentoring through the use of e-mail.

Mitzi did provide a small amount of insight on the process of electronic mentoring. As some of the other participants, she discussed the aspect of time as a convenience not offered by face-to-face mentoring. She explained that it "saves time" and that one could sit and correspond at convenient times and places. This concept eventually became the only positive aspect of electronic mentoring offered by Mitzi. All other perspectives were taken as issues or negative aspects of the process of electronic mentoring.

Mitzi discussed the nature of electronic mentoring as being "not personal." She elaborated saying that she preferred face-to-face mentoring and concluded this thought by saying, "I'd rather talk." She took this aspect a step further by stating that if the protégé and mentor were in separate buildings, mentoring would be extremely difficult. Initially, she implied that electronic mentoring would not be as effective as walking through the school to find the mentor and having face-to-face, personal communication. She stated this concept with the assumption that the mentor and protégé would be in the same building. After considering electronic mentoring where the participants were in completely separate buildings, she believed that mentoring would not be nearly as effective as face-to-face mentoring.

Additionally she mentioned that electronic mentoring was not her preferred method of communication since typing the correspondence takes more effort than speaking with someone in person. She explained saying, "it's not a problem really, I just think it takes effort on both sides." She believed that electronic mentoring was much more troublesome than finding her teammate to discuss issues, or walking to Jordan's room to ask a question concerning instruction or issues such as meeting times and places. She summarized her thoughts in one of her journal entries saying, "e-mentoring seems to take much more time, and I would never want to discuss serious issues on the internet because it would just take too much time to type it."

Content Analysis

Although the study lasted from August of 2003 until January of 2004, electronic mentoring correspondence between Jordan and Mitzi took place August of 2003 to October of 2003. At the end of October, all e-mail communication between the two participants came to an end. Jordan explained that Mitzi had "others on her team" that could offer her assistance, and Mitzi explained that she believed another teacher on her own team was her real mentor, rather

than Jordan. Mitzi explained that her preference of discussing issues with teachers on her team was the result of no negative feelings toward Jordan. She explained that it was "easier to ask someone who knows the same kids as I teach." Since Mitzi preferred to discuss her issues with teachers on her own team, e-mail correspondence was limited, and focused on "nuts and bolts" issues, as stated by Jordan. Table 13 presents the frequency of the e-mail correspondence among Jordan and Mitzi.

Table 13

Frequency of E-Mail Correspondence Among Jordan and Mitzi

Study Participant	Number of E-mails Sent
Jordan	11
Mitzi	10

Jordan and Mitzi sent a total of 21 e-mails throughout the duration of the study. Their e-mails were much shorter compared to those of the previous case of Hannah and Kirsten. Table 14 presents the average length of the e-mail correspondence between Jordan and Mitzi.

Table 14

Average Length of the E-Mails Sent by Jordan and Mitzi

Study Participant	Average Length of E-Mails Sent
Jordan	41 words
Mitzi	33 words

The e-mails between Jordan and Mitzi addressed various issues of the procedures of Center Middle School. The issues discussed included topics such as textbooks, curriculum guidelines, testing information, meetings, supplies, and school procedures. The topics discussed by Jordan and Mitzi all focused on relatively simple issues due to their unique mentoring situation, in which the protégé, Mitzi, felt that her true mentor was another teacher on her same teaching team, rather than her actual mentor, Jordan. Table 15 presents the content of the mentoring correspondence sent by the mentor, Jordan.

Table 15

Content of E-Mails Sent by Jordan

E-Mail	Content of E-Mail Exchanges
1	Offered assistance/curriculum guidelines
2	Curriculum guidelines
3	Standardized testing
4	Meeting reminder/supplies
5	Science meeting reminder/supplies
6	Gave information on student achievement goal sheets
7	Gave information on student goals percentages
8	Gave information on science exams
9	Gave information on science textbooks
10	Science pretest and posttest
11	Gave information on science textbooks inventory

Jordan's e-mails focused on procedural information on Center Middle School, such as deadlines, and guidance in completing routine tasks. Jordan acknowledged that Mitzi was more comfortable in discussing in-depth issues with members of her teaching team, but he explained that he wanted Mitzi to know that, "I'm here if she needs anything."

Table 16 below presents the content of the mentoring correspondence sent by the protégé, Mitzi. Mitzi's e-mails followed many of the same topics as those of Jordan, her mentor.

Table 16

Content of E-Mails Sent by Mitzi

E-Mail	Content of E-Mail Exchanges
1	Curriculum guidelines
2	Curriculum guide/standardized testing
3	Standardized testing/teaching scope and sequence
4	Meeting reminder/student council question
5	Science meeting reminder/supplies
6	Thanks for information received
7	Goals for student achievement
8	Science textboks
9	Needed more textbooks
10	Science pretest and posttest

The mentoring correspondence between Jordan and Mitzi was limited in frequency. Jordan and Mitzi did have physical access to one another for face-to-face contact when necessary; however, due to the limited need to correspond with one another, even the simplest of issues was handled mostly using e-mail. Although limited, Jordan's and Mitzi's correspondence provided a foundation on which to offer their perspectives on using electronic mail for mentoring. Chapter 7 will present the case of the third mentoring pairing, Leigh and Jeremy.

CHAPTER 7

LEIGH AND JEREMY

The third mentoring pairing was Leigh and Jeremy (pseudonyms). Leigh, a 45 year-old science teacher, had taught at Center Middle School her entire 17 year career. Leigh had participated in mentoring other novice teachers in preceding years, and she was now mentoring Jeremy, 41 year-old science teacher. Jeremy had spent several years in law enforcement, before Deciding to change his career to teaching.

This chapter presents the perspectives of Leigh and Jeremy concerning mentoring through the use of electronic mail. The data are presented first from the perspectives of Leigh, followed by Jeremy's perspectives. At the end of this chapter, a content analysis is presented to summarize the frequency, average length, and content of Leigh's and Jeremy's communication via electronic mail.

The Mentor, Leigh

Leigh was an eighth grade science teacher completing her 17th year of teaching at Center Middle School. Leigh had lived most of her life in the Center Middle School community. As a teen, she attended the high school in which Center Middle School feeds. Leigh graduated from high school as the salutatorian and began attending a local university. She eventually graduated with degree in environmental health science and began working in the field of environmental science doing quality control in the poultry industry. Later, Leigh began working as quality control manager at another poultry business. It was during that time that she learned she was expecting her first child. Leigh quit working when her daughter was born in 1983.

Leigh later returned to college to earn her teaching certificate. She began teaching at Center Middle School in 1987. Since Leigh began teaching at Center Middle School, she taught seventh grade life science for six years, and she had been teaching earth science for 11 years. During that time, she returned to college to earn her Master's Degree in secondary science. The researcher asked Leigh what had led her to enter teaching rather than to return to the poultry business. She explained:

> I never felt any great call like some people say to be a teacher, but I always loved school. I was one of those nerdy kids in school that actually liked school and love my teachers. After my kids were born I really didn't want to go back to work in the field that I was in because the hours were just horrendous for having children. I liked the work a lot, but I didn't like the hours I was working because in management, in that industry, you work 24 hours. Sometimes they wanted me to work the night shift, and I didn't like that for my kids.

The hours and demands placed on managers led Leigh away from the poultry industry. She knew that the pressure would have taken her away from her children.

During the time that Leigh was at home with her children before entering teaching, there was a shortage in Georgia of science and math teachers. She began to see advertisements requesting certified math and science teachers. The advertisements and other factors led Leigh to begin considering education as her new profession. She explained:

> It was being advertised all over the place that there was a critical shortage of math and science teachers, and I was sitting at home with a science degree thinking, 'Well, you know, I could do that.' I had a lot of friends who were teachers and I just started talking with them about teaching and how they were enjoying it and did they think I could do it. I thought I could do it because I always loved school and admired my teachers, and I had a lot of close relationships with teachers. I just checked into it through a friend that was a secretary with the Focus County Board of Education.

Leigh's friend helped her understand the process of becoming a teacher and obtaining certification. She finished her education courses at a local college, completed her student teaching, and passed the state tests to earn her teaching certificate.

Originally, Leigh had intended to teach high school and never expected to teach middle school. Fieldnotes indicated Leigh laughed as she elaborated saying, "I really didn't intend to go into middle school," and "I fully intended to be a high school science teacher." She further explained that "I had a job over at the high school, but that was the year they opened the other high school and their numbers kept flip-flopping around, and I ended up here at Center Middle School." The principal at the high school asked that the Center Middle School principal hire Leigh for a year "until we can get her back." Since teaching at Center Middle School, Leigh had a few more opportunities to go to the high school, but explained "they just kind of fell through." She further elaborated saying, "they would either hire a science teacher that was a coach, or a coach that ended up being a science teacher." Leigh concluded saying, "the longer I stayed here, the closer my kids came to being here at the middle school, and by that time, I had fallen in love with science at this level."

Leigh felt the present school year had gone very well, but had been very busy and "hectic" as well. She had been extremely busy with the preparations for the visit by the Southern Accreditation of Colleges and Schools (SACS), which occurred in November of the current school year. Additionally, Leigh attributed much of her stress to pressure placed on her and other academic teachers to meet goals and to adequately prepare for standardized testing, which would occur later in the year. Leigh was teaching on a team with a high number of students who were limited in their English proficiency, so additional challenges were placed on her. She said, "that's been a new experience, but I think we're all working on the same page now."

Leigh also explained that her paperwork had increases during that school year. She said, "paperwork is heavier again this year, but it seems like every year we get to document more and more." She described the increase in paperwork, but also noted that she had adjusted well to her

extra work. Leigh explained, "I guess we just have to go with the flow with all this stuff. It's all I can do." Fieldnotes indicated that she laughed as she said, "you either go with the flow or you go crazy, one of the two." Leigh also stated that she felt pressure due to the lack of preparation time, but had taught with the same textbook once before. As a result, she had already prepared much of the material she needed for the class.

Leigh discussed meetings as a primary source of her stress and frustration. Her team met every Monday and every Wednesday, and on occasion, had other meetings in between those days. As a result of the meeting times, Leigh was forced to take work home. She experienced frustration since she believed, "so much of the meeting time is not really for the kids." Leigh also believed that the meetings were not necessarily helping student achievement. She elaborated more by saying:

> I don't see it helping the kids in my room do any better on their science scores or on the CRCT test. I really just don't know where we are going with all the meetings. I don't see it as improving a lot of what I do in the classroom. I know it does in certain areas because we are targeting certain areas, but as far as my subject goes, I don't think so.

Leigh further explained that she began to resent the need to take some of her work home. She felt that taking work home could be avoided if meetings were reduced to what was necessary. She said, "you know you could be using that time. I know I could be using a lot of that meeting time."

Despite the challenges and frustrations of the school year, Leigh had been experiencing positive aspects in her job. In general she stated, "I still love working with the kids and I still love the relationships with the kids, and I like seeing their faces light up when they do great on a quiz." Leigh also explained that she found joy in seeing the kids become prepared for their high school science courses. She explained saying, "I still like seeing that transition as we go through the year with eighth grade." In reference to those students who did not make the transition well,

she said, "I think our school has always worked very hard with those target groups that are still having problems." She concluded by saying, "I think we've worked hard to bring them up to where they need to be."

Leigh discussed her mentoring experience in a very positive way. She explained that the year had been "interesting" since her protégé, Jeremy, had come from law enforcement and was not as young as some of the novice teachers typically hired at Center Middle School. Leigh stated, "it's not like mentoring somebody fresh from college that has no experience, so it's been real interesting." She further explained, "I've been learning as much from him as he's been learning from me." Leigh stated that she "just kind of showed him a little in the education world," and Jeremy "has a real good grasp on teaching and the actual techniques of teaching."

Leigh explained that most of Jeremy's issues pertained to pacing and procedural questions. She elaborated saying, "most of our conversations have not been about the philosophy of how you teach." Leigh also explained:

> The discussions have been mostly in reference to just mundane issues like classroom management, procedures, how you do this, how you do that, and a lot about curriculum pacing, you know, just how to handle different situations with students and parents, and that sort of thing.

Leigh continued stating, "they've been more in the line of question and answer sessions, such as 'how long do I spend on this chapter'?"

Leigh also explained that she had worked with Jeremy on student assessments as well. She said, "a lot of advice has been how to evaluate kids" and on "knowing just how to come up with that final grade." In one e-mail from Jeremy, he asked Leigh how to calculate the grades of students transferring in from other schools and systems. In her reply she wrote, "I usually take a look at their transfer grade and use it as their grade if they come in too late in the nine weeks." Leigh also wrote, "or you can use their transfer grade as a percentage of their grade and your

grade as a percentage." In reference to grading, fieldnotes indicated a smile of friendly disagreement as she said, "we have a philosophical difference in what we believe in, and we've had a lot of discussions on it." Additionally, Leigh had worked with Jeremy on frequency of student assessments. She explained:

> I was asking, 'how do you know if they've actually learned this section? How do you know if they know the material on section one if you don't give them a quiz or test over it? You've already moved on three sections.' So he's learning to teach smaller amounts of material, teach smaller chunks, test more, and give more frequent small quizzes.

Leigh further elaborated saying, "I think there are still some problems there", but concluded by saying, "we're still working on that a lot, but he's very competent."

