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THE LEADERSHIP ROLE IN ONLINE SUPPORT
PROGRAMS FOR BEGINNING TEACHERS

By

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Dissertation

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for the degree of

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The Leadership Role in Online Support Programs for Beginning Teachers

Chairperson: Roberta D. Evans, Ed.D.

As distance learning opportunities foster a wide array for online mentoring, program administrators are in need of research supporting the successful development and management of such efforts. This qualitative research examined the leadership perspectives, skills, and strategies involved in developing and administering an online support program (also referred to as electronic mentoring) designed to help beginning teachers transition into the profession and improve their retention (National Commission on Teaching and America's Future, 2003). The population was comprised of all known programs established to date in the United States. Interviews were conducted of 28 program administrators representing 20 online programs for new teachers. Data were collected via interviews and triangulated with multiple artifacts. Consistent with practices by Strauss and Corbin (2007), data were analyzed using open, axial, and selective coding to identify, organize, and relate categories and themes. Through this analysis process, the core category, "The Leadership Role in Online Support Programs for Beginning Teachers," emerged and was based upon the interrelationships among five subcategories: (a) needs and benefits of participants, (b) program development, (c) professional development, (d) technology considerations, and (e) leadership strategies. The grounded theory resulting from these findings concluded that, successful administrators need to develop a detailed plan for online programs, weighing necessary program components including (a) an educationally diverse program team; (b) early establishment of program goals; (c) reliable methods of assessment of outcomes using constant formative evaluation; (d) a secure, reliable, non-evaluative environment; (e) training in effective online communications and relationship building; and (f) a value-added experience for participants. The leadership role of online support programs for beginning teachers requires administrators to have an in-depth understanding of the developmental needs of new teachers in concert with principles of adult learning theory and means of maximizing professional development. Of greater import than technology skills were the ability to effectively communicate online and manage in a collaborative, facilitative, ever-changing environment. Future studies should examine requirements for participants' online engagement, comparative technology for online support systems, roles adopted by facilitators, and methods of assessment of program effectiveness.

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Although the undertaking and eventual completion of a doctorate degree lies ultimately in the person who pursues it, it is certainly not a journey traveled alone. I have many people to thank for their guidance, inspiration, and support throughout this process.

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TABLE OF CONTENTS

ABSTRACT	iii
ACKNOWLEDGMENTS	iv
LIST OF TABLES	xiv
LIST OF FIGURES.....	xv
CHAPTER ONE.....	1
Introduction.....	1
Context of the Problem	2
Emergence of E-Mentoring Programs	4
Statement of the Problem.....	4
Purpose Statement.....	5
Research Questions.....	5
Definitions.....	6
Delimitations.....	8
Limitations	8
Significance of the Study	9
Summary of Chapter	13
CHAPTER TWO	16
Review of Related Literature	16

Introduction.....	16
Context of New Teacher Attrition	16
Needs of New Teachers	18
Phases of First Year Teaching	20
1. Anticipation Phase	20
2. Survival Phase.....	21
3. Disillusionment Phase.....	21
4. Rejuvenation Phase.....	21
5. Reflection Phase.....	22
Role of Induction and Mentoring.....	23
Origins of Mentoring	27
Benefits of Mentoring.....	28
Institutions.....	29
Mentors	29
Mentees or Protégés	29
Electronic Mentoring	32
Evolution of Electronic Mentoring	32
Advantages of E-mentoring Programs.....	33
Challenges of E-mentoring Programs.....	35
Developing and Maintaining an Electronic Mentoring Program.....	36
Program Design and Planning	36
Recruitment and Selection	38
Matching Strategies	40

1. Participant Choice.....	40
2. Uni-directional	40
3. Bi-directional:	40
Training.....	41
Coaching/Facilitation and Ongoing Support	44
Assessment and Evaluation.....	45
1. Involvement data.....	46
2. Formative data.	46
3. Summative data.....	47
Professional Development and Adult Learning.....	47
Professional Development Models	47
Adult Learning Theories	50
Online Communication and Communities.....	51
Leadership Theories Consistent with the Demands of Technological Innovation	56
Human Relations Theories.....	57
Chaos Theory	57
Transformational Leadership	58
Leadership for Learning Organizations	58
Reflective Practice	59
Strategic Leadership.....	59
Facilitative Leadership.....	60
Situational Leadership	60
Supervisory Behavior Continuum.....	61

1. Directive Control Behavior.....	62
2. Directive Informational Behavior.....	62
3. Collaborative Behavior.....	63
4. Non-directive Behavior.....	63
Leadership for Change.....	64
Summary of Review of Literature	65
CHAPTER THREE	71
Methods and Procedures.....	71
Research Design.....	71
Developing a Theory.....	72
Grounded Theory	72
Research Questions.....	73
Development of Questions.....	73
Grand Tour Questions.....	73
Subquestions	73
Research Question Rationale	74
Population	83
Data Collection	84
Procedures.....	84
Interviews.....	85
Interview Protocol.....	85
Data Analysis	86
Coding.....	87

Verification and Transferability.....	88
Verification	88
Transferability.....	89
Data Reporting	90
Narrative	90
The Role of the Researcher.....	91
Summary of Methodology	92
CHAPTER FOUR.....	94
Findings From the Qualitative Inquiry	94
Open Coding	97
Needs and Benefits of Participants	97
New Teacher Pedagogical Support.....	99
New Teacher Emotional Support.....	100
New Teacher Social Support	102
New Teacher Programmatic Support.....	104
Mentor Support	108
Institutional Support.....	110
Needs and Benefits of Participants and the Literature Review.....	114
Program Development	115
Impetus.....	117
Planning and Models Used	119
Structure/Outreach/Services	120
Funding	122

Personnel.....	123
Recruiting.....	123
Expectations of Participants.....	125
Matching.	126
Training.....	128
Facilitation	130
Evaluation.	131
Program Development and the Literature Review.....	136
Professional Development	137
Functions.....	137
Learning Styles.	141
Professional Development and the Literature Review.....	143
Technology Considerations	144
Internet Access.....	145
E-mail.....	145
Group Communications	146
Online Resources	148
Availability of Hardware	149
Technical Assistance.....	149
Program Software	150
Relationship Building	152
Community of Practice	156
Technology Considerations and the Literature Review.....	157

Leadership Strategies	159
Skills and Knowledge	160
Leadership Style.....	162
Challenges.....	164
Change	167
Future	169
Leadership Strategies and the Literature Review	171
Axial Coding.....	173
Causal Conditions.....	173
Phenomenon.....	173
Context.....	174
Intervening Condition.....	174
Action/Interactions.....	174
Consequences.....	174
Needs and Benefits of Participants	176
Program Development	180
Professional Development	188
Technology Considerations	190
Leadership Strategies	195
Selective Coding	199
The Leadership Role in Online Support Programs for Beginning Teachers	199
Core Category	208
Subcategories	209

Needs and Benefits of Participants	209
Program Development	209
Professional Development	210
Technology Considerations	211
Leadership Strategies	211
Summary	211
 CHAPTER FIVE	 213
Interpretive Summary, Postulations, and Implications	213
Introduction.....	213
Interpretive Summary	214
Holistic Analysis.....	214
Exploration of Grand Tour and Subquestions	215
Holistic analysis related to the literature.....	222
Postulations	224
Developing an Online Support Program for New Teachers	224
Leadership Style for Online Support Systems for New Teachers	225
Re-conceptualization of the Leadership Role in Online Support for Beginning Teachers.	227
Implications.....	228
Implications for Practitioners.....	228
Implications for Future Studies.....	230
References.....	233
Appendix A: Interview Request.....	249

Appendix B: Verbal Consent.....	250
Appendix C: Interview Protocol.....	252
Appendix D: Interview Recording Form.....	255

LIST OF TABLES

Table 1: Table of Subjects and Program Profiles.....	94
Table 2: Properties and Dimensional Range of Needs and Benefits of Participants	98
Table 3: Properties and Dimensional Range of Program Development.....	116
Table 4: Properties and Dimensional Range of Professional Development.....	137
Table 5: Properties and Dimensional Range of Technology Considerations	144
Table 6: Properties and Dimensional Range of Leadership Strategies.....	160
Table 7: Axial Coding Process	175
Table 8: Causal Condition and Phenomena.....	175
Table 9: The Phenomenon of Needs and Benefits of Participants in Context.....	176
Table 10: The Phenomenon of Program Development in Context.....	180
Table 11: The Phenomenon of Professional Development in Context.....	188
Table 12: The Phenomenon of Technology Considerations in Context.....	190
Table 13: The Phenomenon of Leadership Strategies in Context.....	195

LIST OF FIGURES

Figure 1: Teacher employment and turnover from 1987-2000	9
Figure 2: Phases of first year teaching	22
Figure 3: Comparison of attrition of beginning teachers participating in induction/mentoring ...	25
Figure 4: Model of program development	48
Figure 5: Integrative framework of the role of leadership style in strategy formulation and implementation	60
Figure 6: Supervisory Behavior Continuum	62

CHAPTER ONE

Introduction

Nearly any educational journal today will inevitably include an article about the growing teacher shortage in the United States. Since 1984, student enrollment in K-12 education and teacher retirements has increased; therefore, the demand for qualified teachers has been steadily growing (Snyder, Hoffman, & Geddes, 1997). The annual number of exits from teaching has surpassed the number of entrants by an increasing amount since the early 1990s, causing increasing staffing problems (Darling-Hammond, 2003). However, the data show that increases in student enrollment and teacher retirements are not the main causes of the high demand for new teachers and subsequent shortages. The real problem is teacher attrition, which is especially high among teachers in their first few years of service (Ingersoll & Smith, 2003). Although the turnover problem is high for the entire teaching occupation, beginning teachers have the highest attrition rates, with the data suggesting that between 40 to 50% of all beginning teachers leave the profession within the first 5 years (Ingersoll & Smith, 2003). Because of high costs associated with teacher exits, organizations must take employee turnover seriously. This turnover has especially serious consequences in schools, as they rely upon extensive interactions among students and teachers and depend on commitment, continuity, and cohesion (Ingersoll & Smith, 2003). Indeed, as Johnson and Birkeland (2003) observed:

Losing a good teacher—whether to another profession or to the school across town—means losing that teacher’s familiarity with school practices; experience with the school’s curriculum; and involvement with students, parents, and colleagues. Losing a teacher means that administrators and teachers must spend precious energy finding a replacement and bring him or her to speed. (p. 21)

High turnover of teachers does not just cause staffing problems, but may also adversely affect school environment and student performance (Ingersoll & Smith, 2003). High attrition also means that “schools must take funds urgently needed for school improvements and spend them instead in a manner that produces little long-term payoff of student learning,” according to Linda Darling-Hammond, Charles E. Ducommun Professor of Teaching and Teacher Education in the School of Education at Stanford University (2003, p. 8).

Darling-Hammond (2003) identified four major factors that strongly influence whether and when teachers leave specific schools or the education profession entirely: (a) low salaries, (b) poor working conditions, (c) inadequate preparation, and (d) lack of mentoring support in the early years. Providing support in the early years is particularly crucial, because this is the time that most teachers will make a decision about whether they will remain in teaching (Breux & Wong, 2003).

Context of the Problem

For the beginning teacher, the anticipation of starting the school year is often mixed with both excitement and fear of the challenges that lie ahead. A new teacher is suddenly faced with the reality of the full responsibilities of teaching—responsibilities that far exceed those of the student teacher and that exist without the security of having a university supervisor as a mentor. Research by Johnson and Kardos (2003) indicates new teachers want experienced colleagues who will observe their teaching and provide feedback, help develop instructional strategies, model excellent teaching, and share insights about students’ work. New teachers look for opportunities to learn from their more experienced colleagues and assert they need more than social support and instructions on using equipment. Instead, they want to participate in discussions regarding the implementation of curriculum and how to address specific student

needs. In sum, they want to gain insight from more experienced colleagues in specific subject areas (Johnson & Kardos, 2002). Unfortunately, in lieu of this mentoring context, many new teachers find themselves thrown into a “sink or swim” environment in which they are not sure where to look for assistance (Breux & Wong, 2003; Feiman-Nemser, 2003). They are often afraid to ask, or, worse, do not receive help when they do ask for assistance. The result is that new teachers are leaving the profession at a rate five times higher than are more experienced teachers (Breux & Wong, 2003). In fact, the attrition rate is about 15% for each of the first two years of teaching, compared to a normal turnover rate of about 6% within the teaching profession (Schlechty & Vance, 1983). Furthermore, studies revealed that it is the most promising teachers who leave teaching in the early years (Darling-Hammond, 2003; Harris & Coolay, 1990; Schlechty & Vance, 1983).

There is a consensus emerging among U.S. educators and policymakers that the retention of new teachers depends on effective mentors and induction programs. An increasing number of states are mandating induction programs, and many urban districts now provide some kind of support, usually in the form of mentoring, to their novice teachers (Feiman-Nemser, 2003). In fact, Darling-Hammond contended, “a number of studies have found that well-designed mentoring programs raise retention rates for new teachers by improving their attitudes, feelings of efficacy, and instructional skills” (2003, p. 11). Although many school districts have adopted mentoring programs as a means to help beginning teachers with the transition into the teaching profession, mentoring tends to work best when it is formally organized and when training is provided for the mentors (Freemyer, 1999). Unfortunately, not all school districts have the time, financial wherewithal, and personnel resources to establish formal mentoring programs. This is

particularly true for smaller districts in rural areas. As a result, there exists a need for alternative forms of induction and mentoring support.

Emergence of E-Mentoring Programs

One model of mentoring has emerged that could help school districts provide their teachers the benefits of mentoring despite their lack of resources. This new approach to mentoring is called “electronic mentoring.” Electronic mentoring, or “e-mentoring,” is the merger of mentoring with electronic communications, including e-mail and online discussion groups. It connects mentors with protégées (or mentees) with no constraints of time or place. Structured electronic mentoring occurs within a formalized program environment and provides training and coaching to increase the probability of participation in the process. It relies on program evaluation to determine the impact of this tutoring on the participants, as well as to identify specific areas where the program needs improvement (Single & Muller, 2003). A well-structured e-mentoring program could serve a relatively large number of school districts, providing much needed support to beginning teachers in districts that are unable to provide formalized on-site mentoring.

Statement of the Problem

Electronic communications has been widely used in the field of education as a way to create a community of learners for both teachers and students. However, it has been used in a rather limited way to help support beginning teachers in their transition into the teaching profession. As early as 1987, innovative educational leaders have been implementing electronic mentoring in an effort to provide much needed support to beginning teachers (Merseth, 1990). Many of these programs have shown encouraging reports of satisfaction by program participants and promise in retention efforts (Abbott, 2003; Johnson, Clift, & Klecka, 2002; Merseth, 1990;

Redmond, 2002). However, the problem is that although e-mentoring seems like a simple idea, it is not so simple to do (Harris, O'Bryan, & Rotenberg, 1996; Johnson et al., 2002). Since e-mentoring is a fairly new concept, particularly as a support for beginning teachers, there is very little research that has been done in this area, particularly in regard to program administration and leadership issues. There is a small body of research on novice teachers' experiences and satisfaction with these programs, as well as some discussion of program development (Abbott, 2003; Johnson et al., 2002; Klecka, Clift, & Thomas, 2002; MENTOR/National Mentoring Partnership, 2002; Merseth, 1990; Redmond, 2002), yet there has been little research about the related leadership issues of administering an e-mentoring program. A study was needed to explain the process and leadership issues of developing and administering an e-mentoring program that supports beginning teachers. A study that develops a theory of program leadership for electronic mentoring would add to the growing body of research on e-mentoring and assist those who want to develop and implement such a program.

Purpose Statement

The purpose of this study was to (a) provide a collective view of known programs, both past and present, that have utilized this form of mentoring for new teachers by examining how these e-mentoring programs were developed and implemented; and (b) develop a grounded theory that explains the process and leadership traits that facilitate the administration of such a program. The first examination of program development and implementation provided the context for the leadership styles that were explored in the second dimension of the study.

Research Questions

In order to develop a grounded theory of program leadership for electronic mentoring it is important to examine past and present e-mentoring programs. This study explored such programs

from the perspective of the program administrators to uncover the challenges, obstacles, and successes that they have experienced while developing and implementing their e-mentoring programs. As each program was explored, the following questions framed the overall study:

1. How does an organization develop and administer an e-mentoring program that supports new teachers?
2. What are the leadership traits of administrators of e-mentoring programs that support new teachers?

Definitions

There are several terms that are associated with both mentoring programs and the technology that provides telecommunication functions. The following related terms are defined to provide a better understanding of the literature and the specific context in which these terms were used in this study:

Mentor. A more skilled and experienced person, and trusted leader, who works with a partner (mentee or protégé) offering emotional and psychological support, direct assistance with career and professional development, and role modeling (Lacey, 1999). Zachary (2000) described a mentor as “a facilitative partner in an evolving learning relationship focused on meeting mentee learning goals and objectives” (p. xx). In this study, the mentor is represented by an experienced teacher willing to share expertise on teaching and learning.

Mentee or Protégé. A less skilled and experienced person who receives guidance, support, and feedback from a mentor (Lacey, 1999). In this study the mentees or protégés are beginning teachers.

Mentoring. A supportive and trusting relationship between a “more-experienced member and a less-experienced member of an organization” (Breaux & Wong, 2003, p. 59). Mentoring is

“a relationship in which a person of greater rank or expertise teaches, guides, and develops a novice in an organization or profession” (Alleman, Cochran, Doverspike, & Newman, 1984, p. 329).

Beginning or new teacher. A teacher in the first three years of the profession (Novice Teacher Support Program [NTSP], 2002). “Many educators believe that it takes up to three years to fully induct a beginning teacher and that some type of formal assistance should be provided to the beginner throughout that time” (Gordon & Maxey, 2000, p. 10).

Electronic mentoring, e-mentoring, or online mentoring. “A relationship that is established between a more senior individual (mentor) and a lesser skilled or experienced individual (protégé or mentee), primarily using electronic communications, and that is intended to develop and grow the skills, knowledge, confidence, and cultural understanding of the protégé to help him or her succeed, while also assisting in the development of the mentor” (Single & Muller, 2001, p. 108).

Structured e-mentoring. “E-mentoring that occurs within a formalized program environment, which provides training and coaching to increase the likelihood of engagement in the e-mentoring process, and relies on program evaluation to identify improvements for future programs and to determine the impact on the participants” (Single & Muller, 2001, p. 108).

Electronic conference. Web-based discussions on issues of common interest that take place online; these can be text-based or video and audio conferences (NTSP, 2002).

Chat room or discussion groups. An area on the Internet in which participants can engage in live discussions of various issues in a text-based format (Palloff & Pratt, 1999).

Facilitator. The person who monitors and facilitates online discussion boards and synchronous chats (Bennett, Hupert, Tsikalas, Meade, & Honey, 1998).

Delimitations

This study is delimited to the electric mentoring of pre-service (i.e., student teachers and field experience students) and new teachers and does not include the mentoring of other professions or the mentoring of youth. The intent of the research is to look at the leadership challenges and traits of the administrators of electronic mentoring programs within the context of programs designed to support those who are new to the teaching profession.

Limitations

This study is limited in a number of ways:

1. The first limitation of this study is the number and type of electric mentoring programs included in the population. A thorough search for programs via the Internet, review of the literature, and referrals from known programs and researchers in this field uncovered what is believed to be all known programs, both past and present operated within the United States. There is no definitive way to claim that every program ever operated is included in this study. It will have to suffice that the programs included in this study are a reasonable representation of all electronic mentoring programs that are designed to support new teachers.
2. The findings and theory developed from this study are limited in the ability to generalize to all electronic mentoring programs. The theory should be kept in context to electronic mentoring programs specifically intended for the support of new teachers.
3. Prior to the interviews, e-mentoring program administrators indicated that due to confidentiality issues, they would not provide direct access to the mentors and protégés participating in the programs. This study is, therefore, also limited by the

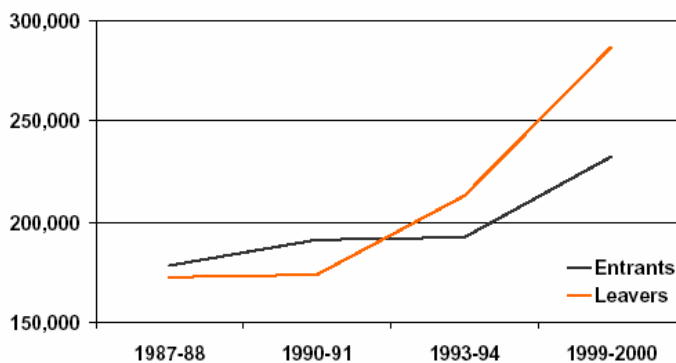
lack of direct access to these participants; their participation and experiences are reflected through the data provided by the program administrators and reports disseminated by the programs.

Significance of the Study

Teacher turnover undermines teaching quality and is driving teacher shortages to a point where teacher retention has become a national crisis (National Commission of Teaching and America's Future [NCTAF], 2003). According to the NCTAF's 2003 summary report, *No Dream Denied: A Pledge to America's Children*, although the nation has dramatically increased the supply of teachers since the 1990s, teacher attrition has been increasing even faster (Figure 1). For example, in 1999-2000, the nation's schools hired 232,000 first-time teachers; one year later the schools lost more than 287,000 teachers for a net loss of 55,000 teachers or 24 percent (NCTAF, 2003). The problem is "as if we were pouring teachers into a bucket with a fist-sized hole in the bottom" (NCTAF, 2003, p. 8).

Figure 1: Teacher employment and turnover from 1987-2000. From "No dream denied: A pledge to America's children," Powerpoint presentation by National Commission on Teaching and America's Future [NCTAF], 2003. Adapted for NCTAF from "Teacher Turnover and Teacher Shortages: An Organizational Analysis," by Richard Ingersoll, 2001, *American Educational Research Journal*, 38, pp. 499-534. Copyright 2003 by NCTAF. Reprinted with permission from NCTAF and Richard M. Ingersoll.

Teacher Employment and Turnover 1987-2000



In their 2000 report, the Governor's Task Force on Teacher Shortages/Salaries for the State of Montana concluded that a problem does exist in the hiring and retention of educators. Based on state and national data and information, the task force determined that both lack of induction and mentoring programs and remoteness of available teaching positions were among the factors that were significantly related, if not direct causes, of teacher shortages in the state. In a 2002 follow-up study of the 2000 report, *Who Will Teach Montana's Children?* (Neilson, 2002), survey participants were asked to rate factors that influence staff turnover in their school districts. Although remoteness or isolation continues to be a factor, this has decreased since the 2000 study. The 2002 follow-up study does detail, however, that the small districts in the eastern and central regions of the state indicated that isolation was still a major factor in turnover. Respondents of this follow-up study were also asked to identify factors that might improve staff retention and recruitment. Most of the nine regions indicated that continuing support for staff, including professional development networks, mentoring, and relevant professional development, were important factors.

Clearly, early attrition of teachers bears enormous costs. A recent study in Texas estimated that the state's annual turnover rate of 15%—which includes a 40% turnover rate for public school teachers in their first 3 years—costs the state a 'conservative' \$329 million a year. This calculates to anywhere from \$4,000-\$8,000 per recruit who leaves in the first few years of teaching (Texas Center for Educational Research, 2000). When figuring the high costs of attrition, many of these strategic investments needed to keep good teachers—such as providing mentoring for beginners and creating leadership challenges for veterans—actually pay for themselves (Darling-Hammond, 2003).

There is substantial research indicating that well-prepared and competent teachers have the greatest impact on student learning. These teachers are a valuable human resource and need to be treasured and supported. Keeping these teachers needs to be one of the most important agenda items for any school leader (Darling-Hammond, 2003). “The bottom line is that there is no way to create good schools without good teachers. It is the administrators who create a good school. And it is the teacher who creates a good classroom” (Breaux & Wong, 2003, p. 27). A mentoring program that provides school administrators and teachers a connection to a wide spectrum of professional contacts without the constraints of time and distance can be a valuable tool for the retention and professional development of this precious human resource.

In their summary report, NCTAF recommended the use of technology to support learning communities to provide a broader community of practice for teachers; especially new teachers, who often have difficulty finding the support they need within their local schools (NCTAF, 2003). Electronic mentoring can provide this kind of networked community. This innovative approach to mentoring creates a transorganizational community dedicated to improving teaching and learning for both students and teachers (NTSP, 2002). It can provide professional support to beginning teachers who may not be receiving such support locally, as well as supplement the support they are receiving, regardless of time and distance. Electronic mentoring can help bridge the gap between pre-service and in-service practice. Merseth’s (1990) assessment of an early model of a computer network for beginning teachers found that the network encouraged discussions and interactions among participants that offered personal and emotional support and reduced the isolation often felt by beginning teachers. Participants also found the network to be a safe and non-evaluative environment where they could openly discuss feelings without fear of reprisal. Protégés in a study of a California beginning teacher support program that employed the

use of online mentoring felt the electronic communications function had positive impact on them professionally by breaking through isolation, developing subject matter and technology skills, and connecting to the profession. It should be noted that California boasts a 98% retention rate for new teachers passing through their statewide beginning teacher support programs (Redmond, 2002). Consequently, this type of program may help to retain both beginning and experienced teachers at this critical time of teacher shortages throughout the country. Explanations for this high retention rate may be that this particular program is mandated, extensive, embedded within the work of the new teachers, and well-funded by the state. At this time, however, only a few of the program regions utilize an online component.

While online mentoring is starting to flourish, to date, there is very little known about the unique challenges of this phenomenon, and the call for more research into this field has been sounded (Ensher, Heun, & Blanchard, 2003; Hamilton & Scandura, 2003; O'Neill & Harris, 2000; O'Neill, Weiler, & Sha, 2003; Single & Single, 2004). In particular, research is scant on the administration and leadership implications for instituting these programs. This study intended to help fill this void. By sharing their experiences and lessons learned, program administrators provided valuable insight into how they developed and implemented their programs, the leadership roles they play in this outreach effort, and how they view the efficacy of e-mentoring. This study sought to provide a much needed substantive leadership theory regarding developing and administering an electronic mentoring program for those who wish to provide continuing support to the educational communities they serve. Educational leaders and administrators, professional development specialists, university faculty, and educational researchers all have a vested interest in a study that adds to the body of research on programs that support new teachers. The development of a leadership theory for electronic mentoring programs is an

important contribution to this new area of professional development that really is in its infancy and ripe for studies grounded in the data of these innovative programs.