Not only had Leigh and Jeremy experienced some differences in opinion on the subject of grading, but they also had noted differences in their classroom management and teaching methods. Leigh explained, "he likes to do lots of hands-on, loud, chaotic things, whereas I do lots of drill practice and more concentrated thing." She further explained, "I think he's learning that he can't do hands-on all the time and that some kids need more structure than he's giving them." Leigh summarized their mentoring topics by saying, "so those have been most of our conversations, just everyday things that come up."

In reference to mentoring in general, Leigh explained that in the past, she would "always be taking people under my wing," and that she did not mind helping novice teachers. She elaborated saying, "I think as teachers we're kind of giving people anyway." Leigh related her mentoring duties to those of teaching students. Leigh stated, "we're always instructing and teaching kids, and I have never minded doing that with a peer as well. That's kind of what I feel like I do. It's just guiding and answering questions." She concluded saying, "mentoring has just been kind of a normal thing for me all along."

Leigh's Perspectives on Electronic Mentoring

Leigh offered insight into the process of mentoring through electronic mail. She initially discussed various benefits that can be gained from participating in electronic mentoring. As other participants in the study, Leigh felt that electronic mentoring had been "really convenient" during the daily rigors of teaching. She said, "there have been a few times where we have been tied up in testing, like when we giving the ITBS and he [Jeremy] had a critical question that he needed answered." Leigh further explained, "I leave me e-mail on and I can see the screen from the front of the room so I can usually tell when something pops up, so I try to be real quick, especially knowing that he might have questions." Leigh elaborated saying:

> I've been real careful about keeping an eye on the e-mail to see if he had any questions. There have been a lot of times where Jeremy has popped a question right in the middle of class that he needed answered right away, and that has been very convenient.

Leigh added to her thoughts in one of her journal entries. She wrote, "it is convenient to answer questions that Jeremy might have immediately by responding through the e-mail, and in this way, I can answer his questions without having to leave my students unattended, and he can do the same." Leigh believed that electronic mentoring allowed her to correspond quickly and easily with her protégé without leaving the classroom.

Leigh further discussed the benefits of electronic mentoring as they related to the time involved in the process. She explained that electronic mentoring was a very easy and convenient method of mentoring when "answering quick questions back and forth." Leigh added:

> It would be easier to sit down and type that response and send it when it's convenient for me than to try to go out of my way and find a time when we can both meet and come together to do it face-to-face.

Leigh further explained that "it would be more convenient for me to just send that answer I need to tell Jeremy whenever I can do it, whenever it's convenient." She also stated "all those mini

little first-year teacher questions that they have, it's definitely the way to go as far as getting them answers quicker, faster, and it saves time." To summarize this concept, Leigh stated:

> It's been such a convenience just in saving us so much time. I just can't remember how hard it was to go get an answer from somebody about something. We used up all our planning time just running around trying to find somebody that we needed an answer from and you can just shoot it off to them now and get answers back. You can do the same thing with a protégé.

In this manner, Leigh believed that electronic mentoring was extremely efficient when dealing with simple issues which did not require a great deal of discussion.

Leigh took her ideas a step further stating that some issues may be discussed more easily when using electronic mentoring, rather than face-to-face mentoring. She said, "if you're not comfortable speaking face-to-face with somebody about touchy issues, sometimes it is easier to talk through a computer screen." Leigh continued by explaining that with electronic mentoring "might be easier for some people because some people do have a hard time just telling people like it is and having honest communication." She further elaborated saying:

> When you have uncomfortable type things to discuss, it might be easier for people to discuss through the Internet. Sometimes it's just a little more personal than meeting people face-to-face. I think he's [Jeremy] having some issues with classroom management and it's just more of a style difference. He's just so laid back and can handle so much more chaos going on in a classroom, but it's to the point of the detriment of some students who can't learn. We've had to have some conversations in that direction, but he's so professional about it that he hasn't taken it personally.

Leigh concluded saying that with electronic mentoring, it was possible to communicate "without offending somebody or without them becoming defensive."

Leigh also believed that electronic mentoring provided an effective method of maintaining records. In one journal entry she wrote, "it's allowed us to keep a record" and "it does give you a written record of what you said." Leigh explained that the records had been beneficial to her as a mentor, since she and her protégé were required to document a certain

number of hours of mentoring time. She explained, "we're required to document 45 hours of contact time, so I don't know how in the world I could document that if I hadn't had some of those e-mail records."

Leigh described this idea in more depth by explaining that the mentoring records provided by electronic mentoring could be used to supply documentation to administrators. In one of her journal entries, she elaborated writing:

> One other benefit that comes to mind is that when we need to discuss issues. I can 'cc' [carbon copy] an administrator that I would like to be involved in the discussion without having to go to them and start from scratch explaining the situation.

She further explained that mentoring conversations could be used to provide support to school leaders who may be facing the need to implement corrective measures with new teachers. She explained:

> By having it over the Internet, where you have a record of it, at least you do have a record of the help that has been offered because if there's an incompetent teacher, you've got to document that as a mentor. You're part of that process in seeing that this person becomes competent in their field.

Leigh believed that the records could provide proof that problem areas were discussed, and future actions could more easily be discussed by administrators.

Leigh also believed that the records provided by electronic mentoring could be used in the process of removing an incompetent teacher from a school if corrective measures were not adopted by novice teachers. She explained:

> Let's say you have a protégé that's having problems and the administration needs to know about it, well here's your record on your computer of what you tried to do to help them. As a mentor, you've done everything you can, plus it's a documentation for the administration, too. They have to document so much that if you get a teacher that meets the 'needs improvement' categories that they have to document so much to be able to boot somebody out these days. That could become part of the documentation. You can go back and call up that record you wouldn't have otherwise.

Leigh concluded saying, "so having records that you have offered them this help, and by having it typed, there it is, there is your record."

Leigh believed that some issues may arise while mentoring through the use of electronic mail. Leigh first described that one must be an effective communicator to use electronic mentoring. She explained that in mentoring communication, "you would need to see what emotions are behind it, what frustrations are behind it, and you can 't always tell that from what's written." Leigh explained that in the mentoring relationship between her and Jeremy, "it's pretty cut and dry, and we both have a pretty dry sense of humor." As a result, most of the time understanding communication was not an issue, but Leigh speculated that "if that was your main way of mentoring is through the Internet, there are lots of times when that wouldn't be adequate to me." Leigh further explained that "I think I'm enough of a communicator to make sure you understand what I mean, but probably a lot of it depends on your ability to write."

Leigh explained that not only must one be an effective communicator, but that one must also be prepared to spend time at the computer to discuss more in-depth issues over the Internet. She said, "it's really hard if you are needing to discuss something that is very involved that takes a lot of time." Leigh then stated:

> Having heavy duty discussions, or if you really need to have a heart-to-heart talk, it's not going to be a very effective way. My own personal opinion is it wouldn't be a very effective way of mentoring, but as far as handling just day-to-day, mundane business of the classroom, 'yeah,' it'd be great to just zap questions back and forth and get answers right away because there are a million things that as a new teacher you don't know.

Leigh believed that discussions that stretch beyond the "mundane" issues should be handled in person due to the difficulty in typing discussions. Leigh further elaborated saying, "that takes a lot of time and it's very involved to sit there and type all that back and forth over the e-mail."

Leigh concluded saying, "that's very time-consuming and it's much faster just to say it to somebody."

Leigh discussed other issues that may arise in electronic mentoring as well. She discussed the possibility of experiencing technical difficulties while participating in electronic mentoring. Leigh discussed this concept from experience, since the Center Middle School e-mail system had been closed down due to a virus. She explained, "it's kind of hard to use when you're having computer problems all over the place, particularly the past three days because I haven't talked to Jeremy through e-mail very much." Leigh further elaborated stating that when e-mail systems experience technical difficulties and have to be closed down, electronic mentoring becomes "not real convenient" since one must try to find other means to access the Internet. She further explained, "you'd have to do it at home, so there you are taking more of you home time away."

Leigh presented insight into an additional issue that may arise in electronic mentoring. In circumstances in which a protégé needs a quick response from a mentor, the mentor may not be aware that the protégé has sent an e-mail. Leigh explained that she could see "when there's an e-mail up there, which is not so hard from my vantage point where my computer is." Leigh then speculated on other circumstances which would not be as easy for the protégé. She said, "but in your rooms, computers are in different places, so people would probably just have to go over there and check occasionally." Leigh viewed this idea a negative aspect to electronic mentoring. She further elaborated saying:

> I keep the e-mail on there, the in-box, so I can see if anything popped up, so I usually check them occasionally, but I do have a screen saver, so once that screen saver pops up, I have to go mess with it to see it pop up.

Leigh discussed with the researcher that some Internet communication systems have audio tones which indicate that e-mails have been received. In reference to the effectiveness of having a tone in the classrooms of mentors, Leigh stated, "I'm not sure I'd want that tone constantly." She further explained, "I have one class where if anything happens in class, any little noise whatsoever, they are off on a tangent and you can't get them back."

Leigh concluded her discussion of the possible issues that may arise in electronic mentoring by discussing the impersonal nature of electronic mentoring. She explained:

> I think part of mentoring is getting to know somebody personally and building a relationship with them. I think that's a big part of mentoring, but it doesn't mean you have to become best friends with them, but you do build a relationship. He [Jeremy] has to trust that I'm telling him the truth about something. He has to trust that what I'm saying is as honest as I can make it, and you can't do that without at least getting to know somebody a little bit. I think it's hard to get to know people on a personal level through the Internet.

As a result of her perspectives on the impersonal nature of electronic mentoring, Leigh explained that face-to-face mentoring would be a necessary enhancement to electronic mentoring programs. She elaborated saying, "I think that using e-mail for mentoring is overall a good idea, and it has a lot of advantages, but in some situations, you need to talk to that person face-to-face." Leigh summarized her perspectives saying, "some issues would be better handled face-to-face, but for the majority of the mentoring you do, most people probably do great just using the Internet."

The Protégé, Jeremy

Jeremy was a 41 year-old science teacher completing his first year of teaching. Jeremy had lived his early years in a town nearby Center County. As a teen, he and his family moved to Center County, where Jeremy attended high school in the Center County School System. After high school, he joined the United States Army, where he was stationed in Germany for two

years. During that time, Jeremy served as a military policeman. As a military policeman, Jeremy was assigned various security jobs, including one in which he was vital to national security.

After leaving the military, Jeremy began college. During that time, he earned an Associate's Degree from a local community college. He later earned his Bachelor's Degree in political science from a nearby university. While finishing his degrees, Jeremy worked in various jobs such as rock masonry and carpentry. He had also worked for the state of Georgia as a disability adjudicator, but "didn't particularly like that job."

After Jeremy finished college, he began a career in law enforcement. For many years, Jeremy was a field training officer. In that job, he was responsible for training and teaching individuals to become police officers. It was during this time that Jeremy began learning to teach others. After many years in law enforcement, Jeremy "burned out" and began to contemplate a career change. He began to consider teaching and returned to college to earn certification in middle grades education, with a concentration in science and social studies. When the researcher asked Jeremy what led him to teaching, he said:

> For me to enjoy a job, it would have to be serving the public, so that was one thing. I'm not going to be a CEO and make a lot of money, that's just not me. Second is that I had kind of burned out on law enforcement, but I had been a field training officer so I had done some teaching of police officers, teaching them how to be police officers, and I enjoyed that part of it. I didn't know if that would translate to teaching kids, but I thought it might, and when I got to my in-service last year, I really enjoyed it, so here I am.

Jeremy believed that his law enforcement experience helped prepare him for his new career in education. He explained, "you're dealing with the public in law enforcement, and in a way you're dealing with the public here, just a little younger age maybe, but you learn to be patient."

Jeremy further explained, "you have to keep a professional demeanor" and "it's kind of like dealing with parents here at school and I think there is a correlation."

Jeremy felt that he had received some additional preparation during the previous school year. He stated, "I did my internship, and as soon as I finished it, I did the last half of the year as a long-term sub." He added, "I learned a lot in that half year and put me a little bit ahead of the game as far as classroom management and that kind of thing." Jeremy concluded his discussion of his previous experience by saying, "I made mistakes there and learned from them, so instead of being here a half year, it seems like I've been teaching a year."

At the time of this study, Jeremy was completing his first year of teaching. He was teaching eighth grade science and one literature class in the morning. Jeremy stated that he felt good about his first year, and he believed that the year had been "going well." He said, "I think it's going pretty smoothly considering it's my first year." Jeremy further elaborated saying, "I heard a lot of horror stories about first-year teaching, but the personnel here have been great." In discussing his current job in teaching, he said, "I know there's a lot of things I need to learn, and I'm nervous about doing a great job, but I'm not really nervous, I'm confident."

Although Jeremy had positive experiences in the first few months of teaching, he had experienced some issues as well. He explained:

> There's so many little details that I'm not aware of since this is my first year, such as the amount of meeting time for example, plus you still have to get your lessons in and do good lessons with the amount of meeting time. We have to do a lot of work at home, so this is not an eight-hour job. This is a 10 or 12 hour a day job, plus the weekend work. I'm just kind of going through the first year realizing all the things I have to do, such as the improvement plan, and all that kind of stuff that I had not anticipated until you get here. It adds up and it keeps you fairly busy.

Jeremy was facing the issues of time and accomplishing "all of his tasks," but stated, "I can do it. It's not like I can't accomplish what I have to accomplish. In the fieldnotes, the researcher noted

Jeremy's facial expression of confidence as he assured the researcher that "it sometimes feels like you're a little swamped but that usually passes." He summarized stating that overall he had experienced a "very positive first year in teaching."

Jeremy discussed other positive aspects of his first year of teaching. He explained, "it's just the camaraderie between me and the students, I love it." He elaborated on the camaraderie saying, "You know, I just get a high off of that. I get a kick out of it and you know, if things are going well, they're having fun and learning both at the same time." Jeremy was trying various teaching methods to keep the students engaged and interested. He explained, "I try to mix it up. I don't try to do all group activities, not all hands-on, I try to mix it up and just try to adapt to all the different learners and also keep the kids from getting bored." His various teaching strategies and focus on the students gave Jeremy, in his opinion, an effective working relationship with his students. He further explained:

> It's kind of how you approach it. I would say I'm not their buddy, which I don't think you're supposed to be their buddy. You're the adult and they are the kids. But, I'm not their strict disciplinarian, I'm not their daddy. I guess if you have to give an analogy, it would be like an uncle. I'm an adult figure but I'm not their parent.

Jeremy also stated, "you have to kind of test it and see how it works. I'm new so I'm having to work that out." Overall, Jeremy believed he had had positive experiences in his first year of teaching, in his relationship with his students, and in his relationship with his mentor as well.

Jeremy had established an effective working relationship with his mentor, Leigh. He explained that many of their conversations were "just nuts and bolts conversations." Jeremy elaborated saying the conversations would sometimes center around issues such as procedures, rules, and meetings dates. Jeremy and Leigh also discussed pacing and subject matter, on occasion. Jeremy explained:

> I was pretty knowledgeable about the astronomy. I didn't really ask that much about that with her [Leigh], but now that we're into geology, my background in that is not very strong, so I will be really leaning on her for that lesson plan material.

Additionally, Jeremy and Leigh discussed classroom management issues and various approaches to teaching. Jeremy elaborated on the value of these discussions:

> I pick her brain to see what her classroom management style is, what her teaching approach is, what kind of lessons she gives, and how she thinks is the best way to teach these kids because she has a 7-12 certificate, so it's a little bit different approach in college in pedagogy of how you teach kids, so I'm seeing what her approach is to that.

Jeremy believed that mentoring was necessary part of learning teaching styles and approaches during his first year. In reference to mentoring, he stated, "well I don't think you can do without it." He further elaborated saying, "there's a lot of information you have to learn, there's a lot of experience you have to get before you're good at it, and you need somebody to walk you through that."

Jeremy summarized mentoring saying, "you need mentoring, there's not doubt about it." He believed "it's not just for the knowledge, it's also somebody to lean on, and it can be sometimes overwhelming." Jeremy believed that he could have survived without his mentor, Leigh, but that his time with her had "provided some perspective and insight" into surviving the first year of teaching. He concluded saying, "If you don't realize that there's light at the end of the tunnel, you might not decide to stay."

Jeremy's Perspectives on Electronic Mentoring

Jeremy offered many perspectives on mentoring through the use of electronic mail. As most of the other participants, Jeremy believed that electronic mentoring provided several benefits. The first benefit he mentioned was the ability to correspond when it was convenient for the mentoring partners. Jeremy stated, “it doesn’t really take away from your schedule or what

you're doing." He explained, "if you're in your room and your doing something, or making lesson plans, you can type out an e-mail and it's no problem."

Jeremy also explained that electronic mentoring was a very easy form of communication, especially when dealing with simple issues. He said, "with just general problems, I would just use the Internet." Jeremy explained that simple issues could be addressed without having to interrupt someone or to go find them. He said:

> I've had a couple of times where she was in a meeting or something and I couldn't pop in, so I just type in an e-mail and she saw it, and typed right back to me even though she was in a meeting, or after she got out she checked it and typed me back an e-mail.

Jeremy added to this idea saying, "I might have had to go somewhere before she got through with the meeting and when I got back, there was her answer." He concluded saying, "we can communicate where we might not be able to without e-mail."

Jeremy discussed one additional benefit of electronic mentoring. He explained that mentors and protégés may speak more often when using electronic mentoring. He said:

> You use your computer a lot to make lesson plans, so while you're there, it's very simple to e-mail. You might just go ahead and type out a question real quick. So in other words, if you didn't use e-mail, you might have to get up out of the desk and walk down to the room or whatever. You might not do that, whereas if you're right there at the computer you might just go ahead and ask a question.

Jeremy further explained, "I think it may help you communicate more, which is good between you and your mentor.

After discussing the benefits offered by electronic mentoring, Jeremy began to consider other aspects of the process. First, he considered his perspectives on using electronic mentoring as the only means of communication between protégés and mentors. He initially said, "I think that would be a bad situation," and "I don't think that's a very good way to do it." Jeremy elaborated saying:

> I understand that's kind of the wave of the future. We're teaching through distance learning, and that kind of thing, but especially with mentoring, that's more of a one-on-one relationship. It's not a teacher with a class. Doing it that way would not be anywhere close to effective as having a mentor on location.

Jeremy continued saying, "you could pull it off, but you wouldn't even come close to taking the place of the one-on-one relationship of a mentor in a school. When the researcher asked Jeremy what would be missing if electronic mentoring were the only form of communication, he explained:

> First of all you would be missing the access to the mentor. Second, when you form a personal relationship, maybe you ask them personal questions that would benefit you, and you need to know more than just how to be a good teacher. You need to know the principal's mindset, how to walk your way through the minefields of that particular school, and what the culture's like there. All of those kind of things a mentor does is not necessarily related to teaching.

Jeremy believed that the availability of mentors on campus was critical to effective mentoring for novice teachers. His discussion of this issue led him to consider other electronic mentoring structures.

Jeremy also began to consider electronic mentoring where the Internet was the only form of communication, and the participants remained anonymous to one another. He explained, "if they don't have a name where they can follow-up on it, you would feel more open." Jeremy then said, "however, if you had a one-on-one mentor at your location, if you build up a good relationship with them, you could actually do the same thing." He also explained, "if you don't know who they are, you don't trust them." Jeremy concluded his discussion of anonymity by saying, "if you end up not having a good relationship with that mentor, then maybe it would be more beneficial to have this anonymous person."

Jeremy's discussion led him to begin considering the issues that could arise while using electronic mentoring. He began by explaining his personal bias against using electronic

mentoring. He explained, "I'm not that knowledgeable about technology and maybe I have a semi-bias against it." Jeremy elaborated saying, "originally I thought there's no reason for me to get involved with this unless I have to, and that's kind of the way I've been with computers." Jeremy had grown accustomed to using his computer, but still believed there were various issues with the process of electronic mentoring.

The first issue Jeremy discussed was the issue of understanding text. He explained:

> That is the problem with the Internet. Your message is misconstrued. You can read a lot into messages. That happens a lot where the tone is misconstrued, which can give a completely different meaning from what you actually meant.

Jeremy did say that this issue may not arise "if you're a good writer," but he admitted "I don't happen to be a good writer." Jeremy concluded his discussion of this issue by saying, "I don't know how effective it is unless you're a very good writer. I don't think most of us are that good of a writer. Great novelists are."

Jeremy also believed that in his case, electronic mentoring could not be done during class time. He explained that one must watch the computer screen to determine if partners are sending messages, which "would interfere with my class." He elaborated, "personally, I'm not going to watch for anything while I'm teaching" and "I'll look in between classes and see if I've got any messages." Jeremy also explained, "I don't look to be that direct. It would interfere with my class." As a result, Jeremy believed that where the Internet was the only form of communication, urgent issues could not be addressed if the mentor was teaching at that time. He explained, "when you stop the class to go find out something, I think you've missed some valuable opportunities to teach other things." He concluded, "you can always come back later with that information. I don't think you stop your class."

Jeremy believed that face-to-face conversations were more effective for in-depth issues. He said, "there might be some problem where I might want to go face-to-face instead of using the Internet." Jeremy further explained that electronic mentoring could cause participants "might not cover as much ground." In reference to using the Internet for mentoring, Jeremy stated:

> One problem could be that you might depend too much on it for your conversations. You're less likely to go off on tangents in your conversation on the Internet than you would in person. In other words, you might have planned to cover one area, but if you get in a personal conversation, you might end up going on tangents and covering areas you did not plan on covering, which can be beneficial. You wouldn't do that on the Internet because it's work intensive, a lot of typing. Actually, even if people can type well, it takes longer to type than to talk.

In one journal entry Jeremy reiterated this point explaining, "you might miss out on some things if the Internet causes you to cut down on face-to-face interactions."

In summary, Jeremy believed that the Internet was "a tool that can be beneficial." He qualified, however that "the real crux of mentoring is having a mentoring teacher and a new teacher in a relationship. E-mail is just a tool to help that along." Overall, Jeremy preferred face-to-face mentoring over using only electronic mentoring. He acknowledged that "there are all these variables that factor into it," but "I guess my summary of using e-mail for mentoring is that it can be a valuable tool that is an addition to regular mentoring." He gave an analogy:

> When you ask me about e-mentoring versus having a personal one-on-one mentor, it reminded me of the distance learning at universities and having a professor in class as opposed to having a professor on a screen. That's kind of the comparison I've made and I think that a professor in class is much more effective.

In reference to electronic mentoring Jeremy further explained, "I don't think it should be a replacement for one-on-one mentoring." He then stated that having electronic mentoring and a face-to-face mentor to "supplement each other is the best of all worlds." Jeremy believed that both face-to-face mentoring and electronic mentoring should be used together and concluded, "it can be a supplement to having a mentor, and a beneficial supplement."

Content Analysis

Leigh and Jeremy's e-mail correspondence occurred from August 2003 to October 2003. In October of 2003, their correspondence through e-mail began to slow down, and they began to correspond more face-to-face. Leigh explained that the reduction in e-mails occurred due to the fact that many of the procedural issues had been dealt with in the first two months of the school year. She explained, "we just prefer to meet in between classes and chat about what's going on. It's just easier." Table 17 presents the frequency of e-mails sent by Leigh and Jeremy during the course of the study.

Table 17

Frequency of E-Mail Correspondence Among Leigh and Jeremy

Study Participant	Number of E-mails Sent
Leigh	12
Jeremy	10

Leigh's and Jeremy's e-mails became less frequent as the study progressed due to their growing preference for face-to-face mentoring over electronic mentoring. As a result, they did not correspond at a minimum of twice weekly, as the mentoring program outlined.

Leigh's and Jeremy's e-mails were longer than Jordan's and Mitzi's in average number of words per e-mail, but less than those of Hannah and Kirsten. Table 18 presents the average length of the e-mail correspondence between Leigh and Jeremy.

Table 18

Average Length of the E-Mails Sent by Leigh and Jeremy

Study Participant	Average Length of E-Mails Sent
Leigh	81 words
Jeremy	34 words

The e-mails between Leigh and Jeremy addressed various issues of the procedures of Center Middle School. The issues discussed included topics such as grading procedures, quiz results,

lesson plans, and advice on handling routine tasks such as filling out progress reports. Leigh and Jeremy focused a large portion of their correspondence on grading and lesson planning. This was the result of Leigh's and Jeremy's varying opinions on the procedures for weighting grades. Most of their discussions on the grading procedures were handled online. Table 19 presents the content of the mentoring correspondence sent by the mentor, Jeremy.

Table 19

Content of E-Mails Sent by Leigh

E-Mail	Content of E-mail Exchanges
1	Lesson plans/grading system/quiz results
2	Quiz results/Offered help on teaching strategies
3	Quiz results
4	Advice on giving quizzes/grading procedures
5	Lesson plans
6	Lesson plans/advice on assessment/advice on differential instruction
7	Lesson plans/advice on giving quizzes/advice on chapter tests/grading
8	Gave information on handling lockers and money for lockers
9	Advice on teaching a section on lunar and solar phases
10	Gave information on completing progress reports
11	Offered supplies
12	Gave information on the grading system

Leigh and Jeremy focused their e-mentoring conversations on lesson plans and grading procedures. Leigh had spoken with the principal of Center Middle School and had received specific instructions, “to help Jeremy to establish his grade book properly, and to help him include key elements of evaluation in his lesson plans.” She wrote in an e-mail, “the principal has asked me to make sure that you were comfortable with the points grading system and how to evaluate students.” Leigh reviewed Jeremy's lesson plans numerous times at the beginning of the school year to help him include all of the items the principal wanted him to include. Table 20 presents the content of the mentoring correspondence sent by the protégé, Jeremy. Jeremy's e-mails followed many of the same topics as those of Leigh, his mentor, since some of them were sent as responses to e-mails sent by Leigh.

Table 20

Content of E-Mails Sent by Jeremy

E-Mail	Content of E-mail Exchanges
1	Discussed quiz results
2	Discussion of lesson plans
3	Discussion of lesson plans
4	Discussion of lesson plans and differential instruction
5	Discussion of remediation and enrichment procedures
6	Question of lockers
7	Reported quiz results
8	Discussion of quiz results
9	Requested supplies
10	Question on grading system of students transferring in from other schools

The mentoring correspondence between Leigh and Jeremy began to become less frequent in the late fall, just as it did with the other mentoring pairings. Many of the procedural issues were addressed at the beginning of the school year. The correspondence gave Leigh and Jeremy enough time to realize their perspectives on mentoring through electronic mail. Leigh and Jeremy offered insight into electronic mentoring and the issues that may arise while participating in electronic mentoring. Chapter 8 presents the perspectives discussed by the participants during the focus group interview.