Summary of Chapter

Research shows that the annual number of exits from teaching has surpassed the number of entrants by an increasing amount since the early 1990s (Darling-Hammond, 2003). The primary problem is teacher attrition, which is particularly high among teachers in their first few years of service. Data suggest that between 40 to 50% of all beginning teachers leave the profession within the first 5 years (Ingersoll & Smith, 2003). In addition to the high costs associated with teacher exits, high turnover of teachers causes staffing problems due to the lack of commitment, continuity, and cohesion among employees. Consequently, this can adversely affect school environment and student performance (Ingersoll & Smith, 2003).

There is a consensus emerging among U.S. educators and policymakers that the retention of new teachers depends on effective mentors and induction programs (Feiman-Nemser, 2003). Unfortunately, not all school districts have the resources to establish formal mentoring programs, particularly smaller districts in rural areas. This precipitates a need for alternative forms of induction and mentoring support. A new type of mentoring, called electronic mentoring, could help school districts provide their teachers the benefits of mentoring despite their lack of resources. Electronic mentoring, or e-mentoring, uses electronic communications, such as e-mail and online discussion groups to connect mentors with protégées with no constraints of time or place (Single & Muller, 2003). A well-structured e-mentoring program could serve a relatively large number of school districts, providing much needed support to beginning teachers in districts that are unable to provide formalized on-site mentoring.

This study focused on this innovative approach of electronic mentoring to help beginning teachers during the transition into the classroom. Many of these programs have shown encouraging reports of satisfaction by program participants and promise in retention efforts (Merseeth, 1990; Redmond, 2002; Johnson et al., 2002; Abbott, 2003). However, the problem is that although e-mentoring seems like a simple idea, it is not so simple to do (Harris et al., 1996; Johnson et al., 2002). Since e-mentoring is a fairly new concept, particularly as a support for beginning teachers, there is very little research that has been done in this area, particularly in regard to program administration and leadership issues. The purpose of this study was to (a) provide a collective view of known programs, both past and present, that have utilized this form of mentoring for new teachers by examining how these e-mentoring programs were developed and implemented; and (b) develop a grounded theory that explains the process and leadership traits that facilitate the administration of such a program. The first examination of program development and implementation provided the context for the leadership styles that were explored in the second dimension of the study. This study examined such programs from the perspective of the program administrators to uncover the challenges and successes they have experienced while developing and implementing their e-mentoring programs. As each program was explored, the following questions framed the overall study:

1. How does an organization develop and administer an e-mentoring program that supports new teachers?
2. What are the leadership traits of administrators of e-mentoring programs that support new teachers?

This study was delimited to the electric mentoring of pre-service and new teachers and not the mentoring of other professions or the mentoring of youth. This study was limited in a

number of ways: a) the number of programs used in the sample; b) the generalizability of the developed theory to all electronic mentoring programs; and c) the lack of direct access to mentors and protégés.

If schools are to retain well-qualified and much needed new teachers, it is important that they are provided a variety of resources for helping them through the transition from pre-service education to the classroom. An electronic mentoring program that provides school administrators and teachers a connection to a wide spectrum of professional contacts without the constraints of time and distance can be a valuable tool for the retention and professional development of this precious human resource.

CHAPTER TWO

Review of Related Literature

Introduction

The review of literature addresses the unique needs of beginning teachers, as well as the importance of new teacher induction and support systems for the professional development and retention of teachers. The use of mentoring as part of an induction program is presented with a discussion of the benefits to institutions, mentors, and mentees. The review provides a short historical perspective of mentoring, including how it has evolved into an electronic format. The literature review also discusses the current research on e-mentoring with particular emphasis on the planning, development, management, and outcomes of programs. Related research on professional development and adult learning, establishing relationships via electronic communications, leadership theory, and leadership for change, are also presented.

Context of New Teacher Attrition

A research study conducted by the National Center for Education Statistics using data from the nationally representative Schools and Staffing Survey (SASS) and its supplement, the Teacher Follow-up Survey (TFS), provides some insight into the reason new teachers leave the profession (Ingersoll & Smith, 2003). The SASS/TFS is described as “the largest and most comprehensive data source available on teachers and on the staffing, occupational, and organizational aspect of schools” (Ingersoll & Smith, 2003, p. 31). Ingersoll and Smith (2003) reported that the 1994-95 Teacher Follow-up Survey revealed that about 19% of beginning teachers who left the profession did so as a result of a school staffing decision such as layoff, cutback, reorganization or school closure; 42% cited personal reasons such as pregnancy, child rearing, health problems, and family relocation. In addition, about 39% stated they left to pursue

another career or better job and about 29% said dissatisfaction with their specific job or with teaching as a career was their main reason for leaving. Based on this research, dissatisfaction and pursuit of another job together account for about two thirds of all beginning teacher attrition. The 29% who listed job dissatisfaction as a major reason for leaving teaching, were then asked about the source of their dissatisfaction. More than three-fourths cited low salaries. However, even more indicated one of four working conditions behind their reason to quit: (a) student discipline problems; (b) lack of support from administration; (c) poor student motivation; and (d) lack of teacher influence over decision making.

These findings suggested that the root of teacher retention resides in the working conditions within schools and districts and point to “policy-amenable” issues and may offer a focus for improvement (Ingersoll, 2003). Increasing support for new teachers from administrators could range from providing enough classroom supplies to providing mentors. Unfortunately, evidence also suggested that it is the most academically talented teachers who are leaving in the largest numbers. In a study from the North Central Regional Education Laboratory (NCREL) it was found that a majority of superintendents in that region indicated that 75 to 100% of the teachers leaving are rated as “effective” or “very effective” in the classroom (Hare & Heap, 2001). A number of other studies also cite that it is the most promising teachers who are leaving teaching in the early years (Harris & Coolay, 1990; Schlechty & Vance, 1983).

Breaux and Wong (2003) reported the study, *What Matters Most: Teaching for America's Future* (National Commission on Teaching and America's Future [NCTAF], 1996), indicated that recruiting, preparing, and retaining good teachers should be the primary strategy for improving our schools. They further stated that numerous studies have shown that in the next decade the United States will need to hire more than 2 million teachers to keep pace with

enrollment increases, replace an aging workforce, and address the “chronic attrition of new teachers that plagues American schools” (Breux & Wong, 2003, p. 6). Unfortunately, research has indicated nearly 50% of new teachers will leave the profession within their first 5 years of teaching, with approximately 30% of them leaving in the first 2 years (Ingersoll & Smith, 2003; Schlechty & Vance, 1983). Understanding the needs of new teachers and implementing strategies to retain high quality teachers is critical to offset the growing shortage of teachers in this country.

Needs of New Teachers

Study after study has shown that, for a number of reasons, far too many beginning teachers are unhappy with their careers, all of which indicate that their needs are not being met (Ingersoll & Smith, 2003). Maslow’s Hierarchy of Needs Theory (1954) proposed that individuals’ needs are arranged in a hierarchy, and that the needs of the lowest level must be satisfied before an individual can progress to the next higher level. According to this theory, an individual’s needs are: (a) physiological needs; (b) safety needs; (c) love and belonging needs; (d) esteem needs; and (e) self-actualization needs. In relation to beginning teachers, it seems apparent that their lower level needs are not being adequately met and, therefore, their self-esteem and self-actualization needs cannot be reached. Consequently they are leaving the profession because they are not finding the fulfillment they expected to find as teachers.

In fact, beginning teachers reported that they became less inspiring and responsive, and more impulsive and reserved as a result of their early teaching experiences. They also tended to view themselves as less happy, relaxed, confident, and perceptive than before they were teaching. These early experiences are likely to lower self-esteem and optimism and develop negative attitudes. Some even felt they had less knowledge about teaching at the end of their first

year than when they began and saw themselves as more dominating and authoritarian toward students (Gordon & Maxey, 2000). Breaux and Wong (2003) noted that

Sadly, once they are hired, many new teachers are forgotten and left to fend for themselves. They receive little or no support and soon realize that college preparation and student teaching, no matter how positive those experiences may have been, have not fully prepared them for the realities of the classroom. They need help, and they feel they have nowhere to turn. Many leave teaching very early in their careers. And when they leave, they leave disillusioned and bitter about teaching as an experience and as a profession. (p. 7)

Breaux and Wong (2003) noted it is unfortunate that in many cases, a sink-or-swim attitude toward newly hired teachers still prevails. Many new teachers are “left to their own devices” and end up feeling alone, confused, and inadequate. They will often avoid asking for help because they fear it may cause other teachers to have negative perceptions about them. For all intents and purposes, they are expected to perform the same duties as their more experienced colleagues, at the same level of skill and competency (Breux & Wong, 2003).

Sargent (2003) stated environments that enable students to learn provide structure, support, consistency, and freedom to take risks. These are the same environments that enable teachers and administrators to teach, learn, and grow. Sargent (2003) concluded:

Teachers who feel connected to a school—who feel that their work is important and recognized—are more likely to remain vital, dynamic, and contributing members of the school community . . . by providing an organized system of support for new staff members, school leaders can build a staff of lifelong learners

who will share their knowledge about teaching and learning with future generations. (p. 47)

Research indicated that the major concerns of most new teachers include classroom management, student motivation, differentiation for individual student needs, assessment and evaluation of learning, and dealing effectively with parents (Britton, Paine, & Raizen, 1999; Kurtz, 1983; Veenman, 1984). Renard (2003) stated that

Preservice teachers don't learn these skills by reading a book in a methodology class. They hone these teaching skills by trial and error, by being in the thick of it, by reflecting on successes and analyzing failures. In short, the things that new teachers find most problematic are the things that come with time. In addition, new teachers must devote extra time to become experts in their subject areas or grade levels. Often, they are learning material just a step ahead of their students. (p. 63)

Feiman-Nemser (2003) stated that "Keeping good teachers in teaching is not the same as helping them become good teachers" (p. 25). To accomplish the latter, the first years of teaching need to be looked at as a phase in learning to teach, and new teachers must be surrounded by a professional culture that supports teacher learning (Feiman-Nemser, 2003).

Phases of First Year Teaching

Moir (1990) described five phases of first year teaching: (a) anticipation, (b) survival, (c) disillusionment, (d) rejuvenation, and (e) reflection. A description of the phases follows and are shown in Figure 2:

1. Anticipation Phase. The anticipation phase begins during student teaching and extends through the first few weeks of in-service teaching. During this phase the new teacher tends to

romanticize about the position and the role as teacher. The beginner has a strong commitment to making a difference and often an idealistic view of how to accomplish goals.

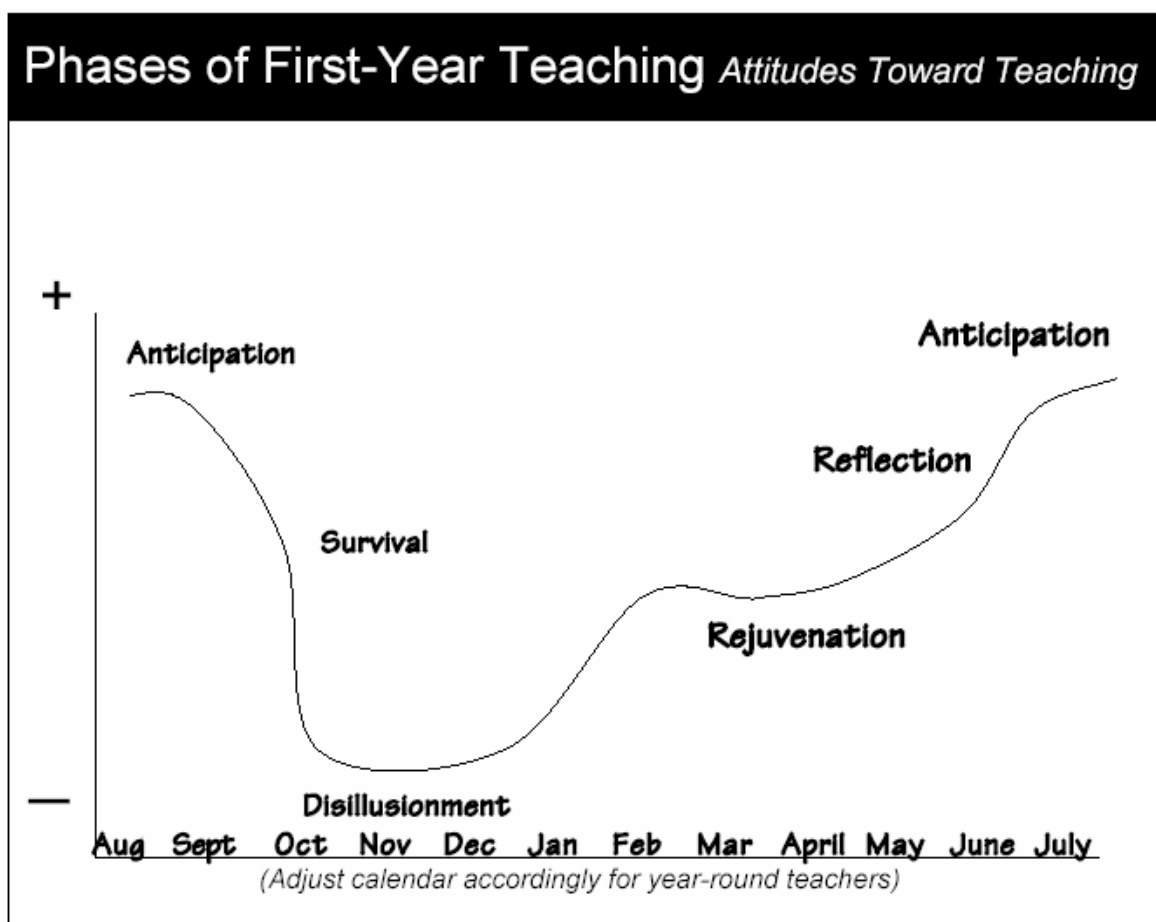
2. *Survival Phase.* The survival phase comes during the first month of school. During this time the first year teacher is overwhelmed with learning a great deal at a very fast pace. The teacher is inundated with unanticipated problems and situations and usually taken aback by the realities of teaching. Often struggling to keep their head above water, the new teacher becomes very directed and consumed with day-to-day teaching tasks and has little time for reflection. The constant need to develop curriculum is time consuming because of unfamiliarity and uncertainty.

3. *Disillusionment Phase.* The disillusionment phase is generally six to eight weeks into the year. This period is characterized by the extensive time commitment and the realization that things are not going as well as hoped, and it is fueled by low moral and self-doubt about commitment and competence. Classroom management is a major source of stress. To compound anxiety even more, the beginning teacher is often faced with open houses, conferences, and their first formal evaluation. This is often the most difficult phase to get through and many new teachers get sick during this time.

4. *Rejuvenation Phase.* During the rejuvenation phase there is a slow improvement in attitude toward teaching, generally beginning in January after Christmas/Winter break. Vacation has provided an opportunity to relax, recreate, visit, reorganize, and plan. The new teacher has a better understanding of the system and realities and can develop new strategies to cope and prevent, or at least reduce, new problems. There is a better chance to focus on curriculum development, teaching strategies, and long-term planning during this time. Near the end of this phase, the teacher may again experience concerns about getting through classroom content and question their effectiveness as a teacher.

5. *Reflection Phase.* The reflection phase comes near the end of the year, usually in May. The new teacher reflects back on events, both successful and not, and plans for changes in the following year. This is usually an invigorating time, because the end is in sight and the next year seems much clearer and brings the teacher full circle into a new cycle of anticipation for the coming year.

Figure 2: Phases of first year teaching. From "Phases of First Year Teaching" by Ellen Moir, 1990, *New Teacher Center at the University of Santa Cruz Publications*. Copyright by the New Teacher Center. Reprinted with permission.



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Renard (2003) contended if educational leaders are serious about retaining new teachers past their decisive first three years and intend to help them become effective classroom leaders, they must look at what is asked of new teachers and commit to adjusting work loads and schedules in order to position them for success rather than failure. “In the end, new teachers ought to emerge from their first few years of teaching feeling empowered, supported, and capable in all roles of the classroom teacher” not overwhelmed, disillusioned, and exhausted (Renard, 2003, p. 64).

Role of Induction and Mentoring

Once new teachers are recruited, they need training and ongoing support. According to Breaux and Wong (2003), a new teacher induction program that focuses on teacher training, support, and retention is the best way to support, develop, and cultivate an attitude of lifelong learning in beginning teachers. New teachers need initial training in classroom management to ensure success. They need to understand what is expected of them and receive ongoing support and training to carry out their responsibilities and duties. They need the guidance of mentors, as well as the understanding and support of administrators, faculty, and staff. New teachers need to feel accepted as important contributors to the overall effectiveness of their schools (Breaux & Wong, 2003). Breaux and Wong (2003) purported:

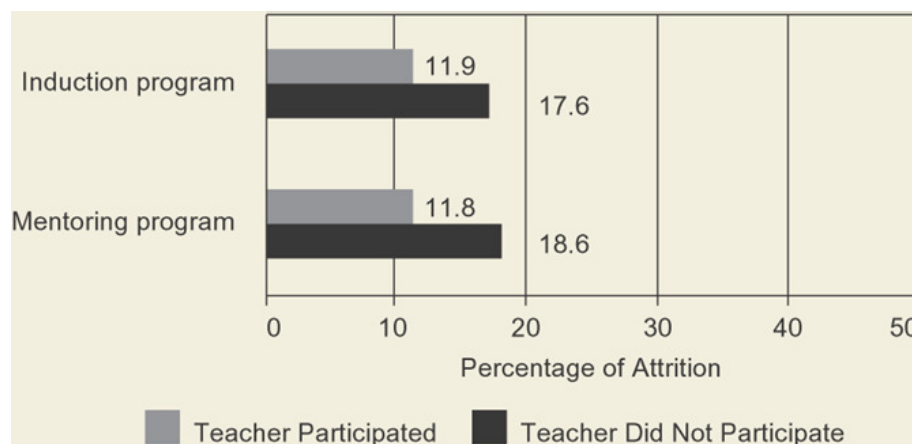
The issue is support. It is a tragic waste of human resources when dedicated new teachers, full of commitment and energy, leave the teaching profession dejected after only a few years. These new teachers leave with bitterness toward education and they leave not because of poor pay, but because of a lack of support from administration. (p. 27)

Gordon and Maxey (2000) believed the solution to address many of the problems for beginning teachers is to develop a beginning teacher assistance program (BTAP). A BTAP is “a formal, systematic effort to provide ongoing assistance to a new teacher during the induction period” (Gordon & Maxey, 2000, p. 10). Many educators believe that to fully induct a beginning teacher, it takes up to three years with some type of formal assistance provided throughout that time (Gordon & Maxey, 2000). Induction includes training, supporting, and acculturating the new teacher to teaching, including the responsibilities, missions, and philosophies of their schools and districts. It is a structured training program that needs to begin before the first day of school and continue for two or more years. Induction has the basic purposes of: (a) providing instruction in classroom management and effective teaching methods; (b) easing the transition into teaching; and (c) increasing the retention of highly qualified teachers (Breux & Wong, 2003). Huling-Austin (1988) further identified five commonly accepted goals of teacher induction programs: (a) improve teaching performance; (b) increase retention rates of beginning teachers; (c) promote professional and personal well-being; (d) convey the culture of the system; and (e) satisfy mandated requirements.

Breux and Wong (2003) stated that in the fourth annual 50-state report by Education Week, *Quality Counts 2000*, it was found “that teachers who had not participated in an induction program were nearly twice as likely to leave after their first three years of teaching as were teachers who had received the benefit of an induction program” (p. 7). There are a number of studies that have found well-designed mentoring programs have raised retention rates for new teachers by improving their instructional skills, attitudes, and feelings of efficacy. In addition, these new teachers not only stay in the profession at higher rates, but they also become competent much sooner than those who must learn by trial and error (Darling-Hammond, 2003).

Data from the Schools and Staffing Survey/Teacher Followup Survey showed that induction and mentoring programs are especially effective in the retention of beginning teachers after their first year (Ingersoll & Smith, 2003). Figure 3 shows the attrition rate of beginning teachers after their first year who participated in an induction program was 11.9%, versus 17.6% for those teachers who did not participate in an induction program. The attrition rate of beginning teachers who participated in a mentoring program was 11.8%, versus 18.6% for those who did not participate (Ingersoll & Smith, 2003).

Figure 3: Comparison of attrition of beginning teachers participating in induction or mentoring. From "The Wrong Solution to the Teacher Shortage," by Richard M. Ingersoll and Thomas M. Smith, 2003, Educational Leadership, 60, 8, p. 33. Copyright 2003 Richard M. Ingersoll and Thomas M. Smith. Reprinted with permission.



Source: National Center for Education Statistics, 2000-2001 Teacher Followup Survey.

Ingersoll and Smith (2003) contended that this analysis showed that schools, contrary to some popular belief, are not victims of unavoidable demographic trends. Although management and organization of schools can play a significant role in the problem of school staffing, they can also be a part of their solution. By improving teachers' working conditions, administrators could help to lower rates of new teacher turnover, thus reducing school staffing problems and ultimately improve the performance of their schools (Ingersoll & Smith, 2003).

Breaux and Wong (2003) articulated continuing concerns: “Though many more school districts are developing programs in an attempt to support and retain new teachers, far too many districts continue to provide little, if any, support for their new teachers” (p. 11). They placed these concerns in a large context when they stated (Breaux & Wong, 2003)

At a time when all students must meet higher standards for learning, access to good teaching is a necessity, not a privilege or something to be left to chance. And competent teaching depends on educators who deeply understand subject matter and how to teach in ways that motivate children and help them learn. Like doctors, engineers, and other professionals, teachers must have access to high quality education and career-long opportunities to update their skills if they are to do their jobs well. (p. 27)

It seems clear that induction programs are a wise investment in the ongoing training, support, and retention of beginning teachers. As a result of these programs, novices become more qualified, capable, and effective teachers. Successful induction programs can go a long way toward improving the quality of teaching and ultimately improving student achievement (Breaux & Wong, 2003). However, induction and mentoring programs will only produce benefits if they are well designed and well supported (Darling-Hammond, 2003). In fact, a study by Klug and Salzman (1991) comparing formal induction versus informal mentoring, indicated that participants preferred a highly structured induction program with a team that included an administrator, mentor, and representative from higher education, rather than a buddy system that was loosely structured.

Mentoring is often an integral part of a formal induction program and, as such, should be well structured and receive ongoing support. The term mentoring means “a trusting, supportive

relationship between a more-experienced member and a less-experienced member of an organization” (Breux & Wong, 2003, p. 59). A mentor, as defined by Scheehy (1976) is a “nonparental career model who actively provides assistance, support, and opportunities for the protégé” (p. 31). Mentoring is “a relationship in which a person of greater rank or expertise teaches, guides, and develops a novice in an organization or profession” (Alleman et al., 1984, p. 329). Schmidt and Wolfe (1980) identify three broad functions of mentors: role model, consultant-advisor, and sponsor. Zachary (2000) views mentoring in a learner-centered paradigm grounded in the principles of adult learning. The mentoring relationship has evolved into an approach that requires a mentor to “facilitate the learning relationship rather than just transfer knowledge to the learner” (Zachary, 2000, p. xv). This learning relationship is central to the success of the relationship between the mentor and the new teacher-mentee and according to Feiman-Nemser (2003):

The goal of new teacher learning should define the mentor’s role and practice. Mentors often offer help only if the new teacher asks; they don’t think of new teachers as learners and themselves as their teachers. When learning to teach is the goal, however, mentors become teachers of teaching, not buddies or local guides. (p. 28)

Origins of Mentoring

Mentoring is an ancient concept that many believe has its origins in Homer’s “Odyssey.” In this epic poem, Odysseus entrusted his friend, Mentor, with the education and care of his son while he was away fighting in the Trojan War. Mentor was the consummate teacher—wisdom personified and the dispenser of knowledge (Zachary, 2000). Another early account of mentoring is used to describe the relationship between Plato and Aristotle (Tyler, Blalock, & Clark, 2000).

Today mentors are regarded as trusted advisors who support and nurture novices in their new roles. Unlike role models, which often do not require any direct exchange, mentors assume active participation in the development of protégés or mentees. Mentoring is often first seen as providing an instrumental or career function and, second, providing an intrinsic or psychosocial function (Cunningham, 1999). Mentoring has evolved into a learning relationship that employs a collaborative, reflective practice and provides rich learning opportunities for both mentors and mentees. The focus of mentoring has shifted from a product-oriented model to a process-oriented relationship characterized by knowledge acquisition, application, and critical reflection (Zachary, 2000).

Benefits of Mentoring

Business has a long history of using mentors in preparation and induction of its employees. These mentoring relationships consist of a more experienced professional who serves as a supportive and guiding role model for one who is less experienced in the field (Cunningham, 1999). Although mentoring has been evident in education for a long time, it usually has focused on the relationship between teacher and student. It has taken the profession of education some time to recognize the advantages of using a planned and organized mentoring approach for induction of new faculty. Public schools have been implementing various forms of mentoring for new teachers more frequently and teacher mentoring programs have become the dominant form of induction for teachers during the past 20 years (Ingersoll & Smith, 2004).

The benefits of mentoring faculty members are many and include: (a) acclimation of faculty to the school culture; (b) enhancement of effective teaching; and (c) increased job satisfaction, vitality, scholarly productivity, collegiality, and retention (Cunningham, 1999). The following provides some of the benefits specific to the institutions, mentors, and mentees:

Institutions. Mentoring is valuable to the overall stability and health of an organization, playing an important role in future organizational leadership. While developing individual strengths, performance within a group is improved, which ultimately strengthens the development of potential leaders for the institution (Luna & Cullen, 1995). A number of school districts have learned the benefits of mentoring first-hand. For example, by providing expert mentors with release time to coach beginners in their first year on the job, school districts in Rochester, New York, and Cincinnati, Columbus, and Toledo, Ohio, have all reduced attrition rates of beginning teachers by more than two-thirds; often from levels exceeding 30 percent to rates of less than 5 percent (NCTAF, 1996).

Mentors. Benefits to mentors include professional career development and rejuvenation, increased professional visibility, satisfaction and pride from assisting mentees, stimulation by new ideas of creative mentees, and improvement of management skills (Luna & Cullen, 1995; Tyler et al., 2000). Mentoring provides a new lease on life for many veteran teachers. These seasoned teachers need ongoing challenges to remain stimulated and excited about the profession. Many claim that mentoring and coaching other teachers creates an incentive for them to remain in teaching because they learn from and share with their colleagues (Darling-Hammond, 2003).