CHAPTER 8

FOCUS GROUP

The focus group interview occurred at the conclusion of the study after all individual interviews were completed. As a group, the participants offered many perspectives on mentoring through the use of electronic mail. The group offered perspectives, discussed benefits and issues of the process, and included speculation on the effectiveness of other structures of electronic mentoring programs. The focus group interview offered many insightful perspectives on using electronic mail for mentoring novice teachers.

The conversation with the focus group began with a discussion of the benefits offered by electronic mentoring. Leigh initiated the discussion by explaining her ability to more easily answer her protégé's questions "in the middle of class." She explained:

> It can come in handy in a lot of situations. I also think if you had a question in the middle of class and you really need an answer right away then you can e-mail. I usually have my eye on the computer so I can see when he e-mails. Sometimes we just get so wrapped up in so many other things like planning, that we don't have time to chat, so using e-mail that way is good.

Leigh continued, "it's just the unique way that my computer is arranged in my room. You can see it from where I usually am in front of the room so that I can kind of see when something pops up."

Jeremy discussed the benefit of possibly communicating more with mentoring partners. He explained, "it made me communicate more than we would." He further elaborated, "if I had to walk to her [in Leigh's] room, I might not have communicated, but I could just type out an e-mail real quick so I might have communicated more." Jordan agreed with Jeremy, but went further by explaining that electronic mentoring helped him to consider his protégé more. He

said, “it’s made me communicate more than I would, just because you get busy, and it makes me think of Mitzi more.” Jordan even sympathized with his protégé and the need to address all her questions and concerns. He stated, “I have 10 million questions too, I can’t imagine you all.” Jordan further elaborated, “I just think it’s been a good extra tool of communication, and additional tool of communication.”

Jordan then began discussing the ability to e-mail messages easily and quickly to mentoring partners. He said, “she has [Mitzi] come in and worked hard and to me, it’s been a good thing to just efficiently pop off an e-mail of just little reminders of things.” Jordan also stated, “sometimes I don’t remember everything but she [Mitzi] always sends me reminder.” His statement demonstrated that the reminders had been initiated by him and his protégé. Hannah agreed with Jordan’s statement and said, “it’s hard to remember everything.”

Hannah discussed the benefit of reflection provided by electronic mentoring, and she explained that electronic mentoring provided an effective tool for reflection on “teaching and pedagogy issues that could be handled from a distance.” Hannah also stated that electronic mentoring provided records of issues that had been discussed among mentors and protégés. She said, “it’s a good way to keep records on our discussions”

A final benefit discussed by the participants was that electronic mentoring could allow mentoring partners to begin corresponding earlier. Leigh stated:

> I can see where in my own situation starting out that first summer with all the new text books and trying to find something to prepare, I could have really used somebody back then to answer my questions before I ever got here. That would have been a really good way to get started on the mentoring relationship.

Jeremy then stated, “I didn’t even know who my mentor was.” His mentor, Leigh, then apologized, but Jeremy clarified that it had not been her fault. Jeremy then stated, “there should be a summer contact.” Leigh added, “that’s a great idea,” and she indicated, “you can be paired

up with your mentor at the beginning of the summer." Leigh further explained, "you can exchange e-mail addresses, and that would be a great head start for somebody to do." Hannah then explained, "at the university where I teach undergrads, I tell then to find their school and be there all summer beforehand."

The participants discussed various issues that may arise while mentoring through the use of electronic mail. One issue discussed was the difficulty in having in-depth conversations over the Internet. The participants agreed that when dealing with issues that require more discussion than simple questions and answers, it would be easier to discuss them in person. Leigh stated, "in that case it would be easier to just pick up the phone and call." Jordan then added, "sometimes yes, if you've got a lot little details, it might be easier to call them somehow."

Technical issues were also discussed by the participants. Hannah initially stated she worked on her computer so much that she would not see e-mails coming in from her protégé, since she primarily worked in other programs. She stated, "for me, what I was meaning is that I have to work on that computer so much that I need a way to have a two-screen computer." Hannah further explained that she had difficulty watching for incoming e-mails due to her busy schedule as the school's Instructional Lead Teacher. Hannah further reflected on this thought:

> It kind of made me jealous when Leigh said she could keep her eye on the e-mail because a lot of times I can't with what I'm doing. So, if she were to send me something, I would probably leave Kirsten hanging in that sense. That's what I feel like is a possible downfall of it [e-mentoring] is unless you have something you can get to and help somebody with that question.

The discussion on being able to see the computer screen led Kirsten to consider other issues that could arise.

Kirsten discussed an additional technical issue that one may face if computers are not available outside of the school environment. Kirsten said, "well I don't have a computer at

home, and I don't have e-mail at home." She reflected on the previous summer, "in the summer time I did a lot of planning and there were several times I had to call Hannah with certain questions." Kirsten pointed out that if electronic mentoring was the only form of mentoring being used in a school setting, some protégés may not have access to their mentors outside of the school environment if they do not have computers at home. She explained, "with [my] economic circumstance, I just can't get a computer right away, so for certain people e-mail might not be that accessible." She reported being limited and that "I can only e-mail right here at school."

The group also discussed the impersonal and unclear nature that can exist with electronic mail for mentoring novice teachers. The participants felt that the tone of the text cannot always be understood. Kirsten initiated the discussion with this thought, "I've said several times, I like the e-mail but I know several times Hannah will e-mail me back 'are you ok?, are you crying?, are you yelling?'" Kirsten then stated, "Hannah and I have a very personal friendship too, but you can't tell unless you really know that person and how they sound in their e-mail." Hannah added, "well even if you do know them, words are just words and it's hard to tell." Kirsten concluded, "e-mail is so impersonal that you can't tell a lot of times the tone of the person and what they are saying."

Not only did the group believe electronic mentoring was impersonal, but they discussed the need to know the individual school's context to help novice teachers with issues. Jordan began, "a lot of the things that you deal with are things that happen within the school." Jordan added, "it would be hard to communicate that kind of stuff unless you deal with just a teaching issue or a subject issue." Mitzi then added, "a lot of times that's not the trouble that we're having trouble with." Jordan explained that sometimes the issues are basic such as "when is this

due?" or "is the catwalk [breezeway] closed?" Hannah added, "or how many meetings can I go to?" and Leigh concluded, "yes, it's that kind of stuff, logistical stuff."

Kirsten continued by explaining:

> In my interview, I was telling him [the researcher] that my lady I student taught under is just over in the next county, and from that classroom situation I think I had maybe five Hispanic kids throughout the whole entire classes I taught. Here I'm on an ESOL team, so she only being 20 miles away can't relate to my kids. My biggest problems were adjusting to the ESOL language differences, and there was no way that she could give me advice being in the other school system she was from. So I think that would make a big impact having the same cultural diversity in a different school than from where your mentor is at. They've never dealt with that Hispanic population or any kind of cultural diversity, and they couldn't necessarily relate to your level.

Hannah then added, "I think Kirsten's point is that with long distance and [an] e-mentoring type situation, it needs to be the same type of school population." Hannah then explained that if the mentor and protégé were in different school settings, "it wouldn't matter how many e-mails you sent." Hannah elaborated on her point, "if they've never dealt with that population before, they are not going to be able to help you."

Hannah also stated that veteran e-mentors would not be able novice teachers "without knowing that culture and without knowing how those learners learn." Kirsten added, "even with structure, our team is at-risk with ESOL and special education [students], and I could see telling another teacher that and having them say, 'you have what'?" Hannah concluded, "that would be something to think about with e-mentoring is to make sure that you are looking at very similar school demographics."

The participants also considered the need for face-to-face mentoring and compared their perspectives with their experience in electronic mentoring. The researcher asked the participants if electronic mentoring could ever replace face-to-face mentoring. Leigh responded with, "I say no," Kirsten said, "I agree with the no," Jordan agreed, "I don't think it can replace, no," and

Jeremy concluded with, “I definitely agree with that.” The fieldnotes indicated that Hannah and Mitzi both shook their heads indicating an answer of “no” as well. Hannah added a thought in reference to Kirsten’s and Jeremy’s response, “that’s interesting seeing a new teacher immediately saying, ‘no’.”

Kirsten added her opinion of electronic mentoring, “I would say that it’s an additional tool, but it would not be my main focus.” Kirsten then elaborated:

> I think my experience solidified that with my first two weeks having to do diagnostic testing, and my tests weren’t something capable of being scanned and letting Hannah see the results to help me figure out who to put where and who to move up and who to move down. With e-mail I couldn’t have done it. I had to have her look at the test and help me. We had to have that one-on-one face time. If the test had been on e-mail it might have been a little easier to do it that way, but definitely not for that situation. I really needed the face-to-face.

Jeremy then added, “I believe it’s a good supplement but I don’t think it can take the place of one-on-one mentoring relationships.” Jordan agreed with Jeremy and said, “I think it’s an effective deal, but I don’t think it necessarily replaces.” Jordan explained further, “it’s just an additional tool for communication, and when you have more tools you communicate more.”

Jordan continued the discussion stating, “for a new teacher communication is important and when you have more than one resource it’s nice.” Hannah explained the benefit of being “able to look at a test, because that’s the way you can tell what kind of issue it is.” Hannah added to their comments, “I think Jeremy said it well when he said supplement. Supplement is never a bad thing.”

The discussion on the need for face-to-face mentoring led the participants to consider the nature of mentoring in general. Hannah explained, “that’s the way mentoring should be. You should be teaching virtually the same subject.” She elaborated on this perspective:

> Mentoring is just majorly all-encompassing on both sides. There has to be a ton of communication because the protégé has to be able to say ‘I need help here’ or to clarify

> something, or to ask, 'what happens in this type of situation?' Other times the mentor has to be willing and already looking ahead finding things, and that's the purpose of mentor training.

The participants began to categorize face-to-face mentoring as a different type of mentoring than electronic mentoring. Leigh stated that face-to-face mentoring was a "different type of mentoring that what we're doing." Hannah explained, "I don't know that it would be as effective." She continued, "I think it would be totally different, especially if those two people were compatible subject wise, personality wise, philosophy of education, and that kind of stuff."

Hannah further elaborated, "I think they could have a good relationship but I don't think it would be the same type." She concluded stating that through e-mentoring, one could "definitely not discuss school building related items." Kirsten then stated that in situations in which e-mail was the only form of communication between mentors and protégés, she would find an onsite person to rely on in addition to her mentor. She explained, "I would rely on someone across the country probably not as much, but I would still use them and take advantage of having that person." Hannah added to the discussion, "I wouldn't rely on them as much as having someone in the same school or right next door."

Hannah discussed the need for careful pairing of electronic mentors. She believed that school leaders must understand that it is "very necessary that the person [mentor] taught the same subject and the same grade level, because that gives you an under-girding that you can't get any other way." Hannah further believed that mentoring "should be a process in which the protégée actually gets to choose who will be his or her mentor by looking at qualifications." Hannah further explained, "I do hope one day it comes to the fact that the protégé can pick who he or she wants as a mentor." She concluded indicating it would be necessary "for that personality to avoid conflicts."

The focus group interview provided a restatement of the perspective of the participating teachers on mentoring through the use of electronic mail. Most of the perspectives presented in the interview had been previously stated in the individual interviews, which caused the researcher to believe that saturation of the participants' perspectives had been achieved. The researcher searched for themes and attempt to develop propositions based on the perspectives of the three first-year teachers and their mentors. Chapter 9 presents a cross-case analysis of the data and presents propositions based on the data.

CHAPTER 9

CROSS CASE ANALYSIS

Through this study, the researcher wanted to learn the perspectives of three first-year teachers and their mentors concerning mentoring and the use of electronic mail. The research questions that guided this study were:

1. What are the perspectives of first-year teachers and their mentors concerning mentoring through the use of electronic mail?
2. What problems or issues might one experience while using electronic mail for the mentoring process?

To learn the perspectives of the participating teachers, the researcher conducted interviews with three mentors and the first-year teachers they mentored and one focus group interview the six participants as a group. At the conclusion of the interviews with the participants, the researcher began to use the constant comparative method (Glaser & Strauss, 1967) to analyze the data. Through the constant comparative method, the researcher was able to recognize commonalities among the perspectives of each of the participants in the study. As the data were presented and compared, the researcher reached the point of saturation and as a result, was able to develop and to test propositions based on the perspectives of the first-year teachers and their mentors on mentoring vis-à-vis electronic mail.

The propositions presented in this chapter were based on the commonalities that existed among all the participants. This chapter presents those propositions and presents a review of other themes that surfaced during the data analysis as well. The propositions are founded on categories presented by all six participants. Other themes that are presented surfaced among

various participants, but not from all participating teachers. First, a review of grounded theory, saturation, and propositions is presented to establish a foundation on which the findings of this study were based.

Silverman (2000) described grounded theory as a "theory grounded in data rather than presumed at the outset of a research study" (p. 62). Strauss and Corbin (1990) described grounded theory as "one that is inductively derived from the study of the phenomenon it represents" (p. 23). Strauss and Corbin (1990) further explained:

> It is discovered, developed, and provisionally verified through systematic data collection and analysis of data pertaining to that phenomenon. Therefore, data collection, analysis, and theory stand in reciprocal relationship with each other. One does not begin with a theory, then prove it. Rather, one begins with an area of study and what is relevant to that area is allowed to emerge. (p. 13)

Merriam (1988) indicated, "since the theory is grounded in the data and emerges from them, the methodology is called grounded theory" (p. 142). The researcher wanted to learn the perspectives of the three first-year teachers and their mentors on mentoring through the use of electronic mail. By structuring the study and the research questions within the constructs of grounded theory, the perspectives of the participants were not tested with a previously formulated hypothesis, but rather were allowed to emerge from the viewpoints of the teachers.

After completing the interviews with the participants, the researcher analyzed the data using the constant comparative method (Glaser & Strauss, 1967) until theoretical saturation had been reached. Strauss and Corbin (1990) described theoretical saturation as the point in which, "no new or relevant data seem to emerge regarding a category" (p. 188). The researcher read the transcripts various times to recognize commonalities and to separate data into common categories among all data sets. Once categories were developed, all data were separated into the categories. The researcher eventually reached the point in which the data began to repeat the

same concepts and ideas concerning electronic mentoring. Based on the saturation of the data, the researcher developed propositions concerning electronic mentoring, and the issues that may arise in the process.

Strauss and Corbin (1990) discussed the formation of propositions in qualitative research. They explained, "propositions suggest how phenomena might possibly be related to one another" (p. 62). Strauss and Corbin (1990) further explained, "communication among investigators is made possible by the specification of concepts and their relationships phrased in terms of propositions" (p. 62). The propositions presented in this chapter were developed after a theoretical saturation of the data, and offer insight into the perspectives which emerged from the participants on mentoring through the use of electronic mail.

Among the participants, there was some variance in their perspectives; however, there were some commonalities through which the propositions were later developed by the researcher. Before developing the propositions, the researcher reviewed the data numerous times to develop initial codes, which were later delimited into seven categories of the perspectives of the participating teachers. The seven categories included: *records*, *issues*, *technical issues, school context*, *time*, *tone/communication*, and *the need for face-to-face* exchanges.

The *records* category pertained to the discussions on how electronic mentoring could provide records of correspondence between mentors and protégés. The *issues* category related to the conversations concerning the types of issues that could be discussed through the use of electronic mail. The *technical issues* category referred to discussions of the problems one may experience with computers or networking systems while participating in electronic mentoring. The *school context* category pertained to discussions on the need to be familiar with one's school context while serving as a mentor. The category of *time* related to discussions concerning the

ability to save time while using electronic mentoring. The category of *tone/communication* referred to the ability or difficulty in relating tone in texts. The participants also offered perspectives into the need to include face-to-face mentoring in certain circumstances, which became the category called *the need for face-to-face*.

Some of the categories were discussed by all six of the participants, while others were only addressed by a few of them. Table 21 presents an overview of each category and indicates which participants offered perspectives into each of those categories.

Table 21

Participants Who Discussed Each of the Categories of Data

	Hannah	Kirsten	Jordan	Mitzi	Leigh	Jeremy
Records	X				X	
Issues		X			X	X
Technical Issues	X	X			X	
Context	X	X				
Time	X	X	X	X	X	X
Tone/Comm	X	X	X	X	X	X
The Need for Face-to-Face	X	X	X	X	X	X

Of the seven categories, two categories were discussed by two of the participating teachers, two were discussed by half of the participating teachers, and three were addressed by all of the participating teachers. The researcher based propositions on the three categories discussed by all of the participating teachers, which included *time*, *tone/communication*, and *the need for face-to-face interactions*. This chapter discusses each of the categories and compares them across the perspectives of the teachers who discussed them. The categories and the propositions are each discussed in relation to the research questions of this study.

Records

The first category to emerge pertained to the ability to keep records of electronic mentoring correspondence. Two veteran teachers discussed this aspect of electronic mentoring. Although only two participants addressed this idea, their perspectives were very different. The two teachers addressed the first research question by offering their perspectives on the topic of records provided by electronic mentoring. As the interviews progressed, both Hannah and Leigh began to address the second research question of this study by bringing to the surface a darker side of electronic mentoring. They discussed more negative uses of the correspondence records maintained by mentoring partners.

Hannah first discussed a benefit of electronic mentoring which existed in the ability to keep records of correspondence. She stated, "it's kind of like journaling" and "someone has a permanent record of possibly how to do something." Hannah also explained that e-mails could provide a "record of what you have and have not done." Leigh agreed with Hannah explaining, "it's allowed us to keep a record of what we discussed."

Leigh further explained the e-mail records could help her remember conversations. She explained, "it's allowed me to remember, yes that's what we talked about this week, so I can go back and look at that e-mail." In reference to the same idea, Hannah explained, "one of the things I find of great worth in e-mentoring is that you have the paper trail" and "the spoken word is wonderful but it lasts for a very short time." In her discussion of the records Leigh also stated, "you can get to it when you need to get to it, and also it does give you a written record of what you said." Both Hannah and Leigh agreed that electronic mentoring provided records to remember conversations and topics that have been addressed in previous correspondence, but their next perspectives on records were very different.

Hannah later discussed the aspect of keeping records through electronic mentoring in a different way. She stated that electronic mentoring could be a way to "look at how administrators need to help" in certain circumstances within the school. Hannah further explained that administrators could "look at all of the e-mentoring that goes on within your school and find those common threads." Hannah stated that electronic mails should never result in punitive action by school leaders, but should serve as a method to see the "threads that might be school-wide problems or school-wide possibilities." Hannah's views on the use of records by administrators significantly varied from those of Leigh.

Leigh believed that electronic mentoring could provide records for administrators to be used punitively when necessary. Leigh initially said, "by having it over the Internet where you have a record of it, at least you do have a record that this person has been offered help." She then continued explaining, "as an administrator, if it comes down to having an incompetent teacher on your hand, you've got to document that as a mentor." Leigh then stated, "you're part of that process in seeing that this person becomes competent in their field." Initially her words did not indicate the use of records for punitive action, but then Leigh explained, "let's say you've got a protégé that's having problems and the administration needs to know about it, well here's your record on your computer of what you've tried to do to help them." Leigh then summarized her point saying, "they have to document so much to be able to boot somebody out these days that that could become part of the documentation."

Leigh believed that the conversations that occur within mentoring relationships could be used as a punitive documentation to remove incompetent teachers from schools. Hannah believed that electronic mentoring records could be used by administrators, but not punitively against novice teachers. Both veteran teachers stated that the records provided by electronic

mentoring could be beneficial in remembering discussions and topics that have been covered. Their discussions provided insight into the first research question by offering their general perspectives on the record-keeping side of electronic mentoring.

Along with their perspectives came some possible benefits provided by electronic mentoring; however, a possible dark side of electronic mentoring surfaced as well, which addressed the second research question of this study. Hannah and Leigh both discussed an aspect of electronic mentoring that could possibly prove to be threatening and worrisome to some novice teachers. The idea of having records of correspondence may cause electronic mentoring partners to be concerned about the comments they make and the issues they discuss using electronic mail.

Issues

As the researcher analyzed the data, the participants began to discuss the types of issues that could be discussed using electronic mail. Three of the participating teachers addressed this issue, one veteran teacher, Leigh, and two novice teachers, Kirsten and Jeremy. The three teachers addressed the first research question by offering their perspectives on the issues that could be discussed using electronic mail. Additionally, the second research question was discussed as Leigh, Kirsten, and Jeremy explained circumstances in which electronic mentoring would not be the best method to discuss more in-depth issues.

All three teachers believed that mentoring using e-mail was best for addressing simple issues, rather than issues that required extensive correspondence. While Hannah believed that electronic mentoring worked "really well as a reflection process" and with "something that does not require emergency contact," Leigh, Kirsten, and Jeremy believed that the issues discussed

through electronic mentoring should be simple issues that did not require much time to consider or to answer.

Kirsten initially commented on the types of issues by explaining that one should be able to send the e-mail, and have the mentoring partner send the answer back quickly. She said electronic mentoring worked best "if I just want to say, 'Hey how are you and here's my question,' then she can e-mail me right back." Leigh compared the issues discussed using electronic mail to the ability to speak to someone face-to-face. She said, "it's really hard too if you are needing to discuss something that is very involved that takes a lot of time." Leigh continued by explaining, "it's very involved to sit there and type all that back and forth over the e-mail." She concluded with "that's very time consuming and it's much faster to just say it to somebody."

Jeremy agreed with Kirsten and Leigh. He explained, "just general problems, I would use the Internet." Jeremy then stated, "there might be some problems, I could imagine a problem where I might want to go face-to-face instead of using the Internet." All three teachers reiterated what the others had said concerning the types of issues that could be discussed using electronic mail. They agreed that electronic mentoring was best used as a tool to address simple issues which could be answered quickly, and that more in-depth issues may be more easily discussed in person.

Technical Issues

The technical side of electronic mentoring surfaced and was discussed by half of the teachers involved with the study. Their perspectives addressed the first research question of this study, which sought to learn the perspectives of the participating teachers. The participating teachers also directly discussed the second research question of this study, which was designed

to learn of any issues that may arise while mentoring using electronic mail. Three of the participating teachers discussed their perspectives on the technical issues that may arise while using electronic mail for mentoring. Hannah, Kirsten, and Leigh all agreed that participants may experience problems in communication with mentoring partners if computer systems fail.

Hannah was the first to discuss this idea. Hannah explained that if computer systems fail, problems could arise when novice teachers need immediate answers to questions. She explained, "when you want an answer immediately, I've told her [Kirsten] to use the phone, send a child after me if there is something that you want quickly." As Instructional Lead Teacher, Hannah acknowledged that she, as well as others, may not always have access to a computer and would not be able to address issues with the mentoring partner.

Leigh discussed this topic in a slightly different manner. She explained that some schools do not have a significant number of computers, which could limit the access of participating teachers to correspond when answers were needed quickly. Leigh stated, "maybe your school is not set-up for local area network, well that's pretty impossible." She then stated, "then you've got to go to the regular Internet, well then you gotta go find a computer to get on the Internet." Leigh concluded, "then it's not real convenient to do it over the Internet." Leigh explained that in these types of situations it would be "really difficult to get in contact with your partner."

Kirsten commented on the same type of situation of having to locate another computer. She explained that she did not have a computer at home to use as a backup computer. Kirsten further explained, "if our computers are down here I would just have to cope with it, and there's not really much you can do." Kirsten speculated on what her situation would be like if she lost contact with her mentor due to technical problems with computers. She said, "well, I would

hope that I was a strong teacher to survive a week without needing one [a mentor], but if it would have been at the beginning I probably would have been under a lot more pressure." Kirsten the explained, "I would have had to rely on the teachers around me more."

Hannah further discussed problems with computers stating, "also when our computers don't work, when we can't get to the Internet, when we can't get to e-mail." Hannah's solution to this issue was to have a backup system. She said, "there are times when she just need to grab up the phone if it is after school or something to be able to talk." Hannah spoke from personal experience explaining, "this year alone the sever problems and the virus problem created not being able to get to the Internet." She concluded, "hopefully you would have another system in place to take the place of that for that time."

Kirsten also discussed the technical problems from personal experience. She explained, "I think it was good that this interview happened after our e-mail crashed because I go to thinking what if the only way you could communicate was through e-mail?" Kirsten also explained, "it was down for over a week so there wouldn't have been a good way to talk to her unless I had to go to her." Leigh's perspectives on the technical issues seemed to confirm what Hannah and Kirsten had said. Leigh explained, "it's kind of hard to use it when you're having computer problems all over the place, particularly the past three days, I haven't talked to Jeremy over e-mail very much."

All three participants, Hannah, Kirsten, and Leigh, offered perspectives on the technical side of electronic mentoring, and all seemed to agree that one significant issue that can arise in electronic mentoring is the technical problems that can result from losing access to e-mail. Additionally, Hannah and Kirsten both agreed that where electronic mentoring is used, one must establish a backup system such as the ability to go meet face-to-face, or telephones.

School Context

Two of the participating teachers discussed the issue of knowing one's school context in participating in electronic mentoring. The two participants who discussed school context were Hannah and her mentor, Kirsten. Hannah's and Kirsten's perspectives addressed the first research question of this study, which was designed to learn the perspectives of the participating teachers on using electronic mail for mentoring. The discussions, however, focused more heavily on the second research question, which sought to learn the issues that may arise while participating in electronic mentoring.

Hannah and Kirsten indicated that difficulty could develop in offering advice to a mentoring partner in a school in which the context is much different from her own. Hannah discussed the aspect of school context in a way that offered measures for school leaders to take at the beginning of mentoring relationships to help partners understand one another's school settings and contexts. Kirsten discussed school context by elaborating on the issues she could personally face if she participated in electronic mentoring as a sole means of communication between her and her mentor.