Mentees or Protégés. The mentees or protégés are certainly the greatest benefactors of good mentoring. Mentees gain an understanding of the organizational culture, access to significant networks of communication, and assistance in defining and reaching career goals. They also develop skills in communication, politics, risk-taking, and skills specific to the academic profession. Additionally, mentees gain an increase in confidence and professional

reputation (Luna & Cullen, 1995; Tyler et al., 2000). Huling-Austin and Murphy (1987) concluded in their research on induction programs in eight states that

The assignment of a support teacher may well be the most powerful and cost-effective induction practice available to program developers. First-year teachers who were assigned support teachers consistently reported that they relied upon the support person most heavily for assistance. (pp. 35-36)

Huffman and Leak (1986) drew a similar conclusion, finding that 95% of teachers in a beginning teacher program considered mentoring to be a significant component of teacher induction. In the Wisconsin-Whitewater Teacher Induction Program, teachers considered the mentor to be the primary person influencing the success of the program (Smith-Davis & Cohen, 1989). Another group of researchers studying state-mandated beginning teacher programs concluded that

For many of our beginning teachers the most significant positive force on their experience was the peer or support teacher. The peer or support teacher was typically rated as highly influential early in the year and increasingly influential as the year progressed. (Hoffman, Edwards, O'Neal, Barnes, & Paulissen, 1986, p. 19)

Fagon and Walter (1982) found in their study that the majority of beginning teachers credited their mentor with familiarizing them with the school administration, encouraging creativity, and helping them gain self-confidence. Huling-Austin and Murphy (1987) reported that beginning teachers said they “received the most help from support teachers in the areas of locating materials, student discipline, lesson planning, grading, establishing realistic expectations of student work and behaviors, having someone to talk to/listen” (p. 36).

Unfortunately, many beginning teachers do not feel they receive the necessary support locally to help them with the transition from pre-service education to the classroom (Johnson & Kardos, 2002). In order to ease this transition, it is important to utilize a variety of approaches to teacher induction (Barnum & Paarmann, 2002). Mentoring has been around for centuries and is finding new life as one part of teacher induction programs. However, there may be times when mentoring is not feasible, desirable, or convenient for mentoring partners to meet face-to-face on a regular basis. This may be due to time conflicts, lack of qualified personnel, or even physical proximity of the mentoring partners. There is a recent surge of interest and increased participation in global and long-distance mentoring opportunities (Zachary, 2000). The use of electronic mentoring has caught the attention of many professions, including those in education. A number of teacher education programs are now showing interest and some have adopted some form of electronic mentoring (Abbott, 2003; Klecka et al., 2002). These programs range from very loosely formed e-mail relationships to formal, well-structured programs using sophisticated software and delivery systems. The use of electronic communications provides the convenience of anytime, anywhere communication for mentoring participants. As professionals in many different fields are finding, online professional development—including mentoring—is becoming more accessible and accepted, and is being developed quickly to meet the market demand. The next section provides a review of the origins and characteristics of electronic mentoring, as well as look at the critical issues regarding the design and implementation of electronic mentoring programs.

Electronic Mentoring

Evolution of Electronic Mentoring

Although it is difficult to pinpoint exactly when electronic mentoring first started, it is probably safe to assume that informal e-mentoring occurred with the inception of e-mail among researchers and scientists using ARPANET, USENET, and BITNET networks in the late 1970s and early 1980s. Then in 1985, America Online expanded the use of e-mail to the general public. The introduction of the World Wide Web in 1994 and the use of Netscape created an unprecedented expansion of communication capabilities by offering more user-friendly modes of electronic mail (Single & Single, 2004). This growth provided exponential opportunities for connectivity among colleagues as well as strangers.

E-mentoring programs evolved for many of the same reasons face-to-face mentoring programs existed. Unfortunately, early findings showed that like many face-to-face programs, e-mentoring programs did not live up to their full potential without specific program support (Single & Single, 2004). A number of researchers reported that sustaining e-mentoring relationships is a challenge that requires specific programmatic supports (Harris et al., 1996; Single & Muller, 2001).

Some of the earliest e-mentoring programs included the Telementoring Young Women in Engineering and Computing project, the first federally funded structured e-mentoring program. It was funded in 1994 and ran for three years (Bennett et al., 1998). Other large programs included the Hewlett-Packard Telementoring Program, later known as the International Telementoring Program, and the Dartmouth E-mentoring program that eventually expanded into MentorNet. Both of these are large scale programs serve over 1,000 participants (Ensher et al., 2003). MentorNet pairs undergraduate and graduate women studying engineering, science, and

technology with professionals working in industry and government (Single & Single, 2004). Electronic mentoring programs for the support of beginning teachers have existed since the late 1980s (Merseth, 1990), but their tenure has been sporadic, with programs beginning and folding and little known about them. There are a number of programs that have shown some longevity and some have made important contributions to the field of electronic mentoring (Bennett et al., 1998; Harris et al., 1996; Klecka et al., 2002; Single & Muller, 2001). In addition to the Telementoring project and MentorNet previously mentioned, these programs include the Electronic Emissary and the Novice Teacher Support Project (NTSP). The Electronic Emissary was founded by Judi Harris at the University of Texas at Austin in 1993 and provides a matching service to set up curriculum-based, electronic exchanges among teachers, their students, and experts in the field (Harris et al., 1996). The NTSP began in the fall of 1997 and is a collaborative effort among the University of Illinois at Urbana-Champaign, the Illinois Education Association, the Illinois Federation of Teachers, five Regional Offices of Education, and 21 partner schools districts. The NTSP includes an electronic mentoring program as part of its support system to novice teachers in five counties in East Central Illinois (Johnson et al., 2002).

Advantages of E-mentoring Programs

Electronic communications provide a flexible, asynchronous environment that is independent of time and place, so schedules and geographic locations do not necessarily dictate meetings. It can be useful when face-to-face mentoring is unavailable, impractical, or even insufficient. Electronic communication is unique in that it can foster the development of more open and supportive relationships, since it conceals social cues that indicate a difference between higher and lower status individuals. E-mail also allows for more time to construct thoughtfully written messages because there is no pressure for an immediate response, as there is with oral

communications (Single & Muller, 2001). Research supports that many of the benefits associated with face-to-face mentoring are also provided with e-mentoring. These include informational, psychosocial, and instrumental benefits, as well as role-modeling functions (Kram, 1983; Scandura & Williams, 2001). Hew and Knapczyk (2007) found in their study of 26 in-service practicum teachers using online mentoring for classroom behavior problem-solving, the practicum teachers gained a new perspective and increased their motivation and perseverance in handling discipline problems. In addition, e-mentoring also offers the Value of Impartiality and Inter-Organizational Connections (Single & Single, 2004). A number of researchers (Boyle & Boice, 1998; Diehl & Simpson, 1989; Hew & Knapczyk, 2007; Single, P. B., Muller, Cunningham, Single, R. M., & Carlsen, 2003) found that having impartial mentors who did not have a vested interest in the protégés' decisions, nor were in a position to assess or judge them, allowed for more trusted and open mentoring relationships. Boyle and Boice (1998) concluded in their study of two mentoring projects, one for new faculty and a second for new graduate teaching assistants, that protégés felt free to express weaknesses and concerns and question suggestions. Inter-organizational connection refers to the characteristic that the e-mentoring participants are from multiple organizations, so protégés have the opportunity to learn from mentors outside of their familiar networks. Single and Single (2004) cited Granovetter's (1973) idea of "the strength of weak ties" and saw this as a positive opportunity, because it affords one to move in different circles and have access to information different from what one would receive within their own environment.

Merseth (1990) found that Harvard's Beginning Teacher Computer Network encouraged discussions and interactions among participants that offered personal and emotional support, and reduced the isolation often felt by beginning teachers. Participants also found the network to be a

safe and non-evaluative environment where they could openly discuss feelings without fear of reprisal. Protégés in a study of a California beginning teacher support program that employed the use of online mentoring felt the electronic communications function had positive impact on them professionally by breaking through isolation, developing both subject matter and technology skills, and connecting to the profession. The state of California reports a 98% retention rate for new teachers passing through their statewide beginning teacher support programs (Redmond, 2002). Another group of researchers reported that over a three-year period participants in their new teacher support program, which also employs electronic mentoring, had a 91% job retention rate (Johnson et al., 2002).

Challenges of E-mentoring Programs

Boyle and Boice (1998) found that although mentoring programs are initiated with the best of intentions, they are often developed without adequate planning or resources, particularly in regard to training, coaching, and follow-up of the matches. Poorly planned programs are bound to fail, falling short of programs goals and expected benefits. Proper program structure and personnel, as well as appropriate training, coaching, and follow-up, are all required to improve participation and increase the benefits of the mentoring program (Boyle & Boice, 1998). Single and Muller (2001) posited that program structure and matching strategies may be even more important in e-mentoring than in face-to-face mentoring, because there is a greater tendency to match pairs and not provide follow-up due to the nature of the virtual environment of e-mentoring. All too often contact between program staff and participants is intermittent, making it is easy to overlook the need of a structured format to maintain regular exchanges between mentors and protégés (Single & Muller, 2001). Cheng, Clift, and Klecka (2003) found that to sustain participation, mentors and protégés need to have a feeling of safety, trust, and confidence

in their online interactions. They need to have a sense of safety, whereby, access to their communications is restricted to only program participants and staff. They need to trust the communications will be read and someone will respond. Lastly, they need to have confidence in the online medium. Any breach in trust and confidence of the security of the online environment will likely diminish participation (Cheng et al., 2003).

Funding is repeatedly cited as a critical support element in developing and maintaining a program. The costs involved are not trivial and there are often unanticipated expenditures (Klecka et al., 2002; O'Neill et al., 2003). Program developers often seek multiple sources (Harris et al., 1996; Klecka et al., 2002; Single & Muller, 2001) and often find that it is an ongoing challenge to secure adequate funding (Fulop, 2003).

Developing and Maintaining an Electronic Mentoring Program

This section discusses the various components involved in developing and maintaining an electronic mentoring program. Much of the literature regarding e-mentoring is grounded in the research of traditional face-to-face mentoring programs and has been found to be applicable to the electronic mentoring settings (Single & Single, 2004).

Program Design and Planning

The planning phase requires the development of clearly articulated goals and anticipated outcomes. The primary goal of this phase is to ensure participants are aligned with program goals and objectives (Single & Muller, 2001). A multi-disciplinary design team can help both the technical and social interaction structures for the program (Headlam-Wells, Gosland, & Craig, 2006). In their publication *Elements of Effective Practice*, MENTOR/National Mentoring Partnership (2003) suggested that the initial planning stage calls for the design of the parameters

of the program. This includes identifying the population served, the type of mentoring, and the structure of the program. Questions to ask include:

1. Will the program be a stand alone or supplemental to other supports?
2. What are the goals and outcomes?
3. What will be the duration of the relationships and how often are they required to “meet”?
4. Who are the stakeholders?
5. How will the program be promoted?
6. How will the program be evaluated and what measurement will be used for success?
7. What will be the case management protocol if problems arise?

MENTOR (2002) also included in its checklist for e-mentoring programs a technology implementation strategy that includes a communication system that is safe and reliable, as well as appropriate to the goals of the program. Technology requirements, roles, and responsibilities of program participants must be determined, and policies regarding privacy and security of data and communications must be established.

According to MENTOR (2003), decisions need to be made regarding how the program will be managed. A management team needs to establish policies and procedures and determine what kind of training and development will be needed for staff. A financial plan needs to be formulated that includes the program budget, funding needed and sources, internal controls and auditing, and the management of finances. Implementation plans include strategies for recruitment, screening and selection, matching, training, ongoing support, recognition, and a closure process for the relationships. Initial planning also needs to consider who will evaluate the program. This includes an evaluation design, deciding what data to collect and how to collect it,

how to determine the effectiveness of the process and outcomes for participants, reflection on the outcomes, and dissemination of the findings (MENTOR, 2003).

To ensure proper management of the program, MENTOR (2003) suggested development of several plans as well as the formation of an advisory group, with defined roles and responsibilities. Members should have diverse backgrounds, representing various stakeholders of the program. A comprehensive system needs to be developed for managing and monitoring program information such as finances, personnel records, participant activity, and documentation of matching and evaluation. A resource development plan that seeks diversified funding, such as individual and corporate donations, government funding, and foundation grants should be designed. A professional staff development plan needs to be created that includes ongoing training and builds on participants' skills and knowledge. Effort should be made to advocate for public policy and funding for mentoring at various levels, and encourage private and public leaders to adopt pro-mentoring policies and provide funding for programs. Finally, a public relations/communications effort should be implemented to identify target markets, develop a marketing plan, gather feedback, develop partnerships and collaborations, and recognize program participants, funders, and sponsors (MENTOR, 2003).

Recruitment and Selection

Single and Muller (2001) recognized recruitment of both mentors and protégés is a critical part of a mentoring program and that a number of issues need to be addressed when planning for recruitment. One consideration is deciding when recruitment needs to take place: will it be ongoing or just specific times in the cycle of the program? Another consideration is how to recruit. Participants may be recruited online as well as in person. Single and Muller (2001) suggested possible methods might include using e-mail distribution lists to potential

candidates, posters, flyers, announcements in newsletters, presentations at conferences, and the use of local program representatives within various organizations (i.e., school districts). They also recommend when marketing the mentoring program through recruitment, every effort should be made to communicate the program goals and requirements, eligibility criteria, frequency of contact, duration of the relationships, and access to the necessary technology.

Single and Muller (2001) recommended the use of a website to provide access to information for potential participants. It is particularly important that care is used in presenting the project to prospective participants: they need to be aware of program goals and expectations, so it is a good fit. Asking questions about accessibility to a computer, connectivity to the Internet, and local technical assistance is important to assure there will be adequate access and support for participation. Participants may even be required to sign an Acceptable Use Agreement, outlining guidelines for appropriate and inappropriate online behavior (Bennett et al., 1998). Guidelines could be posted on the website and when participants agree to guidelines, they are granted access to web-based application. An online application that can convert the information to a database will assist in processing the information for selection and eventual matching of partners (Single & Muller, 2001). Applications might ask about educational background, professional experiences, previous mentoring experiences, and interest in the program or a particular field of work. It might also be beneficial to look for a wide range of backgrounds including age, race, location, and level of education or work experience to provide a broad range of participants, particularly for the mentor pool (Bennett et al., 1998). The screening of potential mentors and protégés should be based on their applications, reference checks, and if possible, interviews (MENTOR, 2002; MENTOR, 2003).

Matching Strategies

Single and Muller (2001) stated the matching process may be even more important in e-mentoring relationships than in face-to-face because of the lack of organizational membership, common setting, and culture. It is particularly important to find common ground as soon as possible and get relationships off to a successful start. Single and Muller (2001) described three matching strategies: participant choice, uni-directional, and bi-directional.

1. Participant Choice: This method provides biographical descriptions of mentors that can be reviewed by protégés. The protégé then contacts the program coordinator with their choice and coordinator contacts the mentor. There can be confidentiality problems with this method. It is suggest that contact information is not provided directly on the website. Other problems include the need for a pool of mentors before protégés, inappropriate choices made by protégés, or same the mentor being chosen many times.

2. Uni-directional: In this method, either the mentors or protégés identify preferences (usually protégés) based on professional characteristics (such as field or position), personal characteristics (ethnicity or gender), and professional needs. The coordinator makes matches based on protégé preferences and mentor characteristics.

3. Bi-directional: This method takes into account preferences of both the mentor and protégé. This method increases the difficulty of matching. A small program can use a hand matching system, but for larger programs, an automated matching system is suggested, with staff reviewing matches before contacting participants.

Which ever matching strategy is used, it is suggested to allow mentors and protégés to review, accept, or reject partnerships. This provides a feeling of ownership for the participants and facilitates establishment of the relationship (Single & Muller, 2001). Bennett et al. (1998)

found in the Telementoring project, that the more involved the participants were in the matching process, the more they felt some control in selecting their mentors, which increased their level of commitment to the program. This project was an early online mentoring program funded by the National Science Foundation that matched high school girls in science and technology courses with practicing professionals.

Training

“The success of any mentoring program hinges largely on the quality and preparedness of its mentors,” concluded Breaux and Wong (2003, p. 66). Orientation and training within a mentoring program needs to provide an overview of the program, clarification of the roles of the participants—including responsibilities and expectations of their participation—and discussion of how to handle a variety of situations (MENTOR, 2003). Training occurs at the onset of the mentoring program and usually focuses on mentors, but can include protégés. In fact, mentoring program frameworks emphasize the importance of training for both mentors and protégés (Ensher, Thomas, & Murphy, 2001; Gaskill, 1993; Zachary, 2000). Training should introduce issues relevant to participants as well as general mentoring issues to acculturate the participants. Mentors should be trained to be flexible with expectations of protégés, and they should learn how to assess and respond to protégé needs rather than imposing personal expectations. Training also needs to include suggestions for initiating and developing online mentoring relationships (Single & Muller, 2001). Because mentoring programs are often on tight budgets, it is important that costly program supports, such as training, are “efficacious and provides more positive outcomes than [than] if the feature were not implemented” (Single & Single, 2004, p. 16).

It might seem that the use of electronic delivery for training may be a practical approach for electronic mentoring programs, due to the widespread locations of the program participants.

Single and Single (2004), however, posed the question of how to deliver training using electronic communications. These might consist of electronic discussion lists or web-based online training. Electronic discussion lists could range from a highly structured format, with a mentor trainer facilitating discussions and disseminating information, to an unstructured format, without a moderator, that allows open interactions among participants. The disadvantage of a highly structured format is its heavy reliance on experienced facilitators. Unstructured formats may not provide the direction and focus needed for effective and efficient training (Single & Single, 2004). Training could also be customized to meet the needs of all program participants by providing separate training sessions for mentors and protégés (Bennett et., 1998).

When implementing a facilitated training program, Bennett et al. (1998), contended a competent trainer is critical to the effectiveness of the program. The following are characteristics of good mentor trainers using online preparatory sessions, as defined by Bennett et al. (1998):

1. Help direct conversation to key topics.
2. Ensure that all participants are included in the discussion by directly responding to individuals and calling them by name.
3. Provide feedback on discussion topics by summarizing comments made and highlighting emerging themes.
4. Keep the overall goals and structure clear for all participants.
5. Respond to problems or conflicts that arise among participants.
6. Model appropriate and expected online participation.
7. Provide the “glue” necessary to keep individuals connected in a virtual space. (p. 31)

Bennett et al. (1998) posited that online preparation or training sessions serve several functions: (a) becoming familiar with the challenges of online communications, (b) conveying

information regarding expectation of roles, and (c) providing advice on developing mentor-protégé relationships, online etiquette, and communication strategies. A good introductory exercise is for mentors and protégés to prepare a brief biography to share, encouraging personal anecdotes, humor, or even drawings or emoticons (i.e., ;>)) to add a personal presence (Bennett et al., 1998).

Single and Muller (2001) suggested online training could include electronic discussion groups responding to case studies or threaded discussions that allow participants to respond to topics they find relevant. Both of these approaches could allow participants to see responses of one another. Another training approach is a web-based interactive tutorial that introduces a case and allows a hypothetical response from the participant. The tutorial would also provide sample annotated responses for the participant to reflect upon (Single & Muller, 2001). Using web-based training, in which a case study is presented to participants, could address pertinent issues such as developing e-mentoring relationships or an issue relevant to the occupation of the participants. This model of training eliminates the need for a facilitator, allows participants to respond when and where they can, and allows for cases to be developed that are appropriate to the participants' issues and developmental level (Single & Single, 2004).

Another issue in regard to training is whether or not to make it a requirement for participants. Kasprisin, Single, P. B., Single, R. M., and Muller (2003) conducted an experiment testing the hypothesis that mandated training for protégés would enhance their e-mentoring experience. Half of the protégés were randomly assigned to the experimental group in which they were required to complete the online training. The other half of the protégés were assigned to the control group in which the online training was optional. Comparative analysis of the year-end results supported the hypothesis that the protégés mandated to complete the training reported

higher engagement in the program. It was also found that requiring protégés to go through a mandated training benefited the mentors as well: they experienced better engagement with their protégés and found greater satisfaction in the e-mentoring process (Single & Single, 2004).

Coaching/Facilitation and Ongoing Support

Coaching or facilitation refers to the ongoing support provided to participants throughout the program, not the coaching to protégés by mentors (Single & Single, 2004). The concept of coaching came directly from research on face-to-face mentoring programs. This research suggested that regular contact between program staff and participants motivated and encouraged participants to stay involved with the program (Boyle & Boice, 1998). Coaching or facilitation occurs throughout the electronic mentoring program, for both mentors and protégés, and is delivered via e-mail messages containing discussion topics or mentoring tips. Single and Muller (2001) outlined four coaching functions: (a) reinforcement and reminders to stay in contact; (b) providing information that guides the relationship through the developmental stages of mentoring; (c) providing information for discussion topics customized to the goals of the program; (d) providing a means for program staff to stay in contact with participants, including consultation, troubleshooting, and even re-matching if necessary. The frequency of messages depends on program goals and participants and is an important issue for further research (Single & Muller, 2001).

Single and Muller (2001) found that shorter e-mail messages that fit on one screen worked better than longer messages that required the reader to scroll down the screen. Sending both mentors and protégés messages related to the same topic also provided stimulus for common discussions. They also reported that developing different content for the different

groups (i.e., first year versus second year participants) allowed them to customize the program to accommodate the different stages and needs of participants.

Research revealed that in e-mentoring year-end evaluations, the frequency and duration of one-on-one e-mail interactions is repeatedly associated with positive outcomes for participants (Single et al., 2003). A review of e-mentoring research by Single and Single (2004) supported that protégés who received more frequent (weekly) messages were more satisfied with the e-mentoring program than those who received less frequent (biweekly) coaching messages. Single and Single (2004) concluded that “the more that an e-mentoring program can facilitate the frequent and regular e-mail exchanges among the participants, the more successful will be the program” (p. 12). They did, however, cite no known studies comparing coaching to programs without it; consequently, they suggested this as an area for further research.

Assessment and Evaluation

MENTOR (2003) suggested that to ensure quality and effectiveness, developers of mentoring programs need to develop a plan to measure program process and expected outcomes, and then create a course for reflection and dissemination of findings. To measure program process, developers need to select indicators of implementation viability and volunteer fidelity such as training hours, meeting frequency, relationship duration, and then develop a system for collecting and managing data. To measure expected outcomes, developers need to specify the expected outcomes, select appropriate instruments to measure outcomes (questionnaires, surveys, interviews), and then select and implement an evaluation design. The process for reflection and dissemination of evaluation findings should refine the program design and operations based on findings, and develop and deliver reports to program constituents (MENTOR, 2002; MENTOR, 2003).

Single and Muller (2001) stated that assessment is needed in e-mentoring programs for the same reasons as in face-to-face programs. Assessment not only serves to provide information for program improvement and reports the benefits of the program to participants, but it also helps to demonstrate the value of a program and justify its continued funding. This is particularly valuable because it is important to identify best practices of this rather new concept of mentoring. Data may be collected electronically via e-mail-delivered or web-based instruments, or it may be collected by phone or paper surveys. Single and Muller (2001) recommended collecting three types of data:

1. *Involvement data.* This measures participants' involvement by frequency of interactions of the mentoring pair. Frequency of interactions of both face-to-face and e-mail exchanges are positively related to beneficial outcomes (Campbell & Campbell, 1997; Cummings & Finholt, 1996) and continuation of the relationship for duration of the program (Boice, 1992). One way to collect this data is to have mentors and protégés rate their partner's participation at midpoint and at the end. Involvement data can serve both formative and summative functions: help to inform future programs to increase participant involvement (formative) and serve as benchmarks for future program involvement to be measured (summative).

2. *Formative data.* This data is used by program staff to guide the alteration or enhancement of a program and is collected throughout the duration of the program. Analyses of this data provide coordinators the opportunity to determine program, pair, and participant variables associated with successful matches. Examples of this kind of data might include participant ratings of training and coaching, examining matching protocol and content of

interactions, or examination of characteristics and preferences of pairs in comparison to outcomes.

3. *Summative data.* This data is used to determine the value of the program and how well it achieved program goals. It addresses issues related to sustainability and expansion of the program and often applies comparison to a control group or alternative program. Summative data also analyzes change in protégé knowledge, attitude, or behavior through pre- and post testing. This data collection could include a longitudinal component that focuses on retention.

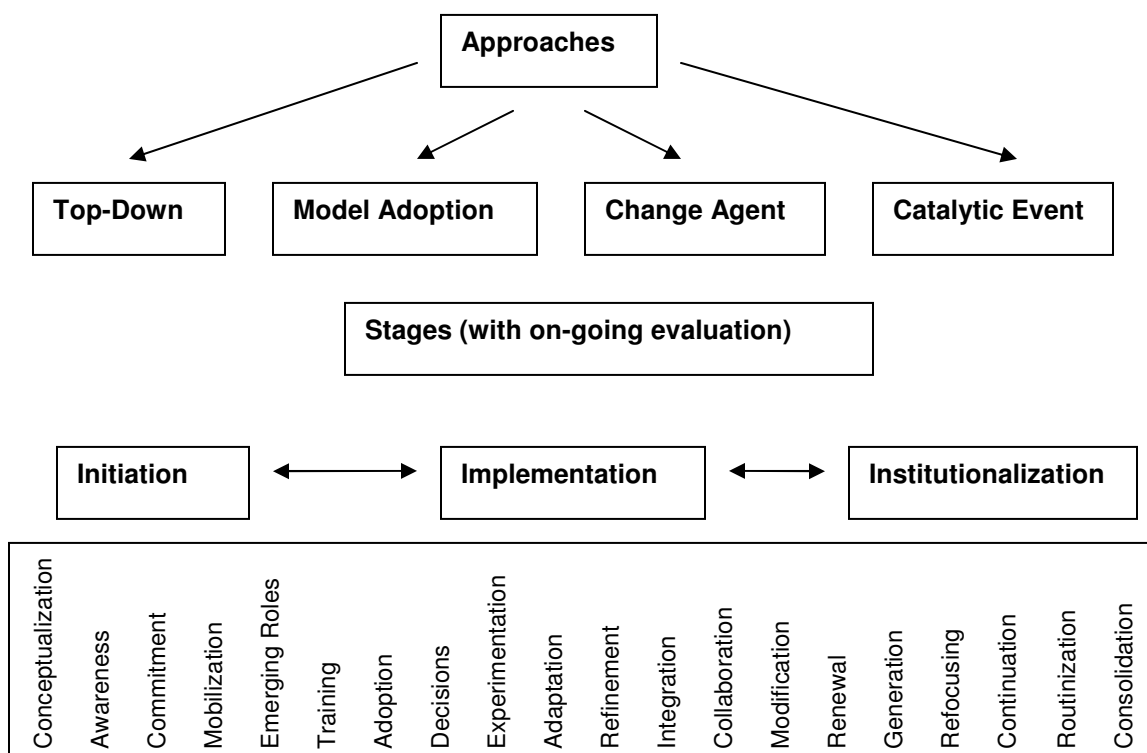
Research on the impact or effectiveness of programmatic features is not as common as reports of program outcome. However, research on outcomes can inform and direct decisions regarding the efficient and effective development of program features (Single & Single, 2004). Therefore, the findings from the data on participant experiences are essential in the ongoing improvement and sustainability of an e-mentoring program.