The topic of school context had been discussed between Hannah and Kirsten primarily due to the diversity at Center Middle School. As Instructional Lead Teacher of Center Middle School, it may have seemed typical for Hannah to discuss school context from the viewpoint of school leaders. Hannah explained, "you do want someone who is grounded in not only instructional practices but who has an understanding of the school's context and the school's mission, beliefs, and those types of things." Hannah explained that school context should be addressed in the beginning of a mentoring relationship. She stated, "I think it would be good for the protégé to offer that information and for the mentor to be able to ask any questions to fill in

the gaps." Additionally Hannah explained that school context should be one of the first issues discussed among electronic mentoring partners. Hannah explained, "if the mentor and protégé were paired up in the spring that would be the beginning of what the e-mentoring could be first thing."

Kirsten discussed school context from the viewpoint of a novice teacher and the issues she could have faced if her mentor did not know her school's context. Kirsten stated, "my team of teachers, they are wonderful, very supportive, very helpful, but knowing my students and what areas of weaknesses and strengths are there is a big help." Kirsten related the concept of school context to student teaching experience, since she had completed her student teaching in a neighboring county of Focus County, which did not have the high level of diversity experienced by the Focus County School System. She explained that the teacher under whom she student taught "never had to deal with that" and "wasn't able to help me." Kirsten further explained, "you know even from one school to the next the population and the culture and everything is very diverse from school to school."

Kirsten further discussed her student teaching experience and her cooperating teacher explaining, "she didn't have not even half the Hispanic population I have and that was an adjustment for me." Kirsten then explained, "she can't relate to the problems I have dealing with just the language barriers, she couldn't advise me on that." Kirsten continued stating, "I think having the same type of school environment would definitely benefit." Kirsten also explained the overall downfall of not knowing one's school context. She said, "it would be ok but being a first year teacher, I would kind of feel like they didn't really know the school I was in."

Kirsten further explained, "he or she might not understand the issues I face so, I don't think I would like it as much and I probably wouldn't rely on them as a mentor as much." She

then stated, "I would definitely rely on my teammates a little more just because they necessarily know the kids I'm working with and know the issues I'm facing." Kirsten concluded with this thought, "a mentor needs not to necessarily work with the same kids but maybe be in the same school or environment."

Hannah and Kirsten both had concerns with the issue of knowing one's school context, but presented different viewpoints. Hannah discussed preventive measures to ensure mentoring partners are aware of one another's school context, while Kirsten discussed possible issues that could arise while participating in electronic mentoring with someone who was not familiar with the protégé's school context and setting. Together, their ideas may have introduced an issue that could exist in electronic mentoring relationships. It is possible that school leaders establishing electronic mentoring programs would have to address this issue from the very beginning.

Time

The issue of time was discussed by all participating teachers in this study; however, various aspects of this topic emerged. The six participants addressed the first research question by sharing their perspectives of electronic mentoring in relation to time, and Hannah offered perspectives on some issues that may arise relating to the time aspect. Based on the analysis of the data across the participants, the researcher developed proposition 1:

1. Electronic mentoring could provide the benefits of saving time in the mentoring process.

The data presented by all six teachers supported the proposition as all six participants discussed the benefit of saving time offered by electronic mentoring.

Kirsten was the first to offer her thoughts on the benefits of saving time through electronic mentoring. She said, "besides, the fact that it's an easy way for communication, you

don't have to necessarily make a meeting time, that's a good one." Kirsten continued, "I guess time is a really big issue because maybe you don't have the time, so you can just type it out real quick." Mitzi added, "it saves time", while her mentor, Jordan, said, "I know for a fact that it has been so convenient to sit down and pop off messages to Mitzi." Jordan then stated, "but it's a hassle for me to go find three different people at three different grade levels when I can do one thing and send it all to them and then touch base when I see them." Jordan concluded his thoughts, "it's been efficient, it's been effective to not have to go look for the person."

Leigh also discussed the time benefits offered through electronic mentoring. She explained, "I think we have all found that e-mail comes in real handy around here in getting to people that you can't find time to go ask and go see, I love it for that." Jeremy agreed with his mentor by explaining, "it doesn't really take away from your schedule or what you're doing" and if you're in your room and making your lesson plans, you can type out an e-mail, so it ain't no problem." Hannah explained that electronic mentoring was quick and easy when "I'm needing to get out one of the hundreds of things that must be accomplished."

Leigh added more insight as she explained, "it's more convenient for me than to try to go out of my way and find a time when we can both meet and come together to do it face-to-face." She further explained, "that's definitely more convenient than trying to find a common ground time when everybody can get together and have those conversations." Leigh also stated, "it's been such a convenience in just saving us so much time." She elaborated, "I just can't even remember how hard it was to go get an answer from somebody about something" and "we used up all out planning time just running around trying to find somebody that we needed an answer from." Leigh continued stating that the benefit allowed her to "just shoot it off to them and get

answers back." Leigh concluded, "it's definitely the way to go as far as getting them [protégés] answers quicker, faster, and saving time."

After discussing the benefits offered by electronic mentoring in relation to saving time, three of the participants discussed the ability to e-mail and respond at one's own convenience. Jordan explained:

> When I have a minute, she [Mitzi] may not have a minute and so I know that if I put my minute down on the Internet e-mail then she's going to have a minute at another time and we can connect and just being aware of when things are coming due.

Leigh explained, "it would be easier to sit down and type that response and send it when it's convenient for me." She further explained, "it would be more convenient for me to just send that answer or send whatever I need to tell them whenever I can do it whenever it's convenient for me." Hannah agreed with her colleagues, "if that person is teaching a class it allows for questions to be asked that can be answered later without interrupting the class."

Hannah offered more insight into the time factor of electronic mentoring. She discussed the ability to take time to consider questions and responses posed by mentoring partners. Hannah believed that deeper issues could be discussed using e-mail. She explained, "a lot of what I would think of as e-mentoring issues are things that can be back burner, not pressing issues of the moment or the hour." Hannah elaborated by explaining, "you have to think about how to word things on both ends to make them sound either pleasant enough or not whining." Hannah also explained that electronic mentoring allows one to "get deeper than momentary."

Hannah had related her thoughts to the situation she had faced with her protégé, Kirsten, in which she had to offer advice on accepting the position as soccer coach. She explained, "in my wording I was very careful" and "I was able to probe a little bit with asking her what she wanted." Hannah also stated, "had I been standing in front of her I would not have thought of

it." Hannah concluded by explaining that electronic mentoring allows the participant to "get deeper than momentary" and "that would actually help somebody reflect a bit more before asking a question or putting down thoughts."

Hannah was the only participating teacher to discuss the time issues which may arise while participating in electronic mentoring. She initially said, "e-mentoring probably isn't that good if you're trying to get an immediate answer." Hannah elaborated, "that can be very frustrating sitting down in front of a computer when you want an answer immediately." Hannah summarized this topic by explaining, "we are not available to be on the computer the entire eight hours that we are in school or the ten hours, so that would create a little bit more of the asynchronous communication." Table 22 summarizes the benefits discussed by the participating teachers.

Table 22

Summary of the Participants' Perspectives on the Benefits of Time in Electronic Mentoring

Participant	Perspectives
Hannah	quick when "I'm needing to get out one of the hundreds of things that must be accomplished"
Kirsten	"you don't have to necessarily make a meeting time" "you can just type it out real quick"
Jordan	"it's been convenient to sit down and pop of messages to Mitzi" "it's a hassle for me to find three different people in three different places" "I can do one thing and send it all to them" "it's been efficient" "it's been effective to not have to go look for that person"
Mitzi	"it saves time"
Leigh	"comes in real handy around here in getting to people that you can't find time to go ask and go see" "it's more convenient for me than to try to go out of my way to find a time when we can both meet" "definitely more convenient than trying to find a common ground time" can "just shoot it off to them and get answers back" "definitely the way to go as far as getting them answers quicker, faster, and saving time"
Jeremy	"it really doesn't take away from your schedule or what you're doing" "if you're in your room or making lesson plans, you can just type out an e-mail"

The participating teachers all agreed that electronic mentoring provides the opportunity for teachers to save time by corresponding at their convenience, by avoiding the task of searching to find someone, and by avoiding the need to establish and attend meetings. Hannah addressed the second research question of this study by discussing an issue that may arise while participating in electronic mentoring. She believed that teachers cannot always receive timely responses, especially where asynchronous communication was used. While only limited issues were discussed in relation to time, the data caused the researcher to develop the proposition that electronic mentoring could provide the benefits of saving time in the mentoring process.

Tone/Communication

All the participants discussed the issue of conveying tone within the texts of electronic communication. Their perspectives offered insight into the first research question of this study, but more significantly, addressed the second research question, which sought to learn the issues that may arise while participating in electronic mentoring. While a few of the teachers discussed the ability to relay some emotion through text, all believed that limitations existed in conveying emotions and avoiding misconstrued e-mail messages relative to meaning and tone. After analyzing the data presented across the participants, the researcher developed proposition 2:

2. One may experience difficulty in conveying tone within texts of electronic mentoring correspondence.

Kirsten initially discussed the issue of conveying tone in text. She remembered an e-mail she had received from her mentor, Hannah. Kirsten recalled, "I remember one e-mail I sent to Hannah" and "she e-mailed me back after I sent it to her and she said 'are you freaking out?' and I said 'no, I was just telling you'." Kirsten further explained, "it's hard to tell but if you have the

kind of good relationship that she [Hannah] and I have you are able to ask 'ok, are you crying, happy, sad, mad, depressed, or what are you?'"

Kirsten further discussed the difficulty in conveying tone stating, "I don't know if it's because I'm so used to working with numbers, I'm not good with words." In relation to tone, Kirsten's mentor, Hannah, explained, "it's not so much my thinking about it as the protégé has got to be able to put words together." Hannah also stated, "you have to word very carefully so that your words are not misconstrued." She then suggested, "I think that there probably should be a code possibly to let someone know up front."

Jordan discussed the aspect of tone stating, "you can put certain things, you know, underlining words, certain punctuations, just in the way you spell them out can convey tone in a message but there's a limit." Jordan then said, "it's more difficult to convey tone in text in my opinion" and "I don't think it's easily and quickly conveyed, but yes, you can write and create an emotion or even tone to your writing." Jordan's protégé, Mitzi, agreed saying, "it can be done, but I do think the skill of the writer has to do with that." Their thoughts and perspectives were confirmed by Leigh and Jeremy.

Jeremy explained, "that is a problem with the Internet is that your message is misconstrued." He continued by stating, "you can read a lot into messages, and that happens a lot where the tone is misconstrued, which can give it a completely different meaning than what you actually meant." Jeremy also explained, "If you're trying to get across an emotion you have about a certain point, I don't know how effective that is unless you're a very good writer." He then stated, "I don't think most of us are that good of a writer, I mean great novelists are." Jeremy concluded his thoughts saying, "it's kind of a crude tool I think" and "I have to be in person to try to get that across." Leigh offered her perspectives on the issues with conveying

tone as well. She explained, "there are lots of times when that [e-mail] wouldn't be adequate to me." Leigh further discussed the need to understand "what emotions" and "what frustrations" are behind messages and believed that "you can't always tell that from what's written in the discussions." All six participating teachers related issues that may arise in relation to conveying tone in electronic mentoring correspondence. Table 23 summarizes the participants' perspectives on the issue of conveying tone in e-mail text.

Table 23

Summary of the Participants' Perspectives on the Issue of Conveying Tone in Texts of Electronic Mentoring Correspondence

Participant	Perspectives
Hannah	"the protégé has got to be able to put words together" "you have to word very carefully so that your words are not misconstrued" "there probably should be a code"
Kirsten	"she e-mailed me back after I sent it to her and she said, 'are you freaking out?'" "it's hard to tell" "I'm not good with words"
Jordan	"can convey tone in a message but there's a limit" "it's more difficult to convey tone in text in my opinion" "I don't think it's easily and quickly conveyed"
Mitzi	"it can be done, but I do think the skill of the writer has to do with that"
Leigh	"there are lots of times when that [e-mail] wouldn't be adequate for me" must understand "what emotions" and "what frustrations" are behind messages "you can't always tell that from what's written in the discussions"
Jeremy	"that is a problem with using the Internet is that your message is misconstrued" "you can read a lot into messages, and that happens a lot where the tone is misconstrued" "can give a completely different meaning than what you actually meant" "I don't know how effective that is unless you're a very good writer" "I don't think most of us are that good of a writer" "it's kind of a crude tool" "I have to be in person to get that across"

The teachers all believed that it was difficult to convey tone in the texts of e-mails, which caused the researcher to develop the proposition that one may experience difficulty in conveying tone within texts of electronic mentoring correspondence. Some believed it would be possible to convey a certain amount of tone, but all believed that it was not always possible to avoid

misconstrued words or phrases. Based on the responses of the participating teachers, the researcher develop the second of three propositions on electronic mentoring, which are discussed later in this chapter. In the discussion of conveying tone in texts, Hannah stated, "sometimes you're missing a lot of parts because I still feel it's necessary to look her [Kirsten] in the eyeballs as part of the tone." Kirsten also explained, "I would really say you could convey it [tone] but I don't think you would see the joy and the sparkle in somebody's eyes." Their final comments could cause one to consider the need to include some face-to-face contact in electronic mentoring, which is exactly what the participating teachers believed.

The Need for Face-to-Face Contact

The six participating teachers all believed that electronic mentoring should include an aspect of face-to-face contact. Their perspectives addressed the first research question of this study, but those perspectives also focused heavily on the second research question, since the perspectives mostly pertained to an issue that arises with the need to include face-to-face contact in electronic mentoring programs. Based on the analysis of the data across the participants, the researcher developed proposition 3:

3. Electronic mentoring programs should also include some face-to-face contact between a protégé and a mentor.

This aspect was first discussed in relation to the elements that must physically be seen to understand, and secondly in relation to the need to have eye contact and facial expressions to understand tone and emotions.

Initially, the participants discussed the benefit of having physical proximity to see certain items such as tests, and to effectively help in a situation. Leigh stated, "I think in some situations you need to talk to that person face-to-face" and "some issues, yes, are better handled face-to-

face." Hannah explained, "a lot of the e-mails that I have received from her have asked for help that I must go to their face-to-face to be able to deal with." Hannah related this idea to the issue she had faced with her protégé, Kirsten, in which she had to review test papers to assess the next steps for remediation of Kirsten's students. Hannah very simply explained, "I've got to see the test papers"

Kirsten also related to the issue she faced with the tests and reviewing the results. She explained that had Hannah been out of physical reach of Kirsten, "I would have had to scan in the test and then e-mail her the test because I didn't have it on the computer." Kirsten further elaborated stating, "so for her to be able to look at what the test questions asked it was either scan it in or have to type it all over again to e-mail her because it wasn't one that was on the computer." Kirsten continued saying, "She [Hannah] can see the test and be able to point things out to me." Kirsten concluded by explaining, "she helped me figure out which questions were relevant to where the kids needed to be."

Jordan discussed the aspect of having physical proximity as well. He explained that "mentoring comes from being in close proximity because you have to deal with issues that you're dealing with too." Jordan further explained, "it would be nice to see them at lunch, follow up on an e-mail or a message sent, but if you're doing long-distance, that's not possible" and "that's a nice way to follow up." Jordan also believed that where electronic mentoring was the only method of communication, "you would limit some of the things that you talked about." Leigh also discussed this aspect of electronic mentoring saying, "it's better when you can get some feedback and interaction going back and forth, face-to-face, it's just easier to handle that way." Leigh's protégé, Jeremy, also believed, "I could imagine a problem where I might want to go face-to-face instead of using the Internet."

All six participating teachers discussed the need for face-to-face contact in relation to the emotional and personal understanding offered by mentoring done in person. Leigh stated, "I think that's a big part of mentoring, it doesn't mean you have to become best friends but you do build a relationship" and "it's hard to get to know people over the Internet." Kirsten believed that "a combination of one-one-one and e-mentoring is the way to go for me." She also explained, "I'm more of a face-to-face kind of person but I don't think it [electronic mentoring] would be as strong of a bond." Hannah felt that "I have to be able to look at her face to know because words on the screen cannot convey the emotions behind them" and "lots of times it's the body language that creates what you know." Hannah also stated that sometimes protégés need "somebody flesh and blood they can get to in those instances where 'forget it, I'm just quitting teaching after this year, or after today'."

Kirsten also explained, "I really don't like it [electronic mentoring] because I'm one of those that needs one-on-one personal conversations." Jordan also discussed the personal nature of face-to-face contact stating, "if I wanted to convey something deeper I would probably want to go talk to her in person." In her discussion of electronic mentoring, Jordan's protégé, Mitzi, explained that, "it's impersonal" and "I'd rather talk." She also considered what mentoring would be like if the Internet were the only means of communication. Mitzi stated, "it seems like that would be even more difficult."

Through the analysis of the data, the discussions of face-to-face mentoring surfaced in the perspectives of all six participating teachers. The discussions ranged from the need to see one's eyes to understand emotions, to the need to physically see test papers or other items being discussed. Not only were significant issues discussed that supported the need to included face-to-face contact in the electronic mentoring process, but some participants felt that they simply

preferred face-to-face contact with their mentoring partners. Table 24 summarizes the perspectives of the participating teachers on the need to include face-to-face contact in mentoring programs.

Table 24

Summary of the Participants' Perspectives on the Need to Include Face-to-Face Interaction in Electronic Mentoring Correspondence

Participant	Perspectives
Hannah	"I've got to see the test papers"
	"I have to be able to look at her face"
	"words on the screen cannot convey the emotions behind them"
	"lots of times it's the body language that creates what you know"
	need "somebody flesh and blood they can get to"
Kirsten	"I would have had to scan the test and then e-mail it to her"
	"for her to be able to look at what the test questions asked it was either scan it or have to type it all over again to e-mail her"
	"she can see the test and be able to point things out to me"
	"a combination of one-on-one and e-mentoring is the way to go for me"
	"I'm more of a face-to-face kind of person"
	"I don't think it [electronic mentoring] would be as strong of a bond"
	"I'm one of those that needs one-on-one personal conversations"
Jordan	"mentoring comes from being in close proximity"
	"you have to deal with issues that you're dealing with too"
	"it would be nice to see them at lunch, follow up on an e-mail or a message sent"
	"if you're doing long-distance, that's not possible"
	"you would limit some of the things you talked about"
	"if I wanted to convey something deeper I would probably want to go talk to her in person"
Mitzi	"it's impersonal"
	"I'd rather talk"
	all electronic mentoring "would be even more difficult"
Leigh	"I think in some situations you need to talk to that person face-to-face"
	"yes, some issues are better handled face-to-face"
	"it's better when you can get some feedback and interaction"
	"it's hard to get to know people over the Internet"
Jeremy	"I could imagine a problem where I might want to go face-to-face instead"

All of the participating teachers believed that face-to-face contact would be a necessary aspect of mentoring programs. The data led the researcher to develop the proposition that electronic mentoring programs should also include some face-to-face contact between a protégé

and a mentor. The need for face-to-face contact was discussed as a need to have physical proximity to deal with issues, to have the ability to understand tone and emotions, and to provide personal support to novice teachers who feel, as Mitzi stated, "I would rather talk."

The data across the participants provided insight into the perspectives of first-year teachers and their mentors into mentoring through the use of electronic mail. The perspectives of the six teachers also gave insight into the issues that may arise while mentoring through the use of electronic mail. Chapter 10 presents a review of the findings in relation to the existing literature, and discusses implications of the study, as well as the need for future research in the area of electronic mentoring.

CHAPTER 10

SUMMARY, DISCUSSION, AND IMPLICATIONS

This study was designed to learn the perspectives of three first-year teachers and their mentors on mentoring through the use of electronic mail. Additionally, the study sought to learn of any issues that may arise while participating in electronic mentoring. The study was significant in that a review of the literature revealed no studies which examined the perspectives of teachers concerning mentoring through the use of electronic mail. This chapter presents a summary of the study as well as implications for implementing electronic mentoring programs and for conducting future research on using electronic mail for mentoring novice teachers.

Summary of the Study

To learn the perspectives of the three first-year teachers and their mentors concerning mentoring through the use of electronic mail, a qualitative research approach was used. The research questions that guided this study were:

1. What are the perspectives of first-year teachers and their mentors concerning mentoring through the use of electronic mail?
2. What problems or issues might one experience while using electronic mail for the mentoring process?

The perspectives of the participating teachers provided insight into many aspects of using electronic mail in the mentoring process, and also revealed issues that one must consider if electronic mentoring programs are implemented.

The study was conducted using three first-year teachers and their mentors who were participating in a mentoring program which used electronic mail as an enhancement tool to face-to-face mentoring. Data sources for this study included:

1. All electronic mail (e-mails) correspondence between the first-year teachers and their mentors.
2. Fieldnotes from individual interviews with participants, and from the focus group interview conducted with all participants at the conclusion of the study.
3. Interview transcriptions from all interviews conducted throughout the study.
4. Journals kept by all teachers participating in the study. In these journals, the teachers recorded issues they faced, feelings, and perspectives on the process of electronic mentoring.
5. Transcriptions from a single audio-recorded focus group meeting at the conclusion of the study.

The data were analyzed using the constant comparative method of analysis (Glaser & Strauss, 1967). Preliminary codes were formed, which were later separated into more precise codes, and presented as seven major categories.

From the findings, the researcher presented three major propositions:

1. Electronic mentoring could provide the benefits of saving time in the mentoring process.
2. One may experience difficulty in conveying tone within texts of electronic mentoring correspondence.
3. Electronic mentoring programs should also include some face-to-face contact between a protégé and a mentor.

The propositions were based on the perspectives of the participating teachers and emerged through the analysis of the transcripts, all e-mail correspondence, journals, and fieldnotes. The researcher was able to compare the findings of this study with the findings of previous studies conducted on varying forms of electronic mentoring, which yielded specific implications to be considered in implementing electronic mentoring programs.

Discussion of the Related Literature

The findings of this study provide valuable insight into mentoring through the use of electronic mail and the issues that may arise while participating in electronic mentoring, but the findings must be related to previous studies to fully understand the implications of this study. Additionally, one must compare the findings of this study with the findings of other studies to more effectively implement electronic mentoring programs in school systems. Few studies existed on using electronic collaboration, but some implications can be related to the findings and implications of this study.

A study by Harris and Jones (1999) studied the message flow and function patterns of electronic mentoring between 10 teams of subject matter experts (SMEs), students, and teachers of various schools, levels of instruction, and areas of concentration. Harris and Jones (1999) wanted to study the "flow of messages exchanged in the context of curriculum-based projects" (p. 36). As with this study, a primary data source of the Harris and Jones study was the e-mail correspondence sent by the participants. Harris' and Jones' (1999) study found that subject matter experts talked more online than protégés.

This study yielded similar results in all three mentoring pairings. In the case of Hannah and Kirsten, Hannah typed on the average of 31.4 more words than Kirsten throughout their e-mail correspondence. In the case of Jordan and Mitzi, Jordan typed an average of eight words

more per e-mail than Mitzi. Leigh and Jeremy presented similar results. Leigh typed an average of 47 more words per e-mail than Jeremy. These findings may cause one to consider why mentors may discuss more online than protégés. The answer may lie in an additional finding of the Harris and Jones (1999) study.

Harris' and Jones' (1999) study found that mentors talked more online than their protégés; however, the mentoring interaction focused on the inquiry of the protégés. Harris and Jones reported, "the most common speech act observed involved reporting of information, especially personal and general information and ideas, opinions, and emotions" (p. 45). The correspondence in the Harris and Jones study focused primarily on the concerns and questions posed by protégés. This was also the case in this study of the three mentoring pairings. An obvious indication as to why the mentors corresponded more than the protégés could be that the protégés posed questions or concerns, and the mentors addressed them with their advice, which would naturally require more typing than simply presenting the issues and concerns.

Three of the participants in this study seemed to address the issue of talking online in a negative way. Leigh, Kirsten, and Jeremy all indicated that with more in-depth issues, they preferred to meet face-to-face. It is possible that Leigh's, Kirsten's, and Jeremy's availability for face-to-face mentoring as well offered them a point of comparison on which to base their perspectives of using e-mail for mentoring. Perhaps the availability of face-to-face mentoring within electronic mentoring programs causes some to become less reliant on e-mail for more in-depth discussions due to the time involved with typing.

The study by Harris and Jones (1999) was conducted entirely online with no face-to-face contact between mentoring partners. Their study made no mention of the time involved in discussing in-depth issues using electronic mail. As a result, in comparing the Harris and Jones

study with the current study, the researcher began to wonder if the actual issue involving face-to-face mentoring is one of availability versus preference. One may wonder if the teachers in the current study may have related their availability to correspond face-to-face with their preference for face-to-face mentoring. In other words, would the participating teachers in this study have discussed their preference for face-to-face mentoring to the same extent had they not had face-to-face mentoring as an option? If face-to-face mentoring had not been an option, would the participating teachers have focused as much attention on the time involved with typing in-depth issues using electronic mail? These are issues that must be addressed in future studies in different contexts and structures.

Eisenman and Thornton (1999) conducted a qualitative study on an online program that offered support to teachers in their first year of teaching. Their study was based on 27 recent college graduates completing their first year of teaching. Eisenman and Thornton wanted to determine the value that novice teachers placed on forming an electronic mentoring network. The primary data source for the study was surveys, which addressed issues such as dealing with parents, time management, general concerns, and curricular issues. Eisenman and Thornton explained that their study served as a "needs assessment to direct the development of a long range mentoring plan" (p. 82). The study showed that the electronic mentoring program "provides the necessary bridge between new teachers' professional preparation and their lived experiences in the field" (p. 82).

The Eisenman and Thornton (1999) study was structured very differently from this study; and one can find minimal similarities in the findings of both studies. The current study did reveal certain benefits offered by electronic mentoring, such as the ability to save time by using electronic mail rather than arranging times to meet face-to-face. The Eisenman and Thornton

(1999) study revealed that electronic mentoring provided the "bridge between new teachers' professional preparation and their lived experiences in the field" (p. 82). In comparing the two studies, one may assume that electronic mentoring provides a quick and easy method of corresponding with one's mentoring partner, but that may only be a part of the bridge discussed by Eisenman and Thornton (1999). The comparison of the two studies reveals primarily the need to further investigate electronic mentoring in other structures and contexts to more clearly understand the extent to which the process of electronic mentoring connects knowledge obtained in teacher preparation programs and the real experiences of the first year of teaching.