Professional Development and Adult Learning

Professional Development Models

The functions of change, which will be discussed later in this chapter, and professional development strategies have many similarities. Looking at the relationships of these two suggests that staff development should be viewed as a process of change and should include strategies that facilitate the success of a staff development and change effort (Southwest Educational Development Laboratory [SEDL], 1994). William C. Cunningham and Paula A. Cordeiro (2000) described a model (Figure 4) for program development in which there are four overarching types of approaches to change: mandated, model adoption, change agent, and catalytic events. Regardless of the approach, all innovations go through a series of stages as change proceeds along a continuum. These stages are initiation, implementation, and institutionalization.

Figure 4: Model of program development. From Cunningham, William G. & Paula A. Cordeiro *Educational Administration: A Problem-based Approach*, 1/e published by Allyn and Bacon, Boston, MA. Copyright © 2000 by Pearson Education adapt by permission of the publisher.



Glickman, Gordon, and Ross-Gordon (2001) described a professional development model that involves three learning stages: orientation, integration, and refinement. The orientation stage first addresses benefits, responsibilities, and personal concerns regarding involvement in the staff development. The participants then engage in learning the necessary skills for initial application in real-world situations. During the integration stage, participants are assisted in applying the new skills in their classrooms and schools. Finally, the refinement stage has participants move from basic competence to mastery through ongoing experimentation and reflection. Failure to take participants beyond the orientation state and leave them to their own devices is a recipe for failure of many staff development programs.

The Joyce and Showers (1980) model of staff development is a well-researched model that included five components:

1. Presentation of theory or description of the new skill or strategy
2. Modeling or demonstration of the new skill
3. Practice in a simulated setting
4. Prompt structured and open-ended feedback about the performance of the skill
5. Coaching and follow-up attention with the at-home (classroom) implementation

More often than not, focus is often only on the first component of this model, which explains the demise of many staff development initiatives that implement change (SEDL, 1994).

Guskey (1994) developed six guidelines for promoting professional development and change that are consistent with Fullan's (1991) assumptions about change. These guidelines are:

1. Recognize that change is an individual as well as an organizational process
2. Think big, but start small when planning and implementing
3. Maintain support by working in teams
4. Have procedures for feedback on results
5. Continuously provide follow-up, support, and pressure
6. Work to integrate innovations into existing frameworks

In an examination of 97 studies and evaluation reports, Lawrence (1974) concluded that effective professional development programs include active involvement not only of administrators and supervisors, but also the teachers. Programs should have differential training available for different teacher needs, providing teachers choices in their activities and goals and allowing self-initiated and self-directed activities. Teachers should have an active role in generating materials and ideas, and the emphasis should be on demonstrations, supervised activities and feedback, sharing, and mutual assistance. Overall, the activities should be linked to the general professional development program (Lawrence, 1974).

Adult Learning Theories

An understanding of adult learning theory is an important component in the knowledge base of instructional leadership and professional development (Glickman et al., 2001). Malcolm Knowles' (1980, 1984) theory of andragogy posited that adults (a) have a psychological need to be self-directing; (b) bring an expansive reservoir of experience that can and should be tapped in the learning situation; (c) have a readiness to learn that is influenced by the need to solve real-life problems often related to adult development tasks (i.e., work); (d) are performance centered in their orientation to learning—they want to make immediate application of new knowledge; and (e) are motivated to learn by internal factors rather than external.

Brookfield (1986) established six central principles of effective practice in facilitating adult learning: (a) participation is voluntary; (b) respect among participants for each other's worth; (c) facilitators and learners share responsibility for setting objectives and evaluating learning; (d) praxis, a continual cycle of collaborative activity and reflection for both facilitators and learners, is the heart of facilitation; (e) facilitation aims to foster a spirit of critical reflection, questioning aspects of personal, occupational, and political lives; and (f) the aim of facilitation is the nurturing of self-directed, empowered adults who will function as proactive individuals.

Mezirow (1981, 1990) and Brookfield's (1986) work indicated that in order to grow and learn, teachers need to participate in a continuous cycle of collaborative activity—and reflection on that activity—and need to develop the power of critical thinking. Mezirow (1981, 1990), Brookfield (1986), and Knowles (1980, 1984) all supported the notion of the supervisor facilitating the learner's growth toward empowerment and self-direction.

Cranton (1994) supported the use of critical reflection on one's meaning of being an educator. The use of journals, classroom visitations, conducting criteria analyses of incidents,

experimenting with practice, reviewing feedback from learners, and ongoing dialogue with colleagues are all methods of reflection. Each method can contribute to increasing self-awareness, forming assumptions about beliefs, and the development of an informed theory of practice.

Each of the adult learning theories described have some common canons and also reflect some similarities to many of the principles of leadership and change theories as well as strategies for implementing professional development. They all emphasize a respect for the knowledge and contributions of each individual, with the goal of improving and reaching the full potential of the entire community or organization. Each of the areas can cross and intertwine to establish a foundation upon which a program administrator can establish a style with which to lead.

Online Communication and Communities

Building distance relationships presents special challenges to mentoring partners. A connection must be made, a relationship needs to be forged, and common ground must be established. From this, common understandings flow, which become the basis of the relationship (Zachary, 2000). An understanding of each other's context also contributes to the success of the relationship (Zachary, 2000). An elusive and difficult concept, Zachary (2000) defined context as "the circumstances, conditions, and contributing forces that affect how we connect, interact with, and learn from one another" (p. 29). Zachary (2000) contended context helps us understand what drives behavior and emotions and how one reads a person or situation. Further, overlooking or ignoring context dramatically affects the learning in a mentoring relationship. Mentoring relationships are embedded in context, existing across as well as between contexts. As such, mentoring partners must communicate expectations and establish processes and ground rules that will work in the context of their relationship (Zachary, 2000).

Long-distance contexts present unique issues and multiple challenges. It requires planning to use the time well, and ground rules for communication must be established and agreed upon. Although regular contact is necessary, it is not sufficient. The partners must reach mutual consensus regarding their meaning of “regular” and adhere to that agreement. Establishing a human connection and developing a relationship is the key to successful long-distance mentoring; it is a formidable task that requires time and tending (Zachary, 2000).

Communication via electronic mail differs from other forms of interchange. Primarily text-based, it is often asynchronous and frequently includes participants who are often widely geographically distributed. Because it usually lacks the full range of audible and visual information of face-to-face exchanges, it requires different interaction strategies to achieve maximum benefits. Harris et al. (1996) suggested a regular “rhythm” of messages sent, with a turnaround time that is short enough to maintain a bilateral flow of conversation. Another suggestion is the use of multidimensional communication that balances academic, as well as personal information shared (Harris et al., 1996). Results from the Electronic Emissary Project, a curriculum-based e-mentoring program that links teachers, their students, and experts in the field, indicated the exchanges that were perceived as the most successful were “those in which the participants know each other as multidimensional people, as well as intellectual compadres” (Harris et al., 1996, p. 5).

The Telementoring project was one of the first federally supported structured e-mentoring programs and has informed the e-mentoring field about many features necessary to conduct such programs (Single & Single, 2004). This three-year program reached six states, 20 schools, and created over 250 matches between high school girls in science and technology courses with women professionals in the field. Bennett et al. (1998) operated their Telementoring

project from the premise that “merely getting people online is not enough; to fully utilize the strengths of online communication, attention and care must be paid to building and maintaining a sense of community online among participants” (p. 4). They found the one-on-one relationships were widely varied depending on things such as level of access for protégés, comfort level using e-mail, perceived compatibility with the mentor, interest in the project, and technical issues at the protégé’s access site. Some strategies that seemed to help online relationships thrive included: (a) the mentor’s attention to personal detail about the protégé’s life; (b) direct affirmations and acknowledgments by mentors to the protégés; (c) feeling a personal presence by knowing the mentors as more than just an e-mail address or text on the screen; (d) prompt and frequent responses by mentors (and vice versa); (e) subtle negotiation of appropriate and inappropriate topics; and (f) gaining experience and comfort with online communication (Bennett et al., 1998).

In moderated group discussions of the Telementoring project, participants needed information such as what kinds of interaction are expected of them, standard conventions for online communication (e.g., not using all capitals, which implies yelling), and examples of model responses and questions that reflect the tone and content of postings. The use of hypothetical scenarios that reflect participants’ experiences seemed to encourage participation (Bennett et al., 1998). Other key facilitation skills that promoted active dialogue included: “(a) responding to affective as well as pragmatic issues; (b) validating and highlighting issues raised by participants; (c) offering options for further investigation; (d) using a conversational tone; and (e) inviting other viewpoints/contributions” (Bennett et al., 1998, p. 31). It was also found, through observation of the online discussions, that the collegiality from the structured online training appeared to later carryover into a less structured communication format. Group discussion areas used for training were eventually left open for informal communications among

mentors. Termed “lounges,” they provided a link for both mentors and project staff to discuss experiences, both positive and challenging. In their e-mentoring program, Bennett et al. (1998) found that “Online facilitation techniques and strategies were essential in helping participants feel comfortable and confident in communicating online in both one-on-one relationships and in group discussions” (p. 25).

In face-to-face mentoring programs, group meetings provide a sense of involvement and opportunities for discussion topics, advice, and additional points of view. Single and Muller (2001) found that electronic versions of group meetings can provide the same opportunities when set up by an e-mentoring program coordinator using different lists to which participants can subscribe. The lists can be set up based on topics of interest and characteristics of mentors and protégés. They found that providing a separate list for mentors and protégés allows feedback and advice from each other and allows peer mentoring to occur. It is also suggested that a moderator is used to prompt introductions early on and to periodically seed the list with topics for discussion to help in developing an active and lasting online community (Single & Muller, 2001).

Community building helps develop a sense of community among participants by providing opportunities for interactions outside of the one-on-one mentoring. Single and Single (2004) stated that these opportunities seem to increase participant involvement with the program as well as their organization or field. Again, this concept was founded on research within face-to-face mentoring environments. However, in face-to-face mentoring sense of community is generally fostered within the shared organization, while in e-mentoring it is fostered within the program or field (Single & Single, 2004). Headlam-Wells, et al. (2006) also found that program

developers “need to create a community in cyberspace, not just an unrelated set of mentor pairs” (p. 383).

Research conducted with MentorNet (Single & Single, 2004) identified variables associated with electronic discussion lists (e-lists) that endured throughout the program and emerged into e-communities. These variables included: (a) e-lists based on discussion themes (issues) were more likely to transpire into e-communities than those based on characteristics of participants (field or educational level); (b) e-lists that drew large numbers of participants were more likely to last throughout the program than those with smaller numbers; (c) all e-communities had a participant (either a program staff member or e-mentoring member) that assumed, either formally or informally, the role of facilitator who kept the discussions going; (d) e-lists that emerged into e-communities seemed to grow naturally, sustaining simultaneous discussion threads throughout the duration of the program; and (e) participants perceived the e-lists as communities that were safe and supportive, providing a place to express opinions and concerns—even if the opinions were opposing. The e-communities also seemed to provide an opportunity for mentors to develop peer relationships where they could share, support, and learn from one another (Single & Single, 2004).

Creating a collaborative organizational culture is an important strategy for establishing a context that supports change. A collegial culture provides members the opportunity to freely discuss problems and practice, and values continuous learning (Blair, 2000). The professional learning community, or PLC, is an effective collaborative culture. Boyd and Hord (1994) described the PLC as “place where critical inquiry is practiced by collegial partners who share a common vision and engage in shared decision making” (p. 1).

MENTOR (2003) stressed that the need for on-going support is not only important to sustain relationships between mentors and protégés, but it is also important for the relationship between the program staff and the mentoring participants. Providing on-going support is essential in the supervision and monitoring of relationships by offering continued training opportunities and regular communication and support. It helps define next steps, provides a process to manage grievances and resolve issues, assists relationships that are not working, and ensures appropriate documentation is done on regular basis (MENTOR, 2003).

MENTOR (2003) stated providing support throughout the e-mentoring program includes helping relationships reach closure. Program coordinators must guide participants through this phase and need to ensure participants understand program policy regarding meeting outside the program. At the conclusion of the participants' involvement with the program, it is important to recognize contributions of all participants. This can be done with a recognition event, including a promotion of community awareness. This is a time to solicit feedback and use the information to refine the program and retain mentors (MENTOR, 2003).

Leadership Theories Consistent with the Demands of Technological Innovation

The success of an administrator is largely dependent on one's leadership ability and management skills. Cunningham and Cordeiro (2000) noted that there is a distinction to be drawn between administration, management, and leadership. Administration is a broad term related to organizational responsibility. Management focuses on the efficient use of resources and doing things right. Leadership focuses on organizational direction and purpose and doing the right things. Strong administrators are good at both management and leadership, at doing things right and doing the right things (Cunningham & Cordeiro, 2000). An understanding of various leadership theories and characteristics helps in identifying one's style of leadership. The

following section gives a brief overview of some leadership theories that may be foundational in identifying the leadership styles of those who administer electronic mentoring programs.

Human Relations Theories

Douglas McGregor (1960) devised two contradictory leadership styles: theory X and theory Y. Theory X is based on an autocratic style in which there is bureaucratic control over the workforce, highly structured standard operating procedures, and a forced adherence to positions of authority. Theory Y is based on a democratic collaborative style in which leaders delegate authority, support subordinates to develop ideas and decision making skills, and function as a team. Theory Z (Ouchi, 1981) was based on observations of Japanese companies and their life-long commitment to their employees. It supports working as a team, nurturing development, an interest in interpersonal relations and interactions, and viewing the workplace as a social environment. Workers participate in decision-making, are individually responsible, and are valued members of an organization.

Chaos Theory

Chaos theory crosses a wide number of disciplines in the physical sciences as well as the social sciences. This “new science” theory explores the hidden order that exists within chaotic systems and how self organization emerges from chaos (Hayles, 1990). Although change can disturb and threaten order and create chaos throughout a system, even chaos will act within specific parameters with some order and predictability. A change in equilibrium can create growth and force a system to respond and evolve to a new and improved order. To be a successful organization, a leader needs to risk a path of chaos and allow the organization to adapt to changing environments in a manner that is capable of responding and regenerating, thus taking

advantage of the opportunities and possibilities for renewal and enhancement (Senge, 1990; Wheatley, 1992).

Transformational Leadership

James MacGregor Burns (1978) proposed that transformational leaders facilitate and support employees, develop followers, mobilize resources, help map new directions, and respond to organizational challenges. According to Burns, these leaders see change as necessary and even try to cause it. They create incentives for people to continuously improve their practices and, ultimately, those of the organization. Kenneth Leithwood, Rosanne Steinbach, and Tiiu Raun (1993) stated three fundamental goals of transformational leaders: (a) help members develop and maintain a collaborative, professional culture; (b) foster staff development; and (c) help members solve problems together more effectively.

Leadership for Learning Organizations

Peter Senge (1990) developed the concept of the learning organization, which is a generative process that advances an organization's ability to create. By continually learning how to see the current reality more clearly, organizations can develop abilities to move forward. New knowledge infuses the organization and provides coherence to diverse activities. Commitment to a shared vision promotes risk taking and experimentation and is central to the work of the organization (Cunningham & Cordeiro, 2000). Senge (1990) believed "We can learn whatever we need to learn in order to achieve the results we truly desire" (p. 399). Max DePree (1989) believed that rather than structures, it is people, relationships, communication, and information that build organizational effectiveness.

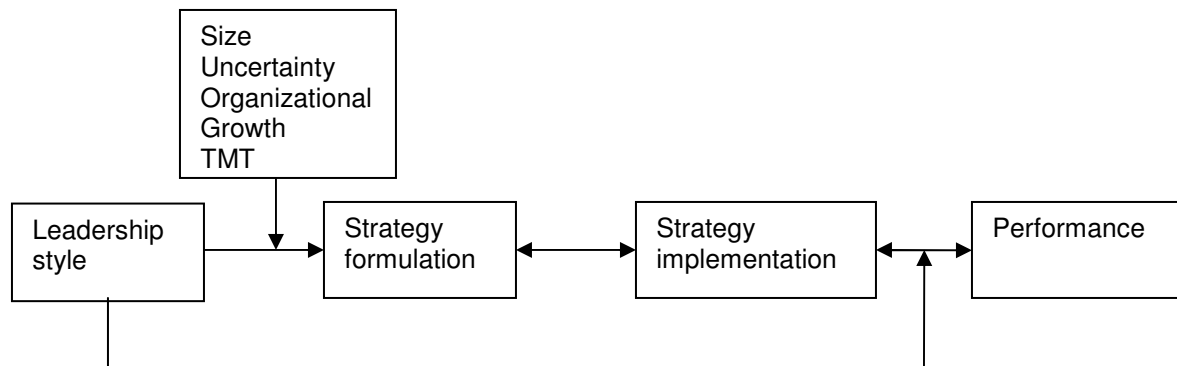
Reflective Practice

Donald Schön (1983) and Thomas Sergiovanni (1991) stressed the need to base practice on principles that emerge from research in practice. Reflective practice means being attentive to the latest theories and research, researching your own practice (i.e., action research), experimenting with new approaches, reflecting on your experiences, and sharing insights (Schön, 1983; Sergiovanni, 1991). Reflective leaders use their knowledge of research and successful practice to inform, guide their actions, and improve the quality of decision-making (Cunningham & Cordeiro, 2000).

Strategic Leadership

Strategic leadership theory refers to the study of people at the top of the organization, focusing on executive work as a relational activity as well as a strategic and symbolic activity (Hambrick & Petigrew, 2001). The focus is on how the dominant coalition of a firm influences the strategic process. The top management is instrumental to an organization's outcomes because of the decisions they are empowered to make and the fact that they are accountable for what happens to the organization (Hambrick & Mason, 1984). Nahavandi and Malekzadeh (1993) proposed an integrative framework (Figure 5) that shows the leader can be a main effect and a moderator in the outcome of a strategy and identifies conditions that would allow each effect to take place. The framework suggests that leadership style directly affects the formulation of strategy and that the extent to which the leader's style is reflected in that choice of strategy is moderated by size of the organization, degree of uncertainty, stage of organizational growth, and the presence and power of a top management team (TMT).

Figure 5: Integrative framework of the role of leadership style in strategy formulation and implementation. From "Leader Style in Strategy and Organizational Performance: An Integrative Framework." by Afsaneh Nahavandi and Ali R. Malekzadeh, 1993, *Journal of Management Studies*, 30 (3), pp. 405-425. Copyright 2000 by Wiley-Blackwell Publishers. Adapted with permission.



Facilitative Leadership

Facilitative leadership (Hord, 1992) is characterized by a leader (or a team) who moves an organization forward in the change or reform process by supporting and guiding members, and by instituting policies that help move them through the process. These leaders understand the change process, know how to link innovations and users, and provide implementation help and assistance. They know these conditions are necessary for change success. Roger Schwarz (2002) devoted a chapter to facilitative leadership in his book on facilitation, stating "The facilitative leader helps groups and individuals become more effective through building their capacity to reflect on and improve the way they work" (p. 327). Schwarz described an approach to facilitation based on a set of core values consistent with the concepts of empowerment, commitment, collaboration, learning, and partnerships.

Situational Leadership

Paul Hersey and Ken Blanchard (1977, 1982) believed that leaders should modify their style to address the changes in the work environment, and that leadership style is influenced by the developmental level of the work group. Vroom and Yetton (1973) believed that decision

making runs on a continuum that is unilateral at one end and a shared model at the other end, where all members participate. Yukl's (1989) approach was based on whether the situation called for a leader or a manager. A leader needs an advanced repertoire of skills that can be used in different situations, such as the ability to establish collaboration and empowerment among members. A manager is more directive, establishing channels of command, monitoring work and expecting compliance. All situational theorists seemed to agree that no single approach works for all situations and suggest that available time, specific tasks, staff competence, need for involvement, and dynamics of the situation determine the leadership style that should be used. They believed that leaders need to demonstrate a strong degree of flexibility with their approach.

Supervisory Behavior Continuum

The Supervisory Behavior Continuum (Glickman, Gordon, & Ross-Gordon, 2001, 2007) can provide some insight into how a supervisor of beginning teachers can use a variety of behaviors to help new teachers develop and grow into consummate professionals. In *SuperVision and Instructional Leadership: A Developmental Approach, 5th edition*, (Glickman et al., 2001) the authors described categories of supervisor behaviors that range from high supervisor responsibility with low teacher responsibility to low supervisor responsibility with high teacher responsibility. Glickman et al. (2001) posited that supervisors adjust their behavior along a continuum according to the developmental level of the teacher. In working with beginning teachers, the supervisor is more apt to demonstrate more directive behaviors and gradually become more collaborative and non-directive as the teacher gains experience, confidence, and mastery of the classroom. Being mindful of the phases of first year teaching, the supervisory continuum allows adjustments on the part of the supervisor to address the phases and levels of

development of the beginning teacher. Figure 6 illustrates the continuum and the four supervisory approaches are further described below.

Figure 6: Supervisory Behavior Continuum. From Glickman, Carl D., Stephen P. Gordon & Jovita M. Ross- Gordon *Supervision And Instructional Leadership: A Developmental Approach*, 7/e published by Allyn and Bacon, Boston, MA. Copyright © 2007 by Pearson Education adapt by permission of the publisher.

Supervisory Behavior Continuum									
1	2	3	4	5	6	7	8	9	10
Listening	Clarifying	Encouraging	Reflecting	Presenting	Prob Solv	Negotiating	Directing	Standardizing	Reinforcing
T/s									t/S
Nondirective					Collaborative		Directive Informational		Directive Control
There is some crossover into behaviors with clusters of behaviors T=maximum teacher responsibility t=minimum teacher responsibility S=maximum supervisor responsibility s=minimum supervisor responsibility									

Glickman et al. (2001) defined the following four supervisory approaches:

1. Directive Control Behavior. This level of behavior is used to clearly communicate expectations to teachers. Supervisors in line positions over teachers can use it to enforce hierarchical control, while supervisors in staff position over teachers can use it in hopes of compliance. This kind of behavior includes presenting, clarifying, listening, problem solving, directing, standardizing, and reinforcing. It is useful in limited circumstances when teachers have little expertise, involvement, or interest with an instructional problem or when time is short or in an emergency. Working with beginning teachers, particularly those who need special assistance, may necessitate taking a supervisory role with a more directive control behavior level.

2. Directive Informational Behavior. This level of behavior is used to direct teachers to consider and choose from clearly defined alternative actions. The supervisor is a primary source of goal articulation, information, and suggested practices. In addition, the supervisor is careful to solicit teacher input and the teacher is ultimately asked to make a judgment of practices, although the supervisor still assumes primary decision-making responsibility. This level of behavior is

useful when the expertise and credibility of the supervisor clearly outweighs the teacher's experience and capabilities. As the new teacher shows competence and confidence in their position, the supervisor adjusts to this less directed level. As the novice continues to grow, the supervisor's movement from directive informational to collaborative becomes a matter of degree.

3. *Collaborative Behavior.* The collaborative level of behavior is based on participation by equals in making decisions with a mutual plan of action seen as the outcome. The behaviors included in this level are clarifying, listening, reflecting, presenting, problem solving, negotiating, and standardizing. This level is appropriate when teachers and supervisors have a similar level of involvement, expertise, and concern. A key consideration is that collaboration is both an attitude and behavior. As the teacher shows continued growth, the supervisor moves across the continuum of behaviors and uses more non-directive actions and shifts to a more shared level of responsibility for development.

4. *Non-directive Behavior.* This level of behavior is used to help teachers determine their own plans. Behaviors include listening, reflecting, clarifying, encouraging, and problem-solving. This is used when the teacher is functioning at higher developmental levels than the supervisor and may possess greater expertise, commitment, and responsibility for a decision. At this level, the supervisor needs to be nonjudgmental, hesitate in providing more input, and adjust behavior when the teacher is reluctant to generate solutions. The idea is to provide an active sounding board for reflective professionals. A new teacher may reach a level of performance in some areas that allows the supervisor to move into this behavior level, particularly near the end of the school year and into the second year. As the teacher shows a continued high level of development in more areas, the supervisor will continue to demonstrate more non-directive behaviors to provide opportunity for self-actualization of the teacher.

Leadership for Change

Implementing a new program, particularly a rather innovative one that defies the traditional paradigm such as online mentoring, can be challenging. An understanding of the change process is important to help in the facilitation of program development and administration. Michael Fullan (1991) proposed ten assumptions about change:

1. Do not assume that your version of what the changes should be is the one that should or could be implemented, and do assume that the main purpose of the implementation process is to exchange and form your vision with others involved in the process.
2. Any significant innovation that is to result in change requires individual implementers to work out their own meaning.
3. Assume that conflict and disagreement are inevitable, yet fundamental, to successful change.
4. Assume people need pressure to change, but it must be under conditions that allow them to react, form a position, and interact with others involved in the implementation.
5. Assume that effective change takes time and that implementation occurs developmentally.
6. Assume that there are a number of possible reasons for lack of implementation, instead of just outright rejection of the values embodied in the change.
7. Do not expect everyone or even most people to change.
8. Have a plan that addresses the factors known to affect implementation and is based on knowledge of the changes process.

9. Be aware that no amount of knowledge will ever make it absolutely clear what action should be taken, and understand that action decisions are a combination of intuition and on-the-spot decisions.
10. Remember that the real agenda is changing the culture of institutions, not implementing single innovations; so watch whether the institution is developing or not when implementing innovations.

Shirley M. Hord (1992) identified six functions for effective change leadership. These strategies include: (a) creating an atmosphere and culture for change, (b) developing and communicating the vision, (c) planning and providing resources, (d) providing training and development, (e) monitoring and checking progress, and (f) continuing to give assistance. These six components were based on eight categories of intervention by leaders who brought about change developed from a longitudinal study by Hord and Huling-Austin (1986).

Summary of Review of Literature

Educational leaders must recognize the needs of new teachers to properly address how to help them through the transition from pre-service to in-service teaching. Research indicated that the major concerns of most new teachers include classroom management, student motivation, differentiation for individual student needs, assessment and evaluation of learning, and dealing effectively with parents (Britton et al., 1999; Kurtz, 1983; Veenman, 1984). The first years of teaching need to be looked at as a phase in learning to teach, and new teachers must be surrounded by a professional culture that supports teacher learning (Feiman-Nemser, 2003). A new teacher induction program that focuses on teacher training, support, and retention is the best way to support, develop, and cultivate an attitude of lifelong learning in beginning teachers (Breux & Wong, 2003). Studies showed that induction and mentoring programs are especially

effective in the retention of beginning teachers after their first year (Ingersoll & Smith, 2003). The benefits of mentoring include: (a) acclimation of faculty to the school culture, (b) enhancement of effective teaching, (c) increased job satisfaction, (d) vitality, (e) scholarly productivity, (f) collegiality, and (g) retention (Cunningham, 1999). The literature made it clear that induction programs are a wise investment in the ongoing training, support, and retention of beginning teachers. Unfortunately, many schools do not have the resources—both financial and personnel—to provide effective mentoring support to their new faculty. There is a need for alternative approaches to induction and mentoring to accommodate those teachers who do not find the support they need in their local communities.

When face-to-face mentoring is unavailable, impractical, or even insufficient, electronic mentoring can provide an alternative. The use of electronic communications provides a flexible, asynchronous environment that is independent of time and place, so schedules and geographic locations do not necessarily dictate meetings (Single & Muller, 2001). Research supported that many of the benefits associated with face-to-face mentoring are also provided with e-mentoring (Kram, 1983; Scandura & Williams, 2001). These benefits may include (a) the development of more open and supportive relationships because the difference between higher and lower status is concealed; (b) more time to construct thoughtfully written messages (Single & Muller, 2001); (c) the opportunity to learn from outside of familiar networks, affording one access to varied information (Single & Single, 2004); (d) impartial mentors who are not in a position to assess or judge, allowing for more trusted and open mentoring relationships (Boyle & Boice, 1998; Diehl & Simpson, 1989; Hew & Knapczyk, 2007; Single et al., 2003); (e) discussions and interactions that offer personal and emotional support, and reduced feelings of isolation (Merseth, 1990); and (f) development of both subject matter and technology skills, and connection to the professional

community (Redmond, 2002). Electronic mentoring has some unique challenges, particularly in relation to the use of online communications. In order to sustain participation, mentors and protégés need to have a feeling of safety, trust, and confidence in their online interactions. Any breach in trust and confidence of the security of the online environment will most certainly diminish participation (Cheng et al., 2003).

The development of an electronic mentoring program includes planning, recruitment, matching, orientation and training, coaching, and evaluation. Program planning requires the development of clearly articulated goals and anticipated outcomes (Single & Muller, 2001). Recruitment of both mentors and protégés is a critical part of a mentoring program; participants may be recruited online as well as in person (Single & Muller, 2001). Matching strategies might utilize participant choice, uni-directional, or bi-directional methods (Single & Muller, 2001).

Orientation and training within an e-mentoring program needs to provide an overview of the program, clarify the roles of the participants—including responsibilities and expectations of their participation—and discussion of how to handle a variety of situations (MENTOR, 2002). Training occurs at the onset of the mentoring program and usually focuses on mentors, but can include protégés. Coaching occurs throughout the electronic mentoring program, for both mentors and protégés, and is delivered via e-mail messages containing discussion topics or mentoring tips (Single & Muller, 2001). Research suggested that regular contact between program staff and participants motivated and encouraged participants to stay involved with the program (Boyle & Boice, 1998). MENTOR (2003) suggested that to ensure quality and effectiveness, developers of mentoring programs need to develop a plan to measure program process and expected outcomes, and then create a course for reflection and dissemination of findings.

There are many similarities between the functions of change and professional development strategies. Looking at the relationships of these two suggests that staff development should be viewed as a process of change and should include strategies that facilitate the success of a staff development and change effort (Southwest Educational Development Laboratory, 1994). The literature review described a model of program development, and provided several strategies and guidelines for developing an effective professional development program. An understanding of adult learning theory is an important component in the knowledge base for professional development. The literature provided a description of several of the foremost adult learning theorists, including Knowles (1980, 1984), Brookfield (1986), Mezirow (1981, 1990), and Cranton (1994). The principles of adult learning are embedded within strategies for profession development, as well as within theories of leadership and change.

Building distance relationships presents special challenges to mentoring partners. Once a connection is made, a relationship needs to be forged, common ground must be established, and common understandings then flow, which become the basis of the relationship. Mentoring relationships are embedded in context, and as such, mentoring partners must communicate expectations and establish processes and grounds rules that will work in the context of their relationship (Zachary, 2000). Communication via electronic mail differs from other forms of interchange because it is primarily text-based, asynchronous, and includes participants who are often widely geographically distributed. Because it usually lacks the full range of audible and visual information of face-to-face exchanges, it requires different interaction strategies to achieve maximum benefits. Some strategies include establishing a regular “rhythm” of messages sent to maintain a bilateral flow of conversation and the balance of shared academic and personal information (Harris et al., 1996). In addition to one-on-one communications, the use of electronic

versions of group meetings can provide a sense of involvement and opportunities for discussion topics, advice, and additional points of view (Single & Muller, 2001). This community building helps develop a sense of community among participants by providing opportunities for interactions outside of the one-on-one mentoring. These opportunities seem to increase participant involvement with the program as well as their organization or field (Headlam-Wells, et al., 2006; Single & Single, 2004).

An understanding of various leadership theories and characteristics helps in identifying one's style of leadership. A number of leadership theories may be foundational in identifying the leadership styles of those who administer electronic mentoring programs. Human relations theories include the highly cited Theories, X, Y, and Z. Douglas McGregor's (1960) Theory X is based on an autocratic style in which there is bureaucratic control over the workforce, highly structured standard operating procedures, and a forced adherence to positions of authority. In contrast, McGregor's Theory Y is based on a democratic, collaborative style in which leaders delegate authority, support subordinates to develop ideas and decision making skills, and function as a team. Theory Z (Ouchi, 1981) supports working as a team, nurturing development, an interest in interpersonal relations and interactions, and viewing the workplace as a social environment. Chaos Theory (Senge, 1990; Wheatley, 1992) suggests that although change can disturb and threaten order and create chaos throughout a system, even chaos will act within specific parameters with some order and predictability. This allows the organization to adapt to changing environments in a manner that is capable of responding and regenerating, thus taking advantage of the opportunities and possibilities for renewal and enhancement. Burns (1978) proposed that transformational leaders facilitate and support employees, develop followers, mobilize resources, help map new directions, and respond to organizational challenges. Senge

(1990) developed the concept of the learning organization, which is a generative process that advances an organization's ability to create. By continually learning how to see the current reality more clearly, organizations can develop abilities to move forward. Reflective practice means being attentive to the latest theories and research, researching your own practice (i.e., action research), experimenting with new approaches, reflecting on your experiences, and sharing insights (Schön, 1983; Sergiovanni, 1991). Strategic leadership theory focuses on how the dominant coalition of a firm influences the strategic process, and posits that top management is instrumental to an organization's outcomes because of the decisions they are empowered to make and the fact that they are accountable for what happens to the organization (Hambrick & Mason, 1984; Nahavandi & Malekzadeh, 1993). Facilitative leadership (Hord, 1992) is characterized by a leader (or a team) who moves an organization forward in the change or reform process by supporting and guiding members, and by instituting policies that help move them through the process. Situational theorists have agreed that no single approach works for all situations and suggest that available time, specific tasks, staff competence, need for involvement, and dynamics of the situation determine the leadership style that should be used (Vroom & Yetton, 1973; Hersey & Blanchard, 1977, 1982; Yukl, 1989).

Because it often defies the traditional paradigm, implementing an innovative program, such as online mentoring, can be challenging. An understanding of the change process is important to help in the facilitation of program development and administration. The literature review outlined Fullan's (1991) assumptions about change, and provided Hord's (1992) functions for effective change leadership.

CHAPTER THREE

Methods and Procedures

Research Design

This study focused on the leadership issues concerning the development and administration of an electronic form of support for beginning teachers. This mentoring approach combines the principles of mentoring through the use of technology for electronic communications. The research design was a qualitative study using a grounded theory approach. This study explored selected electronic mentoring programs that support beginning teachers to facilitate a deeper understanding of the administration and leadership of such programs. Qualitative data were gathered primarily via telephone interviews, using a semi-structured protocol. Creswell (1998) defined qualitative research as:

an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting. (p. 15)

A qualitative method is used (a) when the researcher wants to know the “how” and the “what” of a particular issue; (b) when a topic needs to be explored because variables and theories cannot be identified or explained; (c) when a topic needs to be presented in a detailed view; (d) when individuals need to be studied in their natural setting; and (e) when the researcher’s role is that of an active learner who can tell the story from the participant’s view (Creswell, 1998). Eisner (1991) acknowledged qualitative research as a method that allows researchers to describe a phenomenon using text that goes beyond a description using statistics.

Developing a Theory

Bogdan and Biklen (1992) stated that the grounded theory researcher does not try to prove or disprove a hypothesis held *a priori*, rather, the researcher builds a theory through inductive reasoning (Creswell, 1994). Thus, “the researcher begins with an area of study and allows the theory to emerge from the data” (Strauss & Corbin, 1998). This study focused on the development of a theory regarding the administration and leadership of electronic mentoring programs that support beginning teachers. The study investigated the programs by examining two dimensions: program development and implementation and the leadership role of the program administrator. The purpose of this study was (a) to provide a collective view of known programs, both past and present, that have utilized electronic mentoring for new teachers; and (b) to develop a theory that is grounded in the collected data that explains the process and leadership traits that facilitate the administration of such a program.

Grounded Theory

The methodology of grounded theory was originally developed in 1967 by two sociologists, Barney Glaser and Anselm Strauss, and has evolved into a popular research methodology in the fields of social sciences and education (Creswell, 1998). The purpose of grounded theory research is “the development or generation of a theory closely related to the context of the phenomenon being studied” (Creswell, 1998, p. 56). Strauss and Corbin (1998) have expanded on the subject of grounded theory, explaining it as:

. . . theory that was derived from data systematically gathered and analyzed through the research process . . . data collection, analysis, and eventual theory stand in close relationship to one another . . . the researcher begins with an area of study and allows the theory to emerge from the data. (p. 12)

Because grounded theory is drawn from collected data, it can offer an insight into the reality of a phenomenon, increase understanding, and provide more meaningful guidance to action (Strauss & Corbin, 1998).

Research Questions

Development of Questions

Questions about process (how or why) and questions of understanding (what) commonly guide qualitative research. The research questions reflect the researcher's thoughts of the most significant factors to study, guide the inquiry, and determine how data is collected (Merriam, 1998). Some qualitative researchers suggest posing questions that are open-ended and evolving, yet focused on a specific topic and restate the purpose of the study (Bodgan & Biklen, 1992; Creswell, 1994; Miles & Huberman, 1994). Creswell (1994, 1998) recommended that a researcher limit the study to one or two central or grand tour questions, followed by five to seven subquestions. The grand tour question can be encoded with the language of the tradition. For example, in a grounded theory study such as this, Creswell stated that process questions be posed.

Grand Tour Questions. The following questions framed the overall study:

1. How does an organization develop and administer an e-mentoring program that supports new teachers?
2. What are the leadership traits of administrators of e-mentoring programs that support new teachers?

Subquestions. Subquestions for this study included:

1. How are the induction needs of new teachers met through an e-mentoring program?
2. What components must be considered in developing an e-mentoring program?

3. How do program administrators perceive the function of professional development and incorporate principles of adult learning in relation to an e-mentoring program?
4. What are some considerations involving the use of online communications and communities?
5. What leadership and supervisory styles are identified or demonstrated by administrators of e-mentoring programs?
6. How can an understanding of facilitating change influence a leadership style for an e-mentoring administrator?

Research Question Rationale

The research questions for this proposal were guided by a review of the literature and consisted of two grand tour questions and six subquestions. The grand tour questions were written in a general form to allow them to be reviewed during the course of the study, with the possibility of modification if necessary. The qualitative assumptions of an emerging design support the freedom to adjust questions as the study evolves (Creswell, 1994).

The grand tour and subquestions were developed from a review of the literature related to this study. The literature was synthesized to include the following themes: (a) needs of new teachers and the role of induction and mentoring; (b) electronic mentoring and program development; (c) professional development and adult learning (d) online communications and communities; (d) leadership and supervisory theories; and (f) leadership for change. These themes were used to guide in the development of the subquestions and interview questions, which allowed participants to address these areas and, ultimately, contribute to the emerging theory based on the collected data.

Grand Tour Question #1: How does an organization develop and administer an e-mentoring program to support beginning teachers? E-mentoring programs have evolved for many of the same reasons as face-to-face mentoring programs. Early findings, however, have shown that like many face-to-face programs, e-mentoring programs did not live up to their full potential without specific program support (Single & Single, 2004). This grand tour question casts a broad net to gather information regarding what issues, both in general and specific terms, need to be considered when developing and implementing an electronic mentoring program.

Grand Tour Question #2: What are the leadership traits of administrators of e-mentoring programs that support beginning teachers? The success of an administrator is largely dependent on one's leadership ability and management skills. It is important that leaders understand and develop belief systems and philosophies for their practice (Cunningham & Cordiero, 2000). Bolman and Deal (1993) asserted that "wise and effective leadership is more important than ever, but it requires a complex array of lenses . . . Multiframe thinking reduces administrator's stress and enhances their effectiveness" (p. 31).

Subquestion #1: How are the induction needs of new teachers met through an e-mentoring program? There are a number of studies that have found well-designed mentoring programs have raised retention rates for new teachers by improving their instructional skills, attitudes, and feelings of efficacy. In addition, these new teachers not only stay in the profession at higher rates, but they also become competent much sooner than those who must learn by trial and error (Darling-Hammond, 2003). The questions in this subset address how the e-mentoring programs attempted to address the special needs of beginning teachers to acculturate them into the teaching profession.

Interview Question #1: How did the need for this e-mentoring program evolve? (What was the impetus? How did you get involved?) Single & Muller (2001) posited that the planning phase requires the development of lucid goals and expected outcomes, with the primary goal of this phase to ensure participants are aligned with program goals and objectives. This question was used to gain an understanding of why this person saw a need to develop such a program and/or why he or she became involved with this program.

Interview Question #12: What kinds of needs does the program try to address for those new to the teaching profession? Maslow's Hierarchy of Needs Theory (1954) proposed that individuals' needs are arranged in a hierarchy, and that the needs of the lowest level must be satisfied before an individual can progress to the next higher level. Understanding Maslow's theory can assist in addressing the needs of novice professionals. New teachers need to understand what is expected of them and receive ongoing support and training to carry out their responsibilities and duties. They also need to feel accepted as important contributors to the overall effectiveness of their schools. This question explored what program administrators identified as those needs and how they tried to meet them through an electronic mentoring approach.

Interview Question #11: What are some of the benefits seen from this program? Research supports that many of the benefits associated with face-to-face mentoring are also provided with e-mentoring. These include informational, psychosocial, and instrumental benefits, as well as role-modeling functions (Kram, 1983; Scandura & Williams, 2001).

Subquestion #2: What components must be considered in developing an e-mentoring program? Darling-Hammond (2003) asserted that induction and mentoring programs will only produce benefits if they are well designed and well supported. The program

planning phase requires the development of clearly articulated goals and anticipated outcomes (Single & Muller, 2001). In their publication, *Elements of Effective Practice*, MENTOR/National Mentoring Partnership (2002) suggested that the initial planning stage entails designing the parameters of the program.

Interview Question #2: Give a brief history of how this program has evolved and describe the current infrastructure of this program. In reviewing the literature, it is claimed that e-mentoring programs are based on face-to-face mentoring models/theories (Single & Single, 2004). The initial planning stage calls for the design of the parameters of the program. This usually includes identifying the population served, the type of mentoring to be used, and the structure of the program. The formation of an advisory group, with defined roles and responsibilities, is also suggested to ensure proper management of the program (MENTOR, 2002).

Interview Question #3: Explain how participants are recruited and selected, and describe their rights and responsibilities. Program participants may be recruited online as well as in person using a variety of methods. Every effort should be made to communicate the program goals and requirements when marketing the mentoring program through recruitment. The use of a website has been suggested as an effective way to provide access to information for potential participants (Single and Muller, 2001). It is important that care is used in presenting the project to prospective participants, so they are aware of program goals and expectations (Bennett et al., 1998). This question looked to explore the number of ways programs recruit participants and what criteria are used for eligibility and selection.

Interview Question #4: What kind of matching strategy is used and why was this type of strategy chosen? The matching process may be even more important in e-mentoring

relationships than in face-to-face because of the lack of organizational membership, common setting, and culture. Some programs use an automated system as part of their matching process, although it is suggested that final decisions not be made by an automated program (Single & Muller, 2001).

Interview Question #5: What kind of initial training is provided for mentors, protégés, and other participants and how is it presented? Breaux and Wong (2003) believed that “the success of any mentoring program hinges largely on the quality and preparedness of its mentors” (p. 66). Several researchers have posited that the training of mentors is probably the most essential component for success (Bennet et al., 1998). Orientation and training of a mentoring program needs to provide an overview of program, clarify the roles of the participants, and discuss how to handle a variety of situations (MENTOR, 2002). Training should always consider the unique learning styles and needs of its participants (i.e., adults) to be most effective (Joyce & Showers, 1980; Merriam & Caffarella, 1999; Glickman et al., 2001).

Interview Question #6: What kind of ongoing training or coaching is provided to participants and how often? Due to the nature of the virtual environment of e-mentoring, contact between program staff and participants is often intermittent, making it is easy to overlook the need of a structured format to maintain regular exchanges between mentors and protégés (Single & Muller, 2001). The literature suggested that regular contact between program staff and participants motivated and encouraged participants to stay involved (Boyle & Boice, 1998), and pointed to the on-going coaching of participants (Single & Single, 2004) as a direct link to satisfaction with the program. The Continuum of Supervision model (Glickman et al., 2001, 2007) could serve as a guide in determining the degree of coaching required at different stages of the e-mentoring relationship.

Interview Question #10: What kind of program evaluation is used and how would you describe a successful program? MENTOR (2002) suggested that developers of mentoring programs create a plan to measure program progress and expected outcomes, and then establish a course for reflection and dissemination of findings. Assessment not only serves to provide information for program improvement and reports the benefits of the program to participants, but is also used to demonstrate the value of a program and justify its continued funding (Single & Muller, 2001).

Subquestion #3: How do program administrators perceive the function of professional development and incorporate principles of adult learning in relation to an e-mentoring program? Mentoring is a component of a comprehensive professional development program (Breux & Wong, 2003), and providing the opportunity for professional development is a responsibility of educational leaders (Cunningham & Cordeiro, 2000). Zachary (2000) advocated a learner-centered mentoring paradigm that is grounded the principles of andragogy (Knowles, 1980, 1984) and congruent with best practices of adult learning theory. These questions inquired about the kinds of professional development opportunities the e-mentoring programs provide participants and how they address the learning styles of adults.

Interview Question #13: How does this program fit into the overall professional development of your participants? Several researchers on mentoring and induction posited that mentoring is just one component of the entire induction and professional development picture, asserting that mentoring should not stand on its own, but should be combined with other professional development efforts (Sweeney, 2003; Breux & Wong, 2003).

Subquestion #4: What are some considerations involving the use of online communications and communities? Communication via electronic means differs from other

forms of interchange. It is primarily text-based, asynchronous, and includes participants who are often widely geographically distributed. Because it usually lacks the full range of audible and visual information of face-to-face exchanges, it requires different interaction strategies to achieve maximum benefits (Harris et al., 1996). The questions in this subset sought to describe the types of online communication used in the selected programs and understand how relationships and communities are forged through these means.

Interview Question #8: What kind of technology is used for communication, including training? The review of literature indicated that e-mail and discussion boards are the primary methods of communication between the mentor and protégé pairs. The use of electronic delivery for training is also usually the most practical approach for programs due to the widespread locations of the program participants. Online training could include electronic discussion groups responding to case studies or threaded discussions (Single & Single, 2004).

Interview Question #9: How are nurturing relationships—characteristic of mentoring—established via electronic communications? The research suggested that consistent communication between program staff and participants encouraged involvement in the program (Boyle & Boice, 1998). Research revealed that in year-end evaluations, the frequency and duration of one-on-one e-mail interactions is repeatedly associated with positive outcomes for e-mentoring participants (Single et al., 2003). Bennett et al. (1998) found that providing online facilitation techniques and strategies was essential in helping participants feel comfortable communicating online in both one-on-one relationships and group discussions.

Subquestion #5: What leadership and supervisory styles are identified by administrators of e-mentoring programs? There are many leadership and supervisory theories in the literature that may speak to the role of an administrator of an e-mentoring program. Some

of the possibilities include human relations theory (McGregor, 1960; Ouchi, 1981), chaos theory (Senge, 1990; Wheatley, 1992), transformational leadership (Burns, 1978; Leithwood et al., 1993), learning organizations (Senge, 1990), reflective practice (Schön, 1983; Sergiovanni, 1991), strategic leadership (Hambrick & Mason, 1984; Nahavandi & Malekzadeh, 1993), facilitative leadership (Hord, 1992), situational leadership (Hersey & Blanchard, 1977, 1982; Vroom & Yetton, 1973; Yukl, 1989), and the Supervisory Continuum (Glickman, et al., 2001, 2007). This set of questions examined the various leadership roles and experiences identified within the e-mentoring program environment.

Interview Question #14: How would you describe your leadership style? Cunningham and Cordeiro (2000) posited that an “administrator’s skill and abilities are improved by both theory and practice” (p. 4). Theories provide the conceptual tools to guide effective practice. There are many views of leadership, and each one offers insights that provide greater understanding and the opportunity to draw inferences to one’s own practice (Cunningham & Cordeiro, 2000).

Interview Question #7: Describe some of the qualifications you want in your trainers, online facilitators, and coaches. Lacey (1999) advocated the use of a support person whose role is to support mentors and protégés during critical points in the relationship; this person may also need to be a mediator. Single & Muller (2001) described that one of the functions of coaching is to provide a means for program staff to stay in contact with participants. Providing on-going support is essential in the supervision and monitoring of relationships. It helps define next steps, provides a process to manage grievances and resolve issues, assists relationships that are not working, and ensures appropriate documentation is done on regular basis (MENTOR, 2003).

Interview Question #16: What advice or lessons learned can be extended to others looking to develop and administer an e-mentoring program? A number of researchers involved in e-mentoring have strongly advocated the need to share experiences and findings in this new field of mentoring in an effort to assist others interested in developing a program. In addition, researchers have recommended continued research to assist practitioners as they develop e-mentoring programs (Fulop, 2002; Klecka et al., 2002; Single & Muller, 2001; Single & Single, 2004).

Subquestion #6: How can an understanding of facilitating change influence a leadership style for an e-mentoring administrator? “Having good ideas and understanding the change process are not the same thing” (Fullan, 2002, p. 17). Creating an environment that supports change is one of the most important strategies to ensure successful implementation of an innovative program (Southwest Educational Development Laboratory, 2000). This area of questions investigated how program leaders use their understanding of the change process to deal with the unique challenges of an online program.

Interview Question #15: What are some of the challenges of administering an innovative program like e-mentoring? A number of researchers reported that sustaining e-mentoring relationships is a challenge that requires specific programmatic supports (Single & Muller, 2001; Harris et al., 1996). Mentoring programs are initiated with the best of intentions, yet they are often developed without adequate planning or resources and, consequently, fall short of programs goals and expected benefits (Boyle & Boice, 1998). Some of the examples of challenges cited in the literature include matching, maintaining contact (Single & Muller, 2001), ensuring trust and safety of participants (Cheng et al., 2003), and funding (Fulop, 2003; Harris et al., 1996; Klecka et al., 2002; O’Neill et al., 2003; Single & Muller, 2001). This question helped

uncover both the conceptual and material challenges of developing, implementing, and maintaining an innovative initiative such as an e-mentoring program.

Interview Question #17: Do you have any changes you would like to make to this program? What is needed to sustain its future? Leaders who are equipped to handle a complex, changing context can implement reforms that lead to sustained improvements (Fullan, 2002). This question was designed to find out in what direction these program administrators hope to take their programs and what they believe needs to be done to realize that vision.

Population

The population for this study consisted of administrators of known electronic mentoring programs that support new teachers. Subjects were identified to facilitate the expansion of the developing theory of leadership for these types of programs. Due to the limited number of programs, the population consisted of program administrators of all known current and past online support programs that function to support new teachers. Based on a thorough search using the Internet, literature, and referrals from known programs the population included 25 programs. Five of those programs declined participation, mostly due to their contact person feeling that the program was not well established enough. The remaining 20 programs are represented by 28 program administrators. Again, this population was based on an extensive search using citations from the literature, Internet searches, and referrals by program personnel and researchers involved in online mentoring and new teacher induction. It is believed to represent all known past and current programs in the United States, although this research cannot fully claim to have found all possible programs as there is likely a hidden population.

Data Collection

The primary data collection used in this study consisted of 27 telephone interviews and one online interview with identified program administrators involved with the online support programs. Creswell (2007) indicated that telephone interviews “provide the best source of information when the researcher does not have direct access to individuals” (pp. 132-133) but cautioned that the researcher cannot see the informal communications taking place during the interview and the added expense of this method. Permission was obtained to conduct the interviews prior to collecting the data. Initial permission was sought through the program’s gatekeeper, which was usually the program director. Creswell (1998) described the “gatekeeper” as the initial contact, whose approval must be obtained to conduct research at the selected location.

Procedures

As Creswell (1998) recommended, an initial letter and consent form was sent to an identified “gatekeeper” to get permission and appropriate contacts for the study. The initial contact letter can be found in Appendix A. The interviews were tape recorded with permission of the subjects and consisted of 17 open-ended questions. These questions were guided by the literature related to the leadership styles and administration of electronic mentoring programs. Justification of the interview questions was based on the review of literature and is detailed in the preceding section. Some data were also obtained from the websites and publications of the organizations when available, as a few organizations provided information about how they started their mentoring programs and included data from their own experiences with the program via these means. Using these sources in data collection is supported by Strauss and Corbin (1998), although such methods are secondary to interviewing subjects.

Interviews. Creswell (1998) stated that interviews play a central role in data collection for a grounded theory study. Eisner (1991) maintained that “Conducting an interview is, in some ways, like participating in a good conversation: listening intently and asking questions that focus on concrete examples and feelings rather than on abstract speculations ...” (p. 183). The interviews for this study were semi-structured using a combination of structured and open-ended questions. Because some specific information was desired from all the respondents, there was a need for some structure of the questions, yet there was still flexibility in wording and exploration (Merriam, 1998). The use of an interview protocol facilitated in standardizing the interviews to obtain comparable data from all participants and helped the researcher organize the collected data (Creswell, 1998). As mentioned the telephone interviews were tape recorded with permission by the interview subjects, in accordance with the Verbal Consent found in Appendix B. Due to the distribution of these programs throughout the United States, the interviews were conducted by telephone, with the one exception of an online communications (e-mail) as requested by one subject. The use of telephone interviews in lieu of face-to-face interviews is supported in the literature. A number of studies have shown such little difference in the quality of the data collected that it has been concluded that telephone interviews can be used effectively in qualitative research (De Leeuw, 1992; Groves, 1989; Sturges & Kanrahan, 2004).

Interview Protocol. An interview protocol was utilized to help guide the interview and provide a means for organized note taking and data collection by the researcher (Creswell, 1998). This protocol can be found in the Appendix C. Creswell (1994) recommended the interview protocol contains (a) demographic information including the place, time, and setting of the interview, (b) the heading, (c) opening statements, (d) interview questions, and (e) an area for recording data. In addition to the interview protocol, a form for follow-up field notes (found in

Appendix D) was used by the researcher after the interview. This provided a post-interview journal for reflection by the researcher, as recommended by Bogdan and Biklen (1992). As previously mentioned, although most interviews utilized the telephone, one subject chose to do an online interviews and there were some follow-up questions via e-mail with some individuals to gain further information. The use of online data collection is becoming more accepted in research and, in fact, studies have revealed the promise of e-mail surveys and interviews for research. An online interview has some advantages over traditional methods: (a) it is less expensive; (b) provides a wider geographical area of respondents; (c) provides flexibility in participants' schedules; (d) allows participants time to reflect on answers; and (e) the data transfer easily into usable data for analysis (Heflich & Rice, 2001). Again, with permission by the interviewee, the telephone interviews were tape recorded. Taping an interview provides an accurate account of the interview and frees the interviewer from taking copious notes during the process (Merriam, 1998), allowing the conversation to flow more freely. Although there are some drawbacks to taping an interview, those are usually associated with the interviewee not wanting to disclose confidential information that may be recorded (Gall, Borg, & Gall, 1996). The nature of these interviews did not reveal any sensitive and personal information about the individuals or the programs involved, therefore, the tape recording interviews did not pose any concerns.

Data Analysis

In a qualitative study, data analysis should be performed simultaneously with data collection—it is ongoing even before the collection of data has been completed (Merriam, 1998). The data collected for this study closely examined the program administration and leadership of known electronic support programs for new teachers. Data analysis in grounded theory is characterized by its inductive nature of a constant comparative method which “involves

comparing one segment of data with another to determine similarities and differences” (Merriam, 1998, p. 18). Data are grouped together on a similar dimension, the group is given a name, and then becomes a category. The objective of the analysis is to find patterns in the data, and then arrange patterns in relationship to each other to build a grounded theory: a theory that emerges from the data (Merriam, 1998). Creswell described the constant comparative method as a “process of taking information from data collection and comparing it to emerging categories” (p. 57). Eisner (1991) compared inductive analysis used in qualitative studies to the creating of a collage: The collage evolves as the artist makes decisions on the inclusion and placement of its contents. Dey (1993) compared qualitative data analysis to climbing a mountain to see the view: The climber focuses on one step at a time, and each path can bring a new perspective. Every so often one stops to look at the view from a fresh vantage point, seeing not just the whole panorama, but recalling the sights along the way. The “process may be slow and laborious, but it can be rewarded with some breath-taking revelations” (Dey, 1993, pp. 53-54).

Coding

In the qualitative analysis process, coding—assigning some sort of symbol or short-hand designation to different aspects of data—is used to organize and manage data. Coding can occur at different levels: some for identifying information about the data and others as interpretive constructs that are related to analysis (Merriam, 1998). Analysis in grounded theory utilizes open, axial, and selective coding. Open coding “opens up” the data in text and identifies concepts and categories, as well as the properties and dimensions of the categories. Concepts are abstract representations of an event or action and are the building blocks of theory. Categories are concepts that stand for phenomenon; phenomenon being an important analytic idea that explains what is going on. Properties are characteristics of a category, which give it meaning. Dimensions

are the range along which the properties vary within a category (Strauss & Corbin, 1998). Axial coding begins to reassemble data that were fractured during open coding. During axial coding, the categories are related to subcategories in an effort to form more precise and complete explanations about phenomena. “Procedurally, axial coding is the act of relating categories to subcategories along the lines of their properties and dimensions. It looks at how categories crosscut and link” (Strauss & Corbin, 1998, p. 124). Selective coding is the process of integrating and refining categories to form a larger theoretical scheme that eventually takes the form of theory (Strauss & Corbin, 1998). This analytical process of coding was utilized in this research study to generate a grounded theory of administration and leadership of electronic support programs for new teachers. The researcher utilized N-Vivo, a theory-generation software program, to code and organize data.

Verification and Transferability

Verification

Verification in qualitative research can be supported by several procedural concepts. Member checking, triangulation, the use of rich, thick description, and clarifying researcher bias were all verification procedures used in this study. In member checking, the research participants are asked to review rough drafts of the writing in which their words or actions are featured, and are then requested to verify and provide feedback on the credibility of the findings and interpretations (Stake, 1995; Creswell, 1998). In this study member checking was performed as needed during the interviews to clarify statements made by subjects. The researcher also reviewed the taped interviews and the transcripts throughout the coding procedures to clarify the context of the information and to determine how pieces of data fit into the overall thematic

scheme as the grounded theory evolved. In a few cases, follow-up e-mail communications were made when further detail or clarification was needed.

In triangulation, the researcher uses multiple and different sources to provide corroborating evidence to reveal and better understand a theme or perspective (Creswell, 1998; Jick, 1979). For this study, sources such as program websites, archival documents, and publications by the programs were examined, and interviews with other program personnel were conducted to provide corroborating evidence in the search for the convergence of information.

By providing rich, thick descriptions the writer describes the participants or setting of the study in detail, which allows the readers to make decisions regarding transferability of the information to other settings (Creswell, 2007; Erlandson, Harris, Skipper, & Allen, 1993). This study provides rich, thick descriptions through the stories and many quotations of the participants. Such descriptions allow the voices of the subjects to be heard and their experiences better understood and enables the readers the opportunity to determine whether the findings can be transferred “because of shared characteristics” (Erlandson et al., 1993, p. 32).

Creswell (2007) also suggested that the researcher comment on bias, prejudices, orientation, and past experiences that may have shaped the researcher’s interpretation and approach to the study. This bias of this researcher is discussed in the section of this study, *The Role of the Researcher*, and reveals this researcher does have some bias toward generally viewing technology as a positive tool for supporting teaching, learning, and research yet is aware of the challenges and shortcoming of using technology.

Transferability

Eisner (1991) described generalization as transferring what is learned from one situation to another and further argued that in qualitative research “it is more likely that readers will

determine whether the research finding fit the situation in which they work” (p. 204). Creswell (2007) stated thick description is necessary to make sure the findings of a study are transferable. Merriam (1998) also contended, “[T]he researcher has the responsibility to provide enough detailed description of the study’s context to enable readers to compare the ‘fit’ with their situations” (p. 211). As stated in the previous *Verification* section, this study provides thick, rich descriptions—including extensive quotations from the subjects—to provide detailed contexts of their experiences. These descriptions are intended to allow the reader to determine how these contexts might apply to their own situations. Strauss and Corbin (1998) spoke of explanatory power rather than generalizability. Explanatory power is the “predictive ability” or the ability to explain what may happen in given situations. They believed “the real merit of a substantive theory lies in its ability to speak specifically for the populations from which it was derived and to apply back to them” (p. 267). Transferability of the findings from this study of the leadership role needed to administer an electronic support program for beginning teachers should be made with the cautions of Eisner (1991) and Strauss and Corbin (1998) in mind. As Eisner (1991) stated, “In the end, it is practitioners, the users of ideas, who must determine whether the ideas that are available are appropriate to their situation” (p. 212).

Data Reporting

Narrative

The narrative of a qualitative study is characterized by a literary writing style of rich, thick descriptions of the subjects’ experiences and focuses on the meanings of participants (Creswell, 1998). Creswell (1998) suggested encoding the text with the language of qualitative research and bringing in the voices of the participants by using quotations when sharing their stories. Merriam (1998) contended “there is no standard format for reporting qualitative

research” (p. 227). Some possibilities for the rhetorical structure include the use of vignettes to draw the reader in (Stake, 1995) or the use of matrices (Miles and Huberman, 1994) to systematically display information in a spatial format. Creswell (1998) described a narrative format that takes the reader through the coding procedures, beginning with the open coding, moving to axial coding, including a logic diagram, and finally to a statement of a series of propositions. Another format is the presentation of the logic diagram, mini-framework, or integrative diagram in which the actual theory is presented in a visual model (Creswell, 1998; Strauss & Corbin, 1998). This study provides tables to detail the categories, dimensions, and properties of the organized data through the open and axial coding processes. The themes and stories that emerged as a result of this in-depth study of online support programs and their program leaders resulted in a story line narrative in the selective coding process.

The Role of the Researcher

Due to the constant interplay between research and researcher, Strauss and Corbin (1998) claimed that “the researcher is an instrument of analysis in qualitative studies” (p. 53). The interplay requires immersion in the data, and “by the end of the inquiry, the researcher becomes shaped by the data, just as the data becomes shaped by the researcher” (p. 42). It becomes extremely important, then, that the researcher maintain a balance between objectivity and sensitivity when conducting analysis. Objectivity allows the researcher the confidence that the findings are a reasonable and impartial representation of the investigated problem. Sensitivity allows for creativity and discovery of new theory from the data (Strauss & Corbin, 1998). Merriam (1998) likens the roles of the qualitative researcher to that of a detective, in that the researcher needs to search for clues, follow up leads, and find the missing pieces to put the puzzle together. The qualitative researcher must have a tolerance for ambiguity, sensitivity, and

intuitiveness to context and data, as well as good communication skills. The researcher of this study followed the interview protocol to maintain consistency during data collection, yet allowed the conversations to flow in a manner that provided the subjects to share their experiences and tell their stories; their commitment, humor, and frustrations were all expressed freely. The use of a tape recorder to record these conversations was instrumental in the ability to accurately transcribe the data and capture the voices of the subjects.

The bias of the researcher does need to be addressed. This researcher has many years of experience in working in the area of technology in education and does have a bias toward viewing technology as a positive and powerful tool for supporting teaching, learning, and research. The researcher does believe, however, not all technology is appropriate for all situations and certainly can contribute to additional time commitments and frustrations when not used or working properly. So there was some bias on the part of the researcher going into this study that using technology to support teacher mentoring would be an exciting and positive prospect, yet this researcher was well aware that there are challenges whenever one works with technology.

Summary of Methodology

The purpose of this study was (a) to provide a collective view of known programs, both past and present, that have utilized electronic mentoring for new teachers; and (b) to develop a theory that is grounded in the collected data that explains the process and leadership traits that facilitate the administration of such a program. The first examination of program development and implementation provided the context for the leadership styles that were explored in the second dimension of the study. The methodology for this study used a qualitative research design employing an inductive process to develop a grounded theory. The data were gathered via

telephone interviews, and one online submission, with administrators of past and present electronic support programs for new teachers. With permission, the interviews were tape recorded and transcribed. Notes and field memos were used to supplement the transcription of the interviews. Collected data were coded using open, axial, and selected coding to identify, organize, and relate categories and themes. The N-Vivo software program was used in the coding and organizing of the data. The emerging themes were used to formulate propositions to support a grounded theory of leadership for the administration of electronic support programs for new teachers.

CHAPTER FOUR

Findings From the Qualitative Inquiry

This study was guided by two general research questions: (a) How does an organization develop and administer an e-mentoring program that supports new teachers? and (b) What are the leadership traits of administrators of e-mentoring programs that support new teachers? Data relevant to these two questions and the analyses of that data are reported in this chapter. Twenty-eight subjects, representing 20 programs, were selected for this study and interviewed over a nine month period. Twenty-seven of the subjects were individually interviewed by the same researcher over the telephone and one subject responded to the interview questions via electronic mail. The semi-structured interviews were conducted using a standard protocol as suggested by Creswell (1998) and included 17 questions seeking data relevant to the 2 general research questions. The interviews were recorded by the researcher. The recordings were transcribed by the researcher and two independent contracted transcribers unrelated to the research study.

For the purpose of this study, descriptive data are presented in a narrative form and supported with direct quotations from the interview transcripts. Although quotes are connected to the correct sources, the identities of the subjects have been purposely concealed by assigning a number to each subject.

The data collected in this study were analyzed to determine processes, phenomenon, and relationships. Six important categories were found with one category, the *Leadership Role in Online Support Programs for Beginning Teachers*, emerging as the core category. This core category encompasses and has a direct relationship with the remaining five subcategories. These five subcategories are: (a) Needs and Benefits of Participants, (b) Program Development, (c) Professional Development, (d) Technology Considerations, and (e) Leadership Strategies. The

narrative of this study articulates the relationship between all the categories and their properties and evolved as a result of the data provided by each subject. The subjects provided detailed descriptions of their experiences in providing leadership to online support programs for new teachers.

The 28 subjects in this study represent 20 current and past online support programs for new teachers. The data presented in this chapter describe their experiences in the development and administration within their leadership position of their particular program. Table 1 provides a general profile of these subjects and their programs, including their position within the program and the affiliation of the program to a university or college or state or local organization. Outreach identifies who the program serves. Unless otherwise indicated, programs that serve graduates of their teacher education programs (labeled as TE programs) generally provide this service wherever that teacher was employed, be it locally or nationally. In cases where more than one person was interviewed regarding the same program, that subject has a number and letter assigned to the individual. Subjects 5 and 8 are excluded from the list since it was determined that their programs did not fit the profile of the population studied and, therefore, their data were not included in the analysis.

Table 1

Table of Study Subjects and Program Profiles

Subject	Subject Title	Program Organization or Affiliation	Outreach
1	Director	University/College	Graduates of TE program
2	Coordinator	State Teachers Union	Teachers in state
3	Co-Director	University/College	Graduates of TE program
4	Director	University/College	Science teachers/ nationally
6	Director	University/College	Graduates of TE program
7	Director	Private alternative certification program	Graduates of program
9A	PI/Director	University/College	Graduates of TE program
9B	Coordinator	University/College	Graduates of TE program
10	Director	State program	Regional new teachers
11	Director	State alternative certification program	Graduates of program
12	Acting Director	University/College	Subscribers to service
13	Director	State program	Regional new teachers
14A	CIO (former)	Local school district	District new teachers
14B	Project Evaluator (external)	Local school district	District new teachers
14C	Acting Director, Tech Curriculum Specialist	Local school district	District new teachers
14D	Project Director, (former)	Local school district	District new teachers
14E	Program Coordinator (former)	Local school district	District new teachers
15	Director/Co-PI	State program	Regional new teachers
16	Developer	University/College	Graduates of TE program
17	Director	University/College	District new teachers
18	Project Director	National program	Consortium members (programs 20, 21, 22)
19	Director	International program	Any new teacher
20A	Co-PI/Site-Coordinator	University/College	Local new teachers
20B	Facilitator	University/College	Local new teachers
20C	Site Manger/Coordin.	University/College	Local new teachers
21	Co-PI/Site-Coordinator	University/College	Student teachers
22	Co-PI/Site-Coordinator	University/College and state program	State/regional new teachers
23	PI	University/College	Field experience/ pre-service teachers of TE program

The analysis of data for this study utilized the process of open coding, axial coding, and selective coding as suggested by Strauss and Corbin (1998). The process involved opening up and taking apart the data, analyzing relationships, and then conceptualizing and reconstructing the data to form the narrative report. Open coding was the first step used to examine the data collected.

Open Coding

Open coding involved opening up the data into discrete parts and identifying concepts and categories. Through this process five general categories were identified: (a) Needs and Benefits of Participants, (b) Program Development, (c) Professional Development, (d) Technology Considerations, and (e) Leadership Strategies. These categories were then examined for their properties and dimensional ranges. Strauss and Corbin (1998) define properties as the characteristics of the categories which give it meaning and define dimensional ranges as the ranges along which the properties vary within a category. The first category examined was Needs and Benefits of Participants.

Needs and Benefits of Participants

Table 2 presents the category of needs and benefits of participants and the dimensional range of the properties related to the needs and benefits of participants.

Table 2

Properties and Dimensional Range of Needs and Benefits of Participants

Category	Properties	Dimensional Range
Needs and benefits of participants	New teacher pedagogical support	general → specific
	New teacher emotional support	professional → personal
	New teacher social support	professional → personal
	New teacher programmatic support	individual → group
	Mentor support	individual → professional community
	Institution support	building level → national level

The needs that these programs were trying to address and benefits realized were so closely intertwined that it was often difficult to separate the two, so they are addressed simultaneously. Certainly, it can be said that both new teachers and mentors shared some of the same needs and benefits from an online support program, so often they, too, are intertwined, as what benefits one often benefits all. Nevertheless, these have been separated for reporting purposes by participants: new teachers, mentors, and the institutions.

The programs reported that they were trying to address needs that the new teachers, themselves, identified based on surveys, requests, and observation of the engagement of participants. These needs could be categorized into pedagogical, emotional, social, and programmatic needs. Pedagogical needs and emotional needs seemed to be the two most important needs cited by most programs. There were some programs, however, that viewed the social networking aspect of the online environment as their primary focus. Of course, the need

for certain program features was an underlying theme since participants would not make use of the program if it did not provide useful features.

New Teacher Pedagogical Support. Pedagogical needs of new teachers included classroom management, content, methodology, standards, cyclical issues, and reflective practice. Unilaterally, programs identified the need to provide pedagogical support regarding classroom management, curriculum, and teaching methods. These needs ranged from very general issues that all teachers could relate to up to very specific issues of individual teachers. Subject 14B stated their program tried “basically to provide good content to help them do their jobs better, to understand their fields better.” Subject 20C summed it up so well speaking of the time-consuming and constant need for new teachers to come up with something new everyday, oftentimes, creating lessons from scratch saying, “... it gets back to the mission-critical thing ... And a piece of that is just ‘I’ve got to have stuff ready for tomorrow. I’ve got to have something that I can get in front of students . . .’”

Many programs provided online access to research and curriculum standards to facilitate decision making and planning lessons. Most programs also had databases or links to lesson plans to provide teachers resources for lessons. One program director (Subject 10) said their resources provide “easy access for them for understanding content standards and what does that look like in the classroom.”

Many programs also provided information regarding annual or recurring events such as getting ready for parent/teacher conferences, report cards, holidays, and starting and ending the school year. Programs specifically acknowledged the convenient use of the online environment to have timely postings about these events as they came up to help the new teachers prepare and be aware of what to expect and provide helpful tips. Subject 17 remarked that their program even

posted information about local teacher stores and dollar stores to find deals on supplies and books.

Programs also reported that the online environment seemed to encourage reflective practice. New teachers participating in online communications need to stop and reflect on what they want to say online. Programs reported that many of the communications showed rich, thoughtful consideration of events, actions taken, and possible alternatives. Subject 10 compared the online forms versus the printed forms their participants used to complete their induction modules:

The teachers who do the online modules, for whatever reason, the stuff they turn in to us is richer, it's deeper, it's more thoughtful. And I've asked them about that—why? And they said it's so easy to delete what you write and you can go back and you can change it, and they're so comfortable, especially a lot of the new ones who have grown up with technology.

New Teacher Emotional Support. Meeting new teachers' emotional and personal needs was frequently cited as a very important benefit of these online programs. Programs consistently reported that new teachers were seeking understanding, empathy, encouragement, and sometimes just a sounding board. Many programs reiterated the notion that new teachers often come into the start of the school year with high hopes, enthusiasm, and confidence which is important to help them through what often is an overwhelming job ahead. Subject 6 shared this view:

... one of the things we do know about new teachers is that, at least at first, they are usually over-confident, they are over-estimating what they can do and, if anything, that naiveté helps them hang on during that first term. Thank God for

that, because if they really knew what was going on we might have a worse scenario.

Unfortunately, the realities of the trying to do so much, and do it well can take its toll. Programs reported the new teachers often needed help in maintaining enthusiasm, building confidence, empowering themselves, developing leadership skills, and taking personal care of themselves. Subject 17 believed that their use of an online discussion group was an integral part of their induction program because it catered so often to the emotional needs of the participants. He stated, “We also do a lot of work on, frankly, on teachers taking care of themselves because what we find is that first-year teachers don’t get a lot sleep and they don’t get a lot of rest ...” They try to give advice about what is important and what is not so important so the new teachers feel that they have a support system behind them. Another program director (Subject 11) called this level of support “like a safety net almost.” Subject 14E reported that their new teachers often found much needed support and encouragement through their online mentors:

We saw teachers who were frustrated or who might have left the next day, but they went online at 10 at night and said ‘Oh my God, I don’t even want to walk in my classroom tomorrow. What should I do?’ and got support. So that, and their evaluations at the end of the year that we had them do; their feedback that we got was very strong. And that’s what kind of kept us charged to expand it.

Quite a few of the programs talked about empowering the new teachers to discover answers to their own questions or problems, by guiding them through the issues and helping them recognize their own knowledge and experience that they brought into their teaching position. Many found that a combination of providing direct answers to some questions and guiding new teachers to answers could build—or rebuild—confidence, make connections

between theory and practice, and help them problem solve when something did not work.

Subject 2 explained that it was important to have a “balance and blend” of knowing when to “guide the new teacher toward their own recognition, or their own realization, or the knowledge they do have to answer a question” and other times when the mentor can “just say ‘here are some ideas: 1, 2, and 3.’”

Another program reported that one of the most importance roles they performed was bridging the gap from being a student to becoming a teacher. Subject 16 stated, “I think that’s the hardest thing: going from what you know theoretically or conceptually to be the best thing to do and actually carrying it out, and then knowing what to do when it doesn’t work.” She believed that one of the good things about the ongoing online support was that it gave the new teachers somewhere to go when something did not go well in the classroom. It gave them a place to go to problem solve, rethink, and retool so they could “try again and not give up” (Subject 16).

New Teacher Social Support. Another major need the programs sought to address was to reduce the feeling of isolation that so many new teachers encounter. This may be a feeling of isolation because they are the only new teacher or the only person teaching in a subject area in their school. Subject 9B reported that, “... what I hear them strongly say is they like the networking with other people, other new teachers, and they like knowing that they’re not alone.” She added that even if someone is in a larger school district, it is easy to feel isolated and programs like this help new teachers find others who “share your problems and concerns.”

Programs cited a primary benefit for the new teachers in using an online program was that it provided access to a broader professional community. New teachers often find they are not getting the support they seek locally and having a larger community to consult with can address this problem. Subject 2 expressed that one benefit of access to someone outside the district is that

if the new teacher may be having difficulties with a person or issue within the district “they find it helpful to be able to speak to an e-mentor who is completely removed from that district and has no connection to it whatsoever.” She said this often allows the new teacher to gain “another perspective that helps them feel a little more balanced or provides them with another possible direction or solution.”

Several programs noted that the access to other teaching professionals and other school environments helped them gain a better perspective on teaching, in general, rather than just in the confines of their schools. Many subjects believed that getting insight from outsiders often has the benefits of seeing issues in a broader view. Subject 16, in particular, shared that “... in their reflections, some of the teachers talked about how this helped them gain a perspective on teaching that encouraged them and helped them to stay motivated and stick with it.” She said their participants were able to kind of check out what other beginning teachers were facing in their schools and compare that to their own situation to see if their school was unusual and then reflect on how that influenced their overall view of being a classroom teacher. She said that “by having an outside community of similar beginning teachers, they were able to see that they were not limited by what is happening at their particular school. I think that was really encouraging.”

Programs very strongly believed that the online environment provided an excellent opportunity to be part of a professional community that reached far beyond one’s classroom walls and provided contact with people who could enhance their practice in so many ways. This was particularly important to teachers who may be the only person teaching in a particular subject area in their district. One program director, whose program supports new teachers in the science areas, was particularly encouraged by the activity they saw with their participants. Their

new teacher participants have a mentor and then access to a larger science professional community. Subject 4 commented:

So they have this immediate introduction to the teaching profession beyond their classroom, and I think that is extremely important for the profession: to understand as a teacher that it is a profession that is beyond just your classroom and there is a whole support network. There is a way of being a teacher; there is a way of improving your practice; there is a way for your own professional growth. And so, I really think that the online site offers that in a way that is different than any kind of face-to-face environment; to have it all there at once.

Subject 4 explained further that, initially, the beginning teachers usually stay within the private paired mentor area for the first semester or so. Gradually they begin to “venture out, like a kid taking their first steps, more into the public area and engage with the scientists and look at the different web resources, etc. They engage in the community and they get the whole professional aspect.”

New Teacher Programmatic Support. Programmatic needs were those features that new teachers indicated they wanted the program to provide. These needs were generally determined by surveys and other means of participant feedback, such as focus groups and interviews, or just ongoing dialogue with participants. Many programs indicated the importance of using a model that responded to the requests of its participants. Subject 6 supported a user-driven model and stated that “the types of services that we offer really come from very in-depth and multiple source, multiple type data collection from the protégés themselves.” Programs reported that new teachers wanted and benefited from program flexibility, 24/7 access, anonymity and

confidentiality, a non-evaluative environment, site-based resources, and an opportunity to improve technical skills.

Programs reported the need for a flexible support system that catered to what the new teachers said they needed and one that could be tailored to their changing needs, not a one-size-fits-all. Nearly all programs indicated they conducted ongoing checkpoints with participants to make sure they were meeting needs and making adjustments accordingly. Several programs, in particular, pointed to the importance of responding to requests in a timely manner. Subject 13 said “my advice is to make sure, if you have a focus group or a pilot group or however you do it, take the time to look at their feedback and make those changes as soon as possible.” She went on to say “I think, regardless of the program that you’re working with, you’ve got to be flexible. And so of that feedback that I’ve received from support providers is appreciating the flexibility.” Subject 6, confirmed the importance of making the program flexible and said they found that “these kinds of services must be as tailored to their perceived needs, even if they are different from their actual needs, as possible” and that “different new teachers have very, very different and very strong preferences about the kind of services they want to use and when and how.”

Most programs cited the ability to provide 24/7 access—anytime, any place support—to the new teachers. This advantage, of course, depended upon the type of services provided (i.e., online content, chat rooms), the ability of mentors to routinely check in, and access to an online computer. Subject 17’s program used Yahoo Groups for their very large network of support and found that participants were very active and responsive. He stated, “I think that for a first-year or second-year teacher you don’t necessarily have time to wait [laughs], so the real-time aspect of a Yahoo message is huge.”

Programs reported that anonymity and a non-judgmental, non-evaluative environment were very important to the new teachers. Although not all programs provided anonymity—because they might have used the online within the district to support the face-to-face program—all programs that *did* provide anonymity felt it was very valuable in giving new teachers a safe haven to be open about concerns. Subject 6 explained that new teachers often have very high expectations of themselves but also often have very low self-confidence. She shared her experience with one of the more established online mentoring programs:

...we heard very strongly, we suspected this was true but we didn't realize how strong it was, that the new teachers felt very strongly that they couldn't, that no matter how much they liked and trusted their face-to-face mentors, they couldn't tell them about a lesson that bombed. Or, their particular worries about not reaching a student or whatever, but they did feel they could talk to their online mentor about that. They said again and again in so many ways 'I could tell him/her anything.' And we think that that is part of, just developmentally, where most new teachers are.

Another program that strongly endorsed the use of using anonymous mentors who were outside of the new teacher's school district had very positive feedback regarding the value of the program to the new teachers they served. That director (Subject 11) said, "There are people who, quite frankly, say they couldn't have made it through their first two years of teaching without this support. They just needed someone who had a fresh perspective and was anonymous and they could say anything to them and get straight answers."

One program that did not have a completely anonymous membership did see value in the ability of the online environment to provide a virtual distance that seemed to create a safe zone

for its participants. The program director (Subject 17) believed that although there is a name attached to the e-mails, there is a certain level of anonymity in “being able to ask a question to a computer and get answers” and that it is “helpful for someone who’s pride is in a difficult place and who really needs some help, but doesn’t really feel comfortable asking someone in person.” He believed that the availability to just post a message to a large online group and say “please help me with this,” was very important, even though their participants also received a lot of face-to-face support.

Many programs reported addressing issues that were more site-based such as local policies and procedures and how to navigate through the local culture. Usually these issues were more easily addressed if the program was within the school district. These programs provided procedural resources and materials online such as forms, applications, and standards that were specific to the district or state, yet they all had a face-to-face component to their programs that they very strongly felt was necessary for some types of support. Subject 6 reported “... that is one thing our research [from our program] did show us very clearly: there are certain kinds of support that really have to happen face-to-face.” She cited examples such as knowing where to get supplies and taking attendance, but “also more subtle sorts of political awareness or just learning how to approach or not approach a particular administrator or with this particular group: be careful, don't talk about this with this particular group, it's going to push their buttons.”

Perhaps more of a benefit than a need, programs reported the online environment helped to increase participants’ comfort level with using technology and online resources to enhance professional networks and to support teaching and learning. Many programs noted considerable improvement in ability level with using various technologies and a gradual acceptance of this mode of communication and support. One program, which issued laptops to its participants,

trained at least 400 people in using the Internet and technology more efficiently. The program evaluator (Subject 14B) said “the fact that they received the training had to have made a difference. I just know.” She pointed out that so many of these people didn’t even use e-mail in the beginning and now they are participating in synchronous and asynchronous chats: “So I am using their participation as the indication that their comfort level had to have increased ... That’s a big change and observable” (Subject 14B).

Mentor Support. Programs reported that mentors also benefited from the online programs in a number of ways. Like face-to-face mentoring, the online mentoring provided them the time to reflect on their own practice and not only share their knowledge, but learn something new from these fresh new teachers and other mentors. It helped them develop as school leaders and provided them resources to improve their skills in supporting new teachers. Subject 2 found the reflective nature of online mentoring to be very beneficial to the mentors:

... we see a benefit to the experienced teachers because they talk about the experience of having that kind of questioning, and that kind of a relationship really helped bring back and recall their professional growth or journey, where they were and where they are now. And then, it also challenged them to think more intentionally about their practice in an ongoing way. Although, as I said, most of these folks tend to be of that sort anyway, but I think they really enjoy some of the ideas and questions that really call them to articulate their own decision-making or really stay focused on the reasons they do the things they do, instructionally, in the classroom.

Mentors gained a new appreciation of the possibilities in creating professional learning communities in an online environment. One program that used a group mentoring model found it

was a great opportunity for the e-mentors to share ideas. That program director (Subject 9A) said it gave the e-mentors “a chance to reflect on their own practice. ... So they’re learning from one another.” They had the mentors talking about certain topics at different times of the year and they could document that the novices were reading them, although they may or not be participating in the discussions. She said the mentors really enjoyed having those conversations because they were learning from each other and “because we’ve got this group philosophy, it’s got a strong potential for being a professional learning community” (Subject 9A).

Some programs reported that they really sort of grew their own mentors by graduating their new teachers into mentoring roles after their first few years in the program. One program allowed teachers to maintain their membership in the online community for as long as they wanted and saw participant roles evolve over time from one seeking support to one providing support. This director (Subject 17) said, “I think it’s significant that we don’t just get first-year teacher input and we don’t just get first-year teacher questions.” He saw people continue to post questions and comments well beyond their first few years: “So they’re seeing the benefit of Yahoo Groups as a support system throughout their teaching career, not just in their first years.”

Many programs reported that the online mentoring not only provided the mentors an opportunity to give back to the profession, but in many cases this new mentoring approach intrigued them and re-energized them. One program reported that some veteran teachers stayed on in the district to get involved. Subject 14A said, “One of the things that was interesting to me was to watch seasoned teachers get re-excited about their work. Some even deferred their retirements because they got so engaged with what was changing here.”

Although most programs did admit that there were some struggles and resistance with the veteran teachers in adapting to the online environment, many saw real growth and improvement

in a number of areas for these mentor teachers, including an increased comfort level with technology. Subject 15 observed that although their program is geared toward the beginning teacher, “anytime you can have growth in any educator, any person in education, there’s a benefit.” She continued to say that “although it’s been a struggle for our support providers they have had huge learning since last year, in particular, about their own technology, and access, and understanding, and deepening their own knowledge.”

Institutional Support. The needs and benefits reported at the institutional level included developing school leaders, bringing in grants or other resources, increasing the retention rate of teachers (both new and veteran), and the hope to eventually improve student achievement. Several programs looked to develop leadership among mentors and new teachers by providing them this opportunity for professional development online. Because the online environment provided the flexibility of time and place, as well as contact with a broader community, programs saw this as beneficial in developing leadership skills with their participants. One branch of a consortium program of online support indicated that this flexibility actually creates some time for them to participate because these are the kind of people that are involved in so many things already. Subject 20B indicated that many participants are in masters program or are the one whose hand goes up when the principal needs something done. She said it becomes a real hindrance for them to get another meeting on their calendar and to fight traffic across town to get to get there. She believed the online environment

... will actually become the vehicle that provides them everything that we want to do to foster their leadership versus always feeling that you have to bring these people together physically to a meeting, because they just ... they don’t have the time. They *just* don’t have the time ... I think that is one of the dangers we do to

good teachers is that we burn them out very fast. And I think this is a way that we can give them the leadership development we want but also the support and the gift of time, a little bit, to be able to partake in this without burning themselves out. (Subject 20B)

Several programs connected new teachers to grant writing opportunities and provided some professional development in this area. One program (Subject 12) had the participants write a mini-grant as part of their participation requirement. Another program (Subject 17) often directed new teachers to various grant opportunities and provided assistance in applying by providing the information through their online forum. Subject 17 said, “We’re always trying to provide them with grant opportunities, to write grants in their first year of teaching ... And so they’re showing their leadership abilities; they’re showing their ability to connect with other organizations.”

Most programs were either not yet tracking teacher retention of their new teacher participants or they were not able to say conclusively that they are retaining more new teachers because of their participation in the online support program. However, a few programs did have some evidence that participation in their program has improved teacher retention rates in the districts they serve. It should be noted that these programs used face-to-face mentoring as well, but the programs did believe that their online support component was an important part of the whole system of support.

- One program that was part of a three county consortium (Subject 10) reported a retention rate of 97% with their new teachers. Another program, (Subject 15) reported their retention rate of 89-90%. A third program (Subject 13) did not report their retention rate. This particular new teacher support program is a statewide mandated induction program

and these three counties have added an optional online component to their programs. The statewide retention rate has been reported to be in the 90% range. One of the directors (Subject 15) remarked that she did not know if she could gauge the improvement because of the online environment but did believe that it provides a better system than the previous one, and that participants were getting “a more embedded and systematic experience.”

- Subject 17, whose program used Yahoo Groups as an online support supplement to their overall induction program, had a much higher retention rate than another induction program mandated by the local school district. This program director indicated that 40% of teachers in this large urban school district leave the profession after one year. However, their program had an 89% retention rate of teachers in the district last year and an “additional 4% of teachers stayed in the profession but either went to private schools or went to the suburbs. So ours is more than double what the district retention is.” It should also be noted that this very large urban school district does have a mandated face-to-face mentoring program for the entire district. The program, whose director participated in this study, only serves a specific region within this large school district.
- For a while in the mid to late 1990s, one of the programs in this study was seeing about 600 new teachers in their district every year, which was about 10% of the teaching staff. This has more recently lowered closer to 200-300, with some of that decrease due to budget cuts and leaving positions vacant. The outside evaluator (Subject 14B) for the online program explained that “In [human resources] exit interviews we learned, for people who left the district, that they just didn’t feel supported. And so we knew that and we wanted to provide an

avenue that they really felt connected and supported.” One of the ways the online project tracked retention of their participants was by keeping track of the number of laptops issued and returned. They compared the number of laptops that stayed in the districts (which represented a teacher) and compared that to the number of teachers that human resources reported as leaving and found the participants in the online program had a lower rate of leaving. When they asked online program participants why they were leaving the district, most of the reasons were they were moving out of state or out of the district or marriage, and very few were saying they didn’t feel supported.

Improved student achievement was also a frequently cited need by programs. Programs tended to tie this with the need to provide pedagogical, social, and emotional support to the new teachers in hopes that their teaching would be strengthened with such supports and that they would retain these teachers for many years to come. By strengthening the teaching staff and maintaining a consistent staff, it was anticipated that student achievement would also improve. None of the programs reported tracking this yet, however, nor did they articulate how they might track it and connect it to the teacher’s participation in the online support program. One of the newer programs (Subject 22) explained:

... ultimately, you have to have in mind that you are going to make a difference. So the trickle down effect will be that you’ll make a difference for novice teachers so that they can in turn ensure that their students learn. So that has to be the ultimate goal: that their students are learning more because of the early career teacher’s engagement in online. Because if that’s not true, than we shouldn’t do it [laughs] ... I’m very clear about what my goal is for next year ... that I want to

make sure that we are starting to make a difference in deepening content pedagogical knowledge so that novice teachers are more reflective and acting differently because of the online intervention.

Needs and Benefits of Participants and the Literature Review. The needs of new teachers identified by programs in this study closely parallel those identified in the literature. Programs reported that many of the new teachers experience those same emotions and situations cited in the literature such as watching their initial enthusiasm and confidence dwindle away as the realities of the often overwhelming responsibilities of the job overcome them (Breux & Wong, 2003; Gordon & Maxey, 2000; Renard, 2003). Maslow's Hierarchy of Needs Theory (1954) speaks of physiological needs, safety needs, belonging needs, needs for self esteem, and self-actualization. These online programs have tried to meet some of these needs, particularly the needs to belong and have self esteem, in an effort to reach some level of self-actualization. They have provided resources to support new teachers in some general and specific ways to "survive" in their classrooms. They have provided social opportunities to "meet" other new and experienced teachers online to gain a sense of belonging. And they have provided emotional support to help encourage and raise the self-esteem of new teachers to help them reach some success and eventual self-actualization. Moir (1990) described five phases of the first year of teaching: (a) anticipation, (b) survival, (c) disillusionment, (d) rejuvenation, and (e) reflection. Many programs have worked with or used the research from the New Teacher Center, where Moir has been involved with research on new teacher induction. Addressing these phases seems to be the foundation of most programs objectives. Overall, these programs were trying to address the needs of new teachers in the classroom, in their personal well-being, and in the professional community in an effort to help them feel surrounded by a supportive, professional culture and

accepted as important contributors to the education profession (Breux & Wong, 2003; Feiman-Nemser, 2003; Gordon & Maxey, 2000). Many of the benefits of using electronic mentoring cited in the literature have also been reported by the programs in this study. The benefits include the flexibility of time and place, reduced feelings of isolation, access to a broader community, security of anonymity, non-evaluative relationships, and development of technical skills (Boyle & Boice, 1998; Hew & Knapczyk, 2007; Merseth, 1990; Single & Single, 2004). Some programs have cautiously reported some improvement in new teacher retention that may be attributed somewhat to the use of online support (Johnson et al., 2002; Redmond, 2002).

Program Development

Table 3 presents the category of program development and the dimensional range of the properties related to program development.

Table 3

Properties and Dimensional Range of Program Development

Category	Properties	Dimensional Range
Program development	Impetus	local need → national need
	Planning/models used	individual/collaborative → team/collaborative local members → national members
	Structure/outreach/services	one-on-one → group local → national limited options → wide array
	Funding sources	internal only → external only
	Personnel	individual → team
	Recruiting	limited → open
	Expectations of participants	undefined → defined
	Matching	assigned → self selected
	Training	limited → extensive
	Facilitation	important → highly important
	Evaluation	limited → extensive

For the purpose of this study, the category of “program development” includes the following properties: (a) impetus, (b) planning/models used, (c) structure/outreach/ services provided, (d) funding, (e) personnel, (f) recruiting, (g) expectations of participants, (h) matching, (i) training, (j) facilitation, and (k) evaluation.

Impetus. Nearly all programs cited the alarming attrition rates of new teachers as the main impetus for their program: 15% after the first year and 50% by the fifth year. National reports (Ingersoll & Smith, 2003; NCTAF, 2003) were often cited but regional and local concern was a main focus for most of these programs to target. One program was hiring about 600 new teachers per year and was turning over about 10-15% after the first year and losing about 50% by the fifth year, reflecting the national average. Although they had a traditional face-to-face mentoring program in place, the sheer number of new teachers that needed support was far more than the district staff could accommodate. They really needed to find a feasible way to scale up their induction program. Subject 14A cited the NCTAF report as an accurate reflection of what was happening in his district explaining the report basically said, “that we’re not doing a good job of hanging on to new young talent, and if we keep on putting rookies in front of kids we’re going to keep on getting rookie results.” Like many other urban school districts, they were experiencing significant teacher turnover especially among the young teachers, and they realized to keep “on doing it the way we always did it wasn’t going to make it better.” They thought that maybe there was an opportunity to provide induction using technology, so with their established core of relationships with colleges, universities, and businesses, they were “encouraged to go ahead and take a look at this portal development concept” (Subject 14A).

Addressing teacher shortages in a number of content areas were also cited as reasons for implementing a program. Subject 4, whose program targeted beginning science teachers, explained that there is a high need and demand for science and math teachers and according to the national standards for effective science teaching it involves a lot of complicated skills and using labs. This is especially demanding for the beginning science teacher. A mentoring program can really help with many of these challenges, but many mentoring programs are often not

connected by content so there could be someone mentoring a beginning teacher that is not in their content area. This program saw that online support provided access to a larger pool of veteran science teachers to mentor these beginning science teachers, even as specific as finding someone in the same content area and grade level.

Programs spoke of how the use of online communications could address the issue of time and place for their new teachers and the people who support them. Subject 4 explained that they needed to consider how to deal with the major challenge of similar times to get together with someone for face-to-face mentoring as well as spatial considerations. She said, “The avenue of online mentoring became an apparent way of resolving that as use of online became much more prevalent and ease of access was available.” Subject 9A reiterated that it just was not practical to think about working directly with so many collective bargaining units and administrators, stating it was, “... real clear to us that if we were going to meet issues of distance or trying at all to have people discussing within the same grade level or content area, that we were going to have to use technology ...”

Several programs that were part of university teacher education departments expressed the desire to provide continued support and retain contact with their graduates. In fact, one program director spoke of the highly nurturing environment that their teacher education program provides their students and their desire to extend that beyond graduation. She also cited the recommendation by NCATE that teacher education programs provide continuing support to their graduates. This director (Subject 6) stated that “even though it’s not a requirement in this state for schools of education to support teachers afterward, it obviously, I’m sure you heard this before, it’s something that NCATE is really pushing and we do have NCATE accreditation.”

A number of programs also felt an online program would be an avenue to answer a state or district mandate for induction and mentoring. Three of the subjects in this study are area directors for a large program that is a well-funded, state-mandated induction program that all new teachers must complete to earn their “clear” credential. These three program directors implemented an online version of this statewide mandated induction program for the counties they serve.

Some study participants expressed a personal commitment to supporting new teachers that was grounded in their own research interest or personal experience. Subject 17 indicated that although the decision to provide online support was based on research and what they believed new teachers needed, it was also sparked by “the things that we knew as new teachers that we wish that we had had... So it’s sort of one those ‘I wish that I had been able to go online and ask questions and had somebody.’”

Planning and Models Used. All programs used a very collaborative approach in the planning and development of their programs, forming design teams that in some cases included only one or two individuals and in others, several task-specific groups. Team members were often local professionals, but some programs used national experts, with some programs forming advisory boards to help with planning and ongoing implementation. For instance, two programs (Subject 1 and Subject 18) had a team of experts in the areas of new teacher induction and online support. One of these programs continued the use of an advisory board even after the program was fully implemented. Some programs also used participant input extensively during the design phase. One of these programs reported that they had several groups representing the various stakeholders of their induction program. During the design phase of the program they included some new teachers and as Subject 14A explained, “I said instead of assuming what new teachers

want and what new teachers need, let's ask them. So the new teachers became a part of the design process right along with us." They also included people who were involved in the traditional mentoring program of the school district, including principals and others who "would ultimately determine that success or the failure of the program" (Subject 14A).

Some programs did cite other online mentoring models used or looked at in their development phase. These ranged from models used in face-to-face programs to group mentoring, and usually included the few longer running online programs in education, although not necessarily programs that supported new teachers. Some of these models included the New Teacher Center at Santa Cruz, the Electronic Emissary, the International Telementoring Program, and the University of Illinois's Novice Teacher Support Project. One program even looked at models used in business, such as Cisco and WalMart.

Structure/Outreach/Services. There was a huge variance in the structure of these programs. Some programs provided one-to-one mentoring, some provided one mentor to up to five mentees, some were cohorts of anywhere from 10 to 20, and some programs had upwards of hundreds of new teachers with perhaps 10 to 20 veteran teachers providing support. One international program was open to anyone who wanted to post a question to the e-mentors and had a public forum for discussion. For the most part, however, programs generally had restricted access to the discussion areas, but public access to the online resources. There were a few programs that did require member login for any access whatsoever. Programs reported that school district administrators did not have access to discussion areas or e-mail exchanges of their new teachers with their mentors. This was an extremely important feature of the programs to assure confidentiality and a safe place for new teachers to discuss their concerns.

Most programs served new teachers in a local or regional area, although there were a few available on a national level. All programs supported new teachers, but the length of that support varied anywhere from the first year up until the fifth year. There were several programs that supported pre-service teachers during student teaching or during their internship year. One program (a pilot program) supported only pre-service teachers during their junior field experience. Just a few programs only provided support for the first year of teaching, and a couple of programs allowed the teachers to continue participation as long as they felt they needed to, with one allowing even beyond the fifth year. Sometimes, teachers who stayed active in a program beyond the first two years saw their roles change gradually from novice teacher to more of a support role. Subject 13 spoke of one participant that eventually became a support provider by her third year in the program. That participant was particularly effective because the new teacher experience was still “so fresh in her mind.”

Nearly all programs were university-based and all had a close association to a university teacher education program. Several of the university-based programs and both of the alternative certification programs provided service only to graduates of their programs. Some alternative certification programs used the online program as part of their teacher preparation program requirement.

The services provided by the programs included in this study varied, although all programs focused on support for teachers within their first to five years of teaching, with one program (Subject 17) allowing teachers to participate beyond five years. For most of these programs, the online support was a supplement to other new teacher services they provided. Online services included (a) one-to-one communications (generally via e-mail); (b) group communications via discussion areas (asynchronous) and live chats (synchronous); (c) content

area resources; (d) pedagogical resources; (e) frequently asked questions; (f) instructional modules (for the participants involved in credit or credential earning programs); (g) lesson plan builders; (h) document share ability; and (i) links to district policies, state standards, and credentialing information. As previously noted, most programs used online support as a supplement to other services they provided for new teachers. These other services usually included face-to-face mentoring and workshops, onsite individualized coaching, and continuing education courses. One program, for example, complemented their online mentoring with face-to-face Saturday workshops. The alternative certification programs had very strong face-to-face mentoring and intensive coaching for problem areas that a teaching intern may experience. Three of the programs (Subjects 10, 13, and 15) were part of a mandated statewide program, which has also become the credentialing agency as an extension of their induction and support services for that state.

Funding. Funding in nearly every program came from grants and foundations. Several of the those funding sources identified included the National Science Foundation, PT3 grants (Preparing Teachers for Technology Today), Title II (Teacher Quality) monies, Transition to Teaching monies, National Education Association, Joyce Foundation, SST grants (Sustaining and Strengthening Teachers), and the Gates Foundation. Two of the programs also received funding from state or local coffers, although that funding supported the larger induction effort, not necessarily the online portion. Three of the programs were part of a state supported mandate for new teacher support, although the online portion was funded through a grant that came from the state. Another program was funded through a number of grants and foundations, with funding for laptops used in the program coming from the district. A few of the programs, also received some funding from their university, usually from the provost office or teacher education

department. Although many programs did not provide specific amounts, the funding ranged from a small faculty incentive grant for a small grassroots program to a nearly one million dollar grant for a three-year period for a program that supported three wide area counties. Securing funding and becoming self-supporting were both consistently cited as significant challenges for programs.

Personnel. The programs varied also in the number of people on staff. There was not always a clear delineation of specific responsibilities among personnel because, oftentimes, individuals had a variety of responsibilities, including support to the online component as well as to other areas of the new teacher support program. Nearly all programs had at least one person in a director-type of position. In some cases the leadership was shared among two or more persons and it was not clearly stated that one person was *the* director of a program. In nearly every program, however, there was a person who assumed the primary responsibility of overseeing the technology. Oftentimes, that person was the technology support person or a team of people that also provided tech support to the associated organization. In nearly all cases, the main technology person was not in the director level position for the program. So the personnel of a program could vary from one director with a technical support person to a team of people providing varying degrees of leadership to the program. In a several cases, the person considered the program director did not necessarily have a great deal of hands-on experience with the daily operations of the program and was more involved at the development level and had a less active role of daily operations as the program took hold.

Recruiting. Recruitment of mentors was consistently on a volunteer basis for all programs. Programs recruited people who were known to be exceptional veteran teachers from a number of different sources including local school districts, alumni of their programs, and

National Board Certified teachers. Although some programs were not able to provide a stipend to their mentors, many did, and these ranged anywhere from \$100-\$2,000 a year. One program reported that mentors were paid 10 hours of their base pay per month, so the amount varied with the experience of the mentor teacher. Many programs reported that recruitment of mentors was usually quite easy and people were remarkably open to participation. Subject 2 talked about how enjoyable mentor recruitment was for her, describing it as “energizing and inspiring” to find exemplary veteran teachers who want to help new teachers:

... these are people that understand the importance of [pause], that what they do and their ability to communicate and pass on their expertise is a responsibility as a professional and as a profession. They see that big picture and they want to pass it on because they know as they do that they impact, in a positive way, the classrooms for decades to come beyond their retirement.

Recruiting mentors often happened in the summer to provide ample time to get a good mentor pool, although some programs did ongoing recruitment year round. Mentors were contacted via e-mail, surface mail, telephone, at professional conferences, and were often referred by others who knew of their reputation as an educator. Some programs required the mentors to complete an application or profile, with some of these forms available online.

It should be noted that programs used different titles for the person in the mentor position. Some programs referred to this person as a support provider or facilitator. For this study the term facilitator will refer to the person who monitors and facilitates online discussion boards and synchronous chats. For some programs, facilitation was the primary responsibility for this person, for other programs this person was one of the mentors. And still in other programs this facilitator was the program administrator.

For programs that were university based, recruitment of mentees usually included graduates of that institution's teacher education programs or current pre-service or intern teachers. For programs that were part of a local school district or regional service district, the recruited mentees were the teachers new to a school district, sometimes including new, yet experienced, teachers. Nearly all mentees were recruited on a volunteer basis. Even in the cases in which mentees were part of a required induction or certification program—such as in three state mandated programs and the two alternative certification programs—the online support component was still voluntary to a certain degree, with additional ways to receive face-to-face support. Subject 6, who has implemented and directed two online mentoring programs for new teachers stated, “I feel very strongly, and my colleagues here agree, that this should be completely voluntary ... that was one of the major findings we had out of [our] research, so we really think this needs to be their choice.”

Some programs required mentees to complete an application, which was often available online. In most cases, there was not a monetary stipend for mentees, although some programs did provide other incentives such as continuing education credits, credit toward advanced certification, membership in a professional organization, or payment of a registration fee at a conference. Some programs provided their mentees equipment during the length of their participation such as digital cameras for classroom use, laptops, or Palm Pilots for connecting to their online mentors. The number of mentees in programs ranged from 15 in smaller programs to up to approximately 300 in larger programs.

Expectations of Participants. Some programs set requirements for participants (both mentors and mentees) regarding the number of times they needed to contact one another or post (or at least join and observe) in a discussion area. This requirement ranged anywhere from twice

a week to once a month. There seemed to be mixed feelings among programs about making a requirement to participate a certain number of times. Some programs believed that participants needed to be engaged on a regular basis to glean the most benefits of the program and keep them involved. Others believed that participants should be able to engage on an as-needed basis; that setting requirements for X number of e-mails or postings set an artificial need for engagement. Subject 14E explained, “We didn’t want to give them a set amount. Because really what we were looking at was will this environment provide support for teachers? Will they want to go there and will they be looking for support?” She believed that if they told mentees that they needed to participate a specific number of times within a certain time every week or so, that they would not really get a “true flavor of what’s going on.” This program did offer a number of events online on a weekly basis and did expect active participation, but they didn’t necessarily set defined terms. However, they did contact mentees if they saw a lot of time lapse, say a number of months, without any participation.

The response to whether program participants needed to sign or agree to specific responsibilities varied as well, with some programs having no such contract and others requiring a written agreement. The length of time mentees could participate varied, anywhere from the one to five years, often leaving the decision to continue after the first year up to the teacher. Nearly all programs reported that activity was usually mentee driven; that it was up to the new teacher to indicate what they needed and when they needed it: “...the mentee sort of leads; they choose the different conversation guides, which we call inquiries, they want that will help them in their classroom” (Subject 4).

Matching. Matching strategies varied widely among programs. Some programs used one-to-one matches; some used one mentor to maybe two to six mentees; and some had larger groups

of up to twenty, often referred to as cohorts or cadres. In most cases, matches were made according to grade level or content area. In many programs the mentors and new teachers were matched by the program personnel after review of the participant's application or request. In some programs matches were made by the administration of the school involved. Some programs let mentees self-select their mentors by reading mentor profiles or going through a list of characteristics to narrow down the available choices. Subject 6, who developed two university-based online mentoring programs, believed that self-selecting using mentor profiles was the "optimal way to match." She said the mentees often looked for common grade level and subject areas, but they also looked for the "best match in terms of the kind of teacher, at least that they think they are now, or that they want to be." Another program, which used cohorts, also found that self-selection worked much better than assigning participants to groups. As Subject 14A explained: "Actually what they did was they set up cohort groups and initially they assigned people to cohort groups. They discovered that that wasn't the most effective way to get things going and quickly shifted to self-selection of the groups."

A few programs reported that their matching process considered personality traits to try to make a more successful match. A few also mentioned that matching grade level or content was not always a real important factor in matching strategy. Several programs reported that matches were made based on a prior relationship between a mentor and mentee, such as a professor and former student, or cooperating teacher and student teacher. Some programs intentionally matched within their districts or buildings; some of the reasoning for that was because the online environment was a supplement to a face-to-face program or some found it to be an issue with the local bargaining unit. However, many programs reported that there was often an advantage to make matches that were not in the same school district or that were

anonymous. Subject 4 indicated: “We are not concerned that they are from the same district, and have actually found it to be beneficial when they are not necessarily from the same district, which was an interesting insight for us.”

Training. Programs reported using a number of approaches for training of program participants: face-to-face, online, and a blend of both. Training was generally provided for mentors, mentees and, sometimes, facilitators, although several programs provided training only for mentors. Most programs kept the training for these different groups separate, although a few did provide some training sessions with mentors and mentees together. Oftentimes, this initial training required a lot of “hand-holding” to get participants comfortable with the tools. A number of programs used an online professional learning community service that provided members with training on how to navigate and use the site and also had a 24-hour help desk. Many programs also reported that over time there was less need to go over basic skills as returning mentors became comfortable with the online environment, and many of the incoming new teachers were already comfortable with online communications from their teacher education programs.

The common content of the training for all participants included guidelines of the online mentoring program, use of the technology specific to the program (e-mail, discussion board, website navigation), e-mail etiquette, and building relationships. Some of the mentee topics included classroom management, organizing the classroom, literacy issues, and how to be mentored. Mentor topics included being a mentor, the nature of the new teacher, teacher socialization, teacher development and leadership, peer coaching, and questioning strategies. Subject 14D said their program provided training in the use of what they called an “online voice” in which a mentor or facilitator is taught to “answer the question that is being asked and not project your own history or your understanding of the situations into a problem.” They wanted

their mentors and facilitators to have “good reflective ways to draw out conversation and keep things productive for the person you’re working with” (Subject 14D). Programs also usually provided training for facilitators as well. Subject 14E explained that online facilitation is similar to face-to-face mentoring but there are not the physical and site cues to establish rapport, so one must think about how that looks in an online environment and what kinds of skills that person needs. She said that they “... needed training in just being an online facilitator and how much or how little to be advising, supporting, offering resources, and the style of online communication.”

Many programs provided initial training during the summer or at the beginning of the school year, using a fall “kick-off” format to start the year. Subject 2 spoke of their initial training in which “We also try to make sure that some of the training at the kick-off, as well, is social time and just the time to interact and develop some relationships...” Many programs had ongoing training throughout the year for participants, again, both face-to-face and online. For instance, Subject 2 sent out newsletters to both mentors and mentees with tips and resources, providing a form of ongoing training. Programs indicated the use of a discussion board area just for the mentors and that informal ongoing training happened there with the collaboration among the mentors and coaches. Subject 4 said their mentors have “a mentor forum online that is there for just that purpose and, basically, it is a facilitated forum where they can go to pose problems they are having—brainstorm solutions.”

Programs that served a local area seemed to use face-to-face training more often than online training; while those programs that had participants in multiple geographic locations used online training more. However, one program which served just its local district did much of their training online and also used video conferencing. The administrators of this program believed it was important to deliver most of the training to the mentors and facilitators online so that they

were trained: "... in how they would be using [it], rather than just telling them you're going to do this online, it was actually done with them" (Subject 14D). Many programs believed it was important to maintain face-to-face contact for training, however, as indicated by Subject 10: "Basically they can do it online, but they love being face-to-face. That's one of the big learnings we have found. People still are social animals."

There were a few programs that felt training should be on an as-needed basis. They felt very strongly that people at this professional level should not be inundated with directives and "how to's." Again, emphasizing the idea that the program should be participant-driven and that professional development should not be done to them. Subject 6, who has done extensive research in online mentoring found that: "Interestingly enough, one of the things ... we found was that it seems that in-context, just-in-time training for mentors is what works best."

Facilitation. Programs consistently believed that effective facilitation was the key to the success of an online mentoring program. Whether this facilitation was done by a program director, mentors, or a specific facilitator the importance of this function was reiterated by nearly all programs. Subject 6 strongly emphasized that "... people just don't get how important, how absolutely essential, facilitation is. Not just in the beginning but all the way through, and all different levels and types of facilitation—it is literally the key to success." The importance of preparing facilitators was also expressed by several programs. Subject 17 reported that their program sent their facilitators and face-to-face coaches to a national symposium for training because they felt it was very important to build capacity in their coaches and "especially, in our facilitators because they're ones that really are the cornerstone of our program, that the new teachers look to as an important component of the program."

Evaluation. Programs advised that the evaluation strategy needs to be established early in the development process and must determine what and how to assess, including the data collection methods that will be used. Nearly all programs reported using surveys to collect data from participants, often from both mentees and mentors and, sometimes, facilitators or trainers. Many programs also used interviews and focus groups to collect data. By far, the data instruments were formative in nature and were used throughout the duration of participation in a program and at the various participation levels to get feedback on how the program was or was not working for those participants. Nearly all programs reported that feedback was used to make adjustments in the program in an effort to improve participation and usefulness to the clients. Subject 9A reported that "... each year we refine the program a little bit based on the feedback and the data that we've collected ...". One program said that they used formative evaluation throughout the development process as well as once the e-mentoring phase was operational. Subject 14D explained that they did a lot of "touch points" in the form of short surveys and focus groups as they were trying things out and "that would inform our next decision and we'd decide, okay this is what we think is going to work and design right away how we would get feedback on that going into it." Another program director (Subject 15) explained how the participants have appreciated having their voices heard in the evaluation process. She said they have been very pro-active in responding to feedback and "if it's a doable fixit—something that we can change—we do and we do it right away. People see that and it really adds a value to how they're feeling about [the program]..."

Programs ran surveys a number of different times during a participant's year. Many reported conducting surveys fairly early into the program as a checkpoint to see if needs were

being met. All programs conducted surveys at the end of the academic year or end of the participant's involvement in the program.

There was some ongoing data collection with some programs that kept track of frequency and type of online usage. Subject 14D explained that they tracked "how many people log in, how often they log in, what are they searching for, what areas do they frequent ... what documents do they check out the most, that kind of stuff," although they did not necessarily write it up in any formal reports. Another administrator from that program (Subject 14E) added "All of our reporting, and we did a lot of it, a lot of record keeping, was for us to make it grow, to make it better."

Some programs included the frequency of participation as an indicator of usefulness of the program, citing that participation is the key to whether a program is providing valued service to its clients. This was an issue of debate for some participants in this study. The concern in measuring level of participation centered on the difference in programs that required a certain number of times participants were to engage in communication versus those programs that had no such requirement. So the question that surfaced was "Are we getting a true measure of useful engagement because participants are getting online because they feel they need the support or because they need to fulfill a program requirement?"

Interestingly enough, although programs almost unanimously stated that their impetus for the online support was to improve teacher retention, very few have tracked their participants to see if they have remained in teaching. Many stated that their program has not been operational long enough to track this. Subject 12, whose program contracts with school districts explained that tracking has been difficult: "The only way we can get that information is from human resources. And what we've actually started doing is work into our contract that they provide

retention data for three years after the program is over ...” and they have only started doing that recently. Even more program administrators felt that retention is a very difficult outcome to pinpoint and do not know that there is a conclusive way to credit online mentoring with playing a part in successful retention efforts. As Subject 6 argues, the reasons teachers leave or stay in the profession is complex:

...what we realized is that to be able to say conclusively, even over a number of years: ‘Well it is because of their participation in this particular project that they stayed in the classroom.’ Short of them saying it to you of their own volition, we realized you can't really prove that. And, because there are so many factors, there are so many contextual, personal, etc. factors that go into a decision to stay or to leave. You can definitely get rich, qualitative data through interviews. You can member check it very carefully to make sure you are not framing the responses because of your wish for your project to be successful, but really to get it purely statistically, as far as we could tell, you can't isolate the variable well enough.

Of the few programs that have been running for a number of years, there has been some tracking of participants who have participated in the program and the overall retention rates of those new teachers has increased. This has been addressed more specifically in the previous section of this chapter, “Needs and Benefits of Participants.” One of the programs (Subject 14) serving an urban school district has seen an increased retention rate of teachers new to the district, particularly with the new teachers that participate in their online support component. Another program (Subject 17) serving a very large school district has a retention rate about double that of the other district induction program that does not use online support. Again, however, programs are reluctant to say that participation in online mentoring was the reason for

improved retention rates because the online support was just a part of the overall new teacher support service available to these people. As Subject 11 explained, "... from our view, this is pretty much a supplemental piece....the rich, supplemental piece, but it's not the lifeblood of what really impacts our retention."

Although many programs do not know if they will be able to effectively track teacher retention related, in part, to participation in their program, one program administrator hopes to at least see a long term goal of creating a desire to be part of an online professional community that will follow participants well into their careers. Subject 18 hopes that the pre-service teachers who are using this service will continue beyond the life of the program grant to "stay together or at least feel that this kind of community is the way of doing business."

Only one program (Subject 23) planned to look specifically at teacher efficacy of their pre-service teacher participants. This program had a group who had online mentoring (treatment group) and one that did not (control group) during their field experience semester. They were going to compare pre- and post- math and science efficacy surveys as well as lesson plans that the two groups prepared during the semester to see if there was any difference in teacher efficacy.

Another program, which was funded through a large national foundation, was required to provide data that would indicate whether their program improved student achievement in science. This program administrator (Subject 4) had some trepidation about being able to show results in student achievement because they are not working with the whole school districts, whole schools, or even whole grade levels. Their evaluator was going to ask mentees to volunteer to offer a pre-imposed version of a standardized science test in the classrooms. Subject 4 went on to say "...which, in my editorial opinion, I am not too thrilled about, and I don't think

they will really see anything. I mean, they are just really feeling pressured by [the funding agency] because of the pressure [that agency] is feeling too.”

Program administrators in this study had varied opinions of what they would describe as a successful program. Some program administrators indicated that a successful program should make a difference in deepening teachers’ knowledge and improve how they teach. Some felt frequency of participation would be an indicator. Most felt that positive feedback from surveys and interviews indicating the program was helpful and supportive to them was their measure of success. Subject 6 described a successful program: “I guess, technically, you could say, the higher proportion of your graduates that voluntarily use this and continue to use this over time, the more successful it is.” She explained that the mentees need to choose what is most useful to them at any particular time and some may find certain components of the program are more helpful to them than others.

Some programs believed the ability to describe a successful program was a summative evaluation question and didn’t feel prepared to answer that since they really had not performed any summative evaluations of the program. Subject 14B explained, “The program never got to the point where you could do a true summative evaluation in that it was constantly in flux ...” She did, however, believe there were measures of success along the way: “I think for us and from where we were, success was measured in terms of getting a lot of feedback and hearing from a lot of different people, being able to use that feedback to inform the next step, which we constantly were able to do.”

Finally, programs often had to provide periodic reports to their funding sources, some more extensive than others. A few programs have generated journal publications on their programs and even doctoral dissertations regarding specific aspects of their programs. Several

programs have presented at local and national conferences such as AERA, National Staff Development Council, and specific university-based symposiums.

Program Development and the Literature Review. Nearly all programs in this study cited the national reports (Ingersoll & Smith, 2003; NCTAF, 2003) regarding the alarming attrition rates of new teachers as the main impetus for their program: 15% after the first year and 50% by the fifth year. Programs, for the most part, put a considerable amount of thought into program development and consistently evaluated the progress and changes needed in the program based on feedback from participants. Programs, particularly the larger ones, spent a great deal of time on planning particularly in essential areas such as funding, recruiting, matching, training, and evaluation. MENTOR (2002) suggested that all these areas should be considered in the development and implementation of a mentoring program. Programs used various methods for recruiting and matching consistent with those found in the literature on mentoring programs (Single & Muller, 2001). Also consistent with the literature, programs reported that a variety of training methods and ongoing support were important tools to establish and maintain participation (Boyle & Boice, 1998; Single & Single, 2004). Many mentoring program frameworks in the literature emphasize the importance of training participants to acculturate them to the mentoring environment (Ensher et al., 2001; Gaskill, 1993; Zachary 2000), and suggest that regular ongoing contact encourages participants to stay involved (Bennet, et al., 1998; Boyle & Boice, 1998). In nearly every case, data collected from participants was fed back into the loop of ongoing development and change. The organization MENTOR/National Mentoring Partnership (2002) confirms that programs should refine their program design and operations based on findings from their evaluations. Single and Muller (2001) also stated that assessment can help to demonstrate the value of a program and justify continued funding.

Several programs discussed their plans and struggles with developing assessment instruments to demonstrate program success and the ability to show results to keep their programs funded.

Professional Development

Table 4 presents the category of professional development and the dimensional range of the properties related to professional development.

Table 4

Properties and Dimensional Range of Professional Development

Category	Properties	Dimensional Range
Professional development	Functions	limited → broad array
	Learning styles	doesn't address all → addresses many

For the purpose of this study, the category of “professional development” includes the following properties: (a) functions, and (b) learning styles.

Functions. Programs reported that in nearly all cases the online mentoring environment was a supplement to other support and professional development available to the new teachers. For many of these programs, the online environment was a supplement to the other services they provided in terms of new teacher support. For instance, Subject 9A’s program provided Saturday workshops for additional new teacher support. Three other programs (Subjects 10, 13, and 15) were part of a state mandated induction program and worked with the districts in providing training for the support providers (mentors) and participating teachers (mentees). Subject 11 used online mentoring as an additional support to a very intensive face-to-face mentoring program for alternative certification interns. Still another program used Yahoo Groups as a day-to-day support mechanism for their other face-to-face professional development which met twice a month. As Subject 17 explained, “...we sort of see Yahoo Groups as the way to extend our

learning and add to the learning throughout the month and times when they're not meeting with us..." He went on to say that they are able to address teacher's need in real time through the various components of their support program (including coaching and face-to-face meetings) with "probably one of the most powerful ones being the Yahoo Groups."

Programs did, however, report that the level and quality of the support provided by other parties, particularly school districts, was widely varied. Although several of the programs did have some involvement with district professional development, some reported that they had no involvement at the district or building level. One program (Subject 14), which is a district-level online mentoring program, provided the training and support for the online environment, but most other professional development was up to the building level administration and that varied considerably from building to building. Subject 14A explained that there was fairly uneven implementation with the traditional mentoring program used across the school district, with some schools providing very good support for their new teachers and other not so much. Their online program helped resolve some of those differences: "I think what the portal does is helps level the playing field for new teachers that learn about it and have access to it. It provides an opportunity for them to level that disparity that we see from school to school" (Subject 14A).

Providing the opportunity for supplemental professional development was often cited by programs. Subject 17 remarked that "...the district does provide some professional development ... But, quite honestly, the professional development the teachers are getting may or may not actually develop them professionally [laughs]." He went on to say that their program provided professional development opportunities to their new teacher members in a face-to-face environment, but they also informed the new teachers of opportunities offered from other parties outside of their program. Subject 17 explained that "a first year teacher generally is not going to

be a good consumer of professional development, so we try to be good consumers for them and say ‘this is a really great opportunity; you should do this.’”

Most programs felt very strongly that online mentoring support should be completely voluntary. Subject 6 remarked, “there is a tradition in the professional development literature where, especially with new teachers, it is like professional development is done to them. And, oh, does that not work. Especially with online stuff, does that not work.” In nearly all programs in this study, participation in the online mentoring environment was voluntary, unless it was part of a mandated program and, even then, the level and type of participation was usually by choice. Subject 7 reported that professional development for their participants was voluntary and, in addition, “they got to choose, within certain parameters, their method of participation: where they could use the Palm or not, or they could use their regular e-mail or not, or they could use the core system e-mail if they wished.”

Several programs indicated that their online program was part of a support program that helped answer the call of a state or district mandate. Some states, including California, North Carolina, Minnesota, and Texas have a statewide mandate that each district must provide mentoring for their new teachers. California is one state that actually does provide funding for this mandate. In some states, it is left up to the districts to set a mandate or not. In this study, for every program that supported alternative certification there was a mandate for a highly structured mentoring program. The online mentoring used in each of these programs, therefore, provided some of that support in meeting a mandate. Four programs in this study even designed their programs with the idea in mind that it would meet state standards for advanced certification. Subject 14A indicated, “Because of the state standards for certification, there’s a whole

development process that's been outlined and that was a key feature in terms of design and development of the portal.”

Several of the programs also indicated that participation in their induction program, including the online portion, could provide continuing education credits and/or credit toward the next level of certification. Subject 16, whose program did provide some continuing education credits for its participants, commented “I think that it's a valuable part of any program: that if there is a system set up where teachers need continuing ed credits, that you provide it for them.”

Nearly all programs used input from the new teachers as part of their content and delivery design, and adjustments were made to the program based on feedback from the participants. Subject 6 talked about the importance of providing professional development that is much more differentiated and individualized and “much more determined by the professional as opposed to professional development being done to you.” She believed that as more top-down mandates are placed upon teachers it becomes even more important to provide professional development that is used-driven, stating:

... part of that is just in terms of good learning, but it also has a lot to do with what we know about adult learners, especially adult professional learners. That one of the easiest ways to turn them off is to give them the impression that they have very little or no choice about their learning. And that is done again and again to teachers. (Subject 6)

All programs indicated that the use of online support provided much appreciated flexibility of time and place for their participants, and this was one of the most significant advantages of their program. This flexibility was particularly conducive to the adult learners, as Subject 18 said “I do think one of the critical things with adults is flexibility and time, so that

something is available whenever they are ready to be able to take advantage of it. I think that is the key about the online support ...”

Learning Styles. Programs consistently reported that there was a high demand for the content and support to be applicable to the participants’ current context. Subject 4 stated “... one of the things beginning teachers have taught us is things need to be connected to their classrooms: it needs to be highly, highly relevant.” Subject 9B reported that the online environment “allows you to post questions of where you are right now” so questions could come directly from the situation the teachers are in and are “embedded into your work environment.” Subject 13 maintained that “adults like to solve problems. They want to have professional development on issues that they are facing directly. I think that’s probably one way that e-mentoring is a real fit with adult learning theory.”

Many programs indicated that the online environment is very conducive to reflective practice. The ability to take time to think about the suggestions made, put them into practice, and then reflect on how something did or did not work seemed to work well in the online support system. The fact that participants were also writing these communications provided a great deal of reflective time for them. Subject 4 stated, “Writing, I think, is a very reflective practice. So when they are writing ‘this is what happened in my classroom’ they are starting to think about it, so I think it really supports reflective practice.”

Having choices of ideas to consider and actions to take is another advantage of the online environment, particularly when the new teacher has access to an online group discussion. Subject 17 talked about the fact that in their program when a teacher posts a message online they are likely to get a variety of responses back because of the very large size of their group. He explained that they can pick and choose possible solutions to their questions; that they get to be

“a consumer ...of the answers to your own questions. So you get to say ‘Well that probably wouldn’t work for me; that’s really not my style, but there’s this other message that seems much more my style.’”

Most program administrators believed the online format can address a variety of learning styles, but emphasized that it does not address all learning styles and is, therefore, not for everyone. Subject 15 believed that the online environment tends to lean toward some learning styles, commenting that “Some learning styles love it and others, they see it and they still want to print out every document, every page and have a hard copy.” Their program has taken that into consideration by providing choices of font styles and colors and the ability to print things out. Subject 14D said, “It doesn’t answer everyone [laughs], but what I think what we were finding was it was filling an area that hadn’t been addressed before.”

Programs also reported that the use of technology, in a variety of forms, does have an effect on participants’ attitudes. Those that were comfortable with technology generally were willing to engage more quickly and more often, while those who were not comfortable with the technology did not embrace the environment as quickly or often. So in some cases the technology was a helpful tool, and in some cases it was a barrier to participation. Generally, but not in all cases, the new teachers were less intimidated by the technology since, oftentimes, they already had more experience with it; it was more often the mentors that resisted it. Technology, in this sense, refers to a variety of applications or issues including: using e-mail, discussion boards, synchronous chats, ability to navigate software and use hardware, and access to the equipment and the Internet. Subject 10 believed, “It doesn’t work for all adults. That’s why we do the choice. For some people it’s a barrier, for other people it’s a tool.” Subject 20B acknowledged that there will always be people who don’t like the technology and don’t like

learning that way, so you are going to have to offer other opportunities for them. The facilitator of that program (Subject 20B) spoke of trying to address the different comfort levels with technology:

So it's trying to get them past that potential unknown. They've never done it before. They don't think that that is an environment that they can be in. And to get them to just be kind of open to the idea of using it and giving it a try. And for some of them, just giving them enough technical skill and support to do it is 'Wow.' So that it doesn't feel like a root canal: getting on there and just getting into the room for some people. It's just been a huge challenge [laughs].

Professional Development and the Literature Review. The literature on professional development supports the notion that teachers should be involved in the planning, implementation and evaluation of professional development, as well as have choices of the goals and activities (Guskey, 1994; Lawrence, 1974). The program administrators in this study indicated that an awareness of adult learning theory was an important consideration in the way online support was made available to new teachers. A number of adult learning theorists posit that adults (a) have a need to be self-directed and have choices; (b) need to be able to apply that new knowledge immediately; (c) need to be reflective of one's practice; (d) their learning is influenced by the need to solve real life problems in their current situation; (e) and that there should be a collaborative and respectful atmosphere of each other's knowledge and experiences (Brookfield, 1986; Cranton, 1994; Knowles, 1980, 1984; Mezirow, 1981, 1990). Programs consistently reported these types of considerations built into their programs, either by design or just by the very nature of online learning.

Technology Considerations

Table 5 presents the category of technology considerations and the dimensional range of the properties related to technology considerations.

Table 5

Properties and Dimensional Range of Technology Considerations

Category	Properties	Dimensional Range
Technology considerations	Participant Internet access	limited → full access
	E-mail	limited use → used exclusively personal → system
	Group communications	
	Discussion boards	none → used exclusively
	Synchronous chat	none → frequent
	Online resources	none → extensive
	Availability of hardware	site responsibility → program provides
	Technical assistance	none → always available
	Program software	commercial → customized
	Relationship building	important → extremely important
	Community of practice	limited emphasis → high emphasis

For the purpose of this study, the category of “technology considerations” includes the following properties: (a) Internet access, (b) e-mail, (c) group communications, (d) online resources, (e) availability of hardware, (f) technical assistance, (g) program software, (h) relationship building, (i) community of practice.

Internet Access. Access to the Internet was critical for all electronic mentoring programs and was, in some cases, a problem. A number of programs reported that mentees, in particular, had difficulties in gaining access to the Internet. Most participants connected from their schools, but some were limited to the availability of that access and there were sometimes problems with out of date equipment and quality of connections. Subject 3 reflected on this problem: "...it's really sort of difficult to get consistent technology for some of our more rural areas and that has been kind of a problem. Right now, it's just sort of a hit or miss." For most programs, however, access was not a problem. In fact, Subject 14A who worked with one of the longer running programs, said they purposely built Internet accessibility into their program plan by offering free e-mail and Internet access to employees and students in the school district. As he said, "we didn't want people to be able to use the excuse "I don't have access" to not engage" (Subject 14A).

E-mail. Programs varied as far as the type of e-mail accounts used by program participants: some used personal e-mail, some used school e-mail accounts, and some used an e-mail account exclusively provided by the program. Those programs whose participants used accounts provided by the program sometimes had the capacity to view the e-mail communications, and most of them could at least monitor activity such as when and how often participants were online. Programs whose participants used personal or school e-mail accounts generally did not have access to the communications unless the participant provided the content to the program. In those cases, the program administrator or coordinator would request a particular e-mail communication and it was up to the participant to provide it or not. In regard to using school e-mail, issues of security and appropriate use was brought up by several programs. Subject 2 stated that "often times, school districts will, and understandably so, have very specific guidelines about how they want their e-mail used. E-mail transactions are the property of the

school district when the e-mail is sent from a school district e-mail source.” This could have consequences for both the online program from a data collection perspective as well as issues of security and confidentiality for the new teacher. Subject 14A said, “... one of the issues for the new teachers, for example, was can I have this conversation and not worry about losing my job?” Subject 14D noted that for that particular school district “anything that goes through district e-mail is actually archived for seven years and comes under public record.” Another dilemma brought up by several programs was that teachers’ only access to e-mail was on their school computer or through their school account, which limited their time to use e-mail. A number of programs also reported that although they may have provided e-mail service to the participants, they found that some participants just used their own personal e-mail accounts instead. Some programs found this to be a challenge because they would prefer that the participants use the program’s e-mail service to allow some tracking of the activity, as Subject 4 expressed, “One of the dilemmas we face is that sometimes they stay with the regular e-mail. Getting them to move over and actually make use of WebCT ... that is something we grapple with.”

Group Communications. Every program had discussion boards available for asynchronous and/or synchronous threaded discussions and many had chat rooms. In nearly all cases the discussion areas were available only to participants and personnel of the particular program. Two programs (Subjects 1 and 19), however, did have discussion boards that were open to the public and noted that they had problems with people coming in and posting advertising or promotions. Both program directors felt this was inappropriate, as Subject 1 remarked: “Anyone can put in some things for discussion so people were putting in things like products they were trying to sell, things like that.” This director, in fact, planned to remove the discussion board feature from their program because of the time it took to monitor.

The most common communications model had a discussion area for the groups and then e-mail communication was usually handled via personal e-mail accounts outside of the program. Keeping the discussion area outside of school district jurisdiction and with restricted access seemed to be the standard and provided a safe haven for the new teachers. Subject 14D explained that they went with an outside online communication service because of teacher's union issues and because the service is: "... a third party and it's not district resources the teachers feel more secure in that the environment is maintained, so that their principals aren't in their cadres without them knowing, that their information can't be extracted for any evaluation purposes."

Some programs even had discussion areas specifically for mentors only or for new teachers only to provide a special area for discussions unique to those groups. Subject 2's program was one that provided these types of specialty forums and chat rooms that were viewable only to specific groups. In their case, they had an area just for mentors and an area just for new teachers.

Several programs mentioned the importance of discussion groups to show how to model online behavior in a support system. By providing authentic examples of how to provide online support to new teachers, other mentors and mentees could see how conversations and relationships develop. Subject 6 explained that participants, particularly mentors, are "going to learn from watching how the facilitator