Davis and Resta (2002) conducted a study to examine electronic mentoring to support novice teachers in their efforts to conduct action research projects. Their study was much different from the current study as well, since Davis and Resta wanted to learn how electronic collaboration could assist novice teachers in conducting research projects during the first year of teaching. The novice teachers in the Davis and Resta study conducted action research projects to observe "classroom instruction they would like to improve, and instructional innovation they wished to implement, or an area of their own instructional behavior they wanted to examine" (p. 102). The data sources for their study consisted of e-mails, surveys, and follow-up interviews.

The findings of the Davis and Resta (2002) study revealed that electronic mentoring was an effective method of offering support to novice teachers. Davis and Resta explained that electronic mentoring assisted novice teachers in overcoming "barriers such as time and place" (p. 101) in the mentoring process. Findings on overcoming those barriers seemed to be related to the first proposition made in this study that electronic mentoring may offer the benefits of saving time in the mentoring process. Electronic mentoring can offer the mentor or the protégé the

ability to correspond quickly, easily, and at the convenience of the participant. As a result, barriers of time and place are overcome.

Although the participants of this study were not conducting action research projects, the support factor was the same as it was in the Davis and Resta (2002) study. The action research projects in their study were designed to improve various aspects of classroom instruction. In the same way, the participants of this study had the opportunity to discuss any type of issue using electronic mail. Although none of them actually discussed classroom instruction, they did address issues that were important to them personally. Consequently, if the findings of the Davis and Resta (2002) study revealed that electronic mentoring was an effective method of offering support to novice teachers which overcomes "barriers such as time and place" (p. 101), one could cautiously assume that the same concepts could be applied to this study as well.

In the Burgstahler and Cronheim (2001) study, the researchers wanted to examine electronic mentoring from the viewpoints of students with disabilities. They wanted to compare peer to peer e-mail interactions with mentor-protégé interactions. The purpose of the comparison was to determine if electronic mentoring eliminated barriers existing in face-to-face mentoring. The Burgstahler and Cronheim (2001) study found that electronic mentoring provides an effective environment in which to provide peer and mentor support. Additionally, they learned that electronic mentoring is "not subject to the barriers to in-person and telephone communication imposed by time and schedule conflicts and physical distances" (p. 70).

The findings of the Burgstahler and Cronheim (2001) study also relate to the first proposition of this study, which asserted that electronic mentoring could provide benefits of time in electronic mentoring. The participants of this study all agreed that electronic mentoring allowed them to correspond at their leisure, and gave them the ability to quickly communicate a

message to their mentoring partners without having to go find that person. Burgstahler and Cronheim (2001) also reported the ability to correspond without having to keep meeting schedules. All of the participants in this study could confirm the findings of the Burgstahler and Cronheim (2001) study; however, one additional finding of the Burgstahler and Cronheim (2001) study did not relate to the current study.

The Burgstahler and Cronheim (2001) study revealed that the participants reported the benefit of being able to communicate with experienced teachers anywhere in the world. This finding can be compared to the third proposition of this study, which stated that an element of face-to-face interaction should be included in electronic mentoring programs. In one interview, Mitzi considered the idea of having a long-distance mentor and stated, "it seems like that would be even more difficult." Kirsten believed that long-distant mentoring would not be personal and preferred face-to-face interaction. Leigh also addressed the idea of having a long-distance mentor. She was not in favor of the idea and said, "that would be just like writing in to Ann Landers, wouldn't it?"

The perspectives of the participants of this study would most likely agree that electronic mentoring partners have the ability to correspond with teachers anywhere in the world; however, based on the third proposition of this study, the six participating teachers would most likely not choose to take part in long-distance mentoring. The reasoning behind this assumption could be based on the findings related to time, and face-to-face mentoring. Some of the teachers in this study indicated that discussing in-depth issues using the Internet would be very time-consuming. As a result, perhaps electronic mentoring could limit the content of the discussions occurring electronically. Would protégés eventually stop discussing significant issues with their mentors due to the lack of time to type? Finally, without face-to-face interaction in mentoring

relationships, would mentors be able to establish the rapport and trust needed to conduct effective mentoring? These are issues that must be addressed in future research studies.

An additional study on electronic mentoring was conducted by Allen and Slutsky (2003). Their study examined the cognitive benefits and community-building capacity of using electronic mailing lists in an undergraduate college course. Allen and Slutsky also wanted to learn the benefits of online collaboration in reference to students' cognitive processes. The findings suggested that electronic mailing lists are cognitive tools which enable students to discuss thoughts and ideas on a variety of cognitive levels.

The Allen and Slutsky (2003) study was only relevant to the current study in the aspect of asynchronous consideration of ideas. The participants for Allen and Slutsky's study were all college students, rather than teachers participating in mentoring. Hannah seemed to be the only participant to address this idea. She explained the benefit of having time to consider questions or thoughts before responding to them. Hannah related her idea to the situation faced by Kirsten in which the assistant principal asked Kirsten to coach the soccer team. Hannah explained that by using electronic mentoring, she had time to consider all of the implications of how Kirsten would be affected by accepting the soccer coaching job. Hannah said, "that's an issue that had I been standing in front of her I might not have thought about its classroom impact." The comparison of the current study and the Allen and Slutsky (2003) study may reveal the need to conduct studies which target specific areas, such as the time for consideration offered through asynchronous electronic communication.

Issues Surrounding Electronic Mentoring

Through the analysis of the data, not only did common themes and categories emerge, but also some additional concepts were discovered. These concepts began to reveal a dark side of

electronic mentoring, which could betray some of the very foundational ideas of the mentoring process itself. These ideas were the result of comments made by two of the study mentors, Hannah and Leigh.

As Leigh discussed her perspectives of electronic mentoring she discussed the benefit of maintaining records of electronic mentoring correspondence. Leigh discussed her thoughts on submitting records to administrators in a very open, punitive manner. She explained that administrators could use electronic mentoring correspondence as documentation about incompetent teachers. Initially, she simply explained, "by having it over the Internet where you have a record of it, at least you do have a record of this person as being offered help." Leigh further explained, "As an administrator, it comes down to you have an incompetent teacher on your hand you've got to document that as a mentor. You're part of that process in seeing that this person becomes competent in their field." Leigh then stated, "So having records that you have offered them this help and by having it typed there it is, there is your records."

As the interviews continued, Leigh's comments began to further demonstrate the potential for using records punitively. She explained, "Let's say that you've got a protégée that's having problems and the administration needs to know about it, well here's your record you know on your computer of what you tried to do to help them." Leigh continued saying, "it's a documentation for the administration too." She concluded her thoughts with the most punitive statement of all her comments. Leigh explained, "if you get a teacher that you know meets the needs improvement categories they have to document so much to be able to boot somebody out these days that that could become part of the documentation." Leigh seemed to provide evidence that some educators would most likely be willing to use electronic documentation in a punitive manner against novice teachers who need assistance in improving their teaching skills.

Leigh's comments may cause one to consider the trust factor involved with mentoring novice teachers. Beyene, Anglin, Sanchez, and Ballou (2002) reported that the "key ingredients for successful mentor-protégé relationships were communication, trust, knowledge, connection (care), nurturance, mutual interest, open-mindedness, respect, and patience" (p. 97). If protégés know that electronic mentoring correspondence could be used punitively against them, the very elements of trust, connection, nurturance could very possibly never develop in mentoring relationships. Furthermore, if protégés are not aware their electronic comments could be used against them, and then learn that their comments have indeed been used to build a case against them, it is possible that they may feel a strong sense of betrayal by the mentors whom they trust.

Hannah also began to discuss the benefits of maintaining records provided by electronic mentoring correspondence. She discussed the ability to use electronic mentoring correspondence to realize "common threads" within a school. She suggested that by printing the e-mail conversations, administrators would more clearly understand issues occurring in the school and to be able to more effectively improve instruction. Hannah stated, "but it would be more of a look at all of the e-mentoring that goes on within your school and finding those common threads." She further explained that administrators could look at school-wide issues and provide help in "targeting these areas." Hannah in no way intended the idea to be negative, nor did she believe that electronic mentoring should be punitive in any way.

Hannah elaborated on her idea stating, "I do find value in it for the administration but it would be from the standpoint of looking at just the individual, you know threads that might be school-wide problems or school-wide possibilities to be able to look at." Hannah then explained that if administrators were to use electronic mentoring records for finding school-wide issues and "common threads," "that you would also have to have the administrative beliefs to be not that

this is punitive or any type of action other than to actually be able to only look for how administrators need to help."

Hannah clarified her statements explaining that the danger in presenting administrators with printed electronic mentoring conversations was that the administrators may automatically begin to watch teachers more intently in the fear that the teacher is incompetent. Hannah explained, "then the administrator's eyes are colored when he or she goes into that classroom as to what those people are." Her comments presented a potentially dangerous side to electronic mentoring. If protégés are aware that their comments could be printed and eventually given to an administrator, it seems that their communication with their mentors would be limited from the very beginning. In this situation, protégés could very possibly turn to other teachers to speak confidentially face-to-face. In turn, a significant difficulty could arise in attempting to establish strong, effective mentoring relationships.

In situations where protégés began to turn to other teachers for advice, it would be very possible that mentoring relationships could begin to see issues such as the ones seen in the relationship of Jordan and Mitzi. Jordan was her mentor, but she felt more comfortable in speaking with other teachers who were on her own team. As a result, Mitzi very openly explained that Jordan was not really her mentor. Although the reasoning behind Jordan's and Mitzi's limited mentoring relationship were the result of different circumstances, the outcome could very possibly be the same. Protégés could begin to turn to other teachers for support. Hannah concluded her statements on this idea stating, "you know immediately between those two people that it's going to cut down on their honesty and their openness with each other."

Although Hannah never intended her idea of submitting printouts of electronic mentoring conversations to administrators to be punitive, she did believe that the documentation could

provide evidence of school-wide issues. Hannah's ideas seemed to create a significant need to further investigate electronic mentoring in various contexts. Although Hannah's intentions were honorable, the researcher believed that submitting correspondence to administrators would most definitely become a negative issue in some form. Not all educators and administrators have the same standard of ethics as Hannah had. Hannah acknowledged that if electronic correspondence were submitted to school leaders, "the administrator's eyes are colored." These ideas may lead one to ask the defining question: Would educators ever use electronic mentoring correspondence punitively against a novice teacher?

Hannah's and Leigh's comments presented many unanswered questions concerning electronic mentoring. Their ideas, along with the findings of this study and other studies concerning electronic mentoring, demonstrate a significant need for further research in the many facets of this rapidly emerging idea. Future studies must be conducted to understand if a balance can be reached between acquiring the benefits of electronic mentoring and maintaining the critical elements of face-to-face mentoring relationships.

Implications for Future Research

Since electronic mentoring is a relatively new concept in the world of education, there are many issues that must be addressed in future research studies. One aspect that should be further investigated is the aspect of face-to-face mentoring versus online mentoring. This study indicated that the participants preferred having an aspect of face-to-face interaction. Electronic mentoring should be investigated within other structures, such as the context in which electronic mentoring is the sole method of communication among the participating teachers. Within that type of structure, one may be able to learn the participants' perspectives without the physical availability of a mentoring partner as a factor. Perhaps if face-to-face interaction is not an

option, mentoring partners will not attempt to compare it to electronic mentoring as the only method of communication. The result could possibly be a clearer understanding of the strength of relationships that are developed using online means.

The idea of using electronic mentoring as the sole method of communication must be further studied for a variety of reasons. By studying the online mentoring environment, one may not only learn of the relationships that develop over the Internet, but also of the rapport that is established, and the time involved with discussing in-depth issues using the computer. Participants of this study indicated that discussing issues using e-mail was time-consuming due to the time involved with typing. This idea should be further tested to indicate if teachers will begin to use e-mail less over time since the typing may become tiresome. Will the electronic mentoring relationships begin to die? Will novice teachers begin to rely more heavily on their teammates who are in close physical proximity? Will mentoring partners simply e-mail their phone numbers and start using phone communication instead? These questions must all be further investigated to fully learn the implications of using the online environment for mentoring.

This study brought another issue to the surface which must be further studied. Would teachers use electronic correspondence punitively against mentoring partners? One teacher in this study gave a strong indication that it could very possibly happen. Leigh's comments created a need for a very significant study. A study should be conducted to examine the impact of knowing that electronic correspondence could eventually be submitted to administrators. How does that knowledge impact the trust factor and other critical elements of mentoring relationships? Perhaps electronic communication should never be submitted to school leaders, no matter what the situation may be.

Concluding Thoughts

This study has revealed many perspectives on mentoring through the use of electronic mail. Many issues that may arise while mentoring through electronic mail were also discussed. This study raised many unanswered questions that must be addressed in future studies concerning electronic mentoring. At this time, one may cautiously assert that electronic mentoring is best used simply as an enhancement to traditional face-to-face mentoring; however, electronic mentoring is still not fully understood. As a result, many questions must be answered to fully understand electronic mentoring and the balance that exists between electronic correspondence and traditional face-to-face mentoring. Principals and school leaders who are considering implementing electronic mentoring programs must consider the unanswered questions, and must be willing to let the mentoring partners correspond openly without the fear of retribution by administrators. Many believe that electronic mentoring is a rapidly emerging wave of the future; however, one must make sure that one carefully charts how this wave is used, being vigilant to ensure that electronic mentoring does not supplant face-to-face mentoring between veteran teachers and their protégés.

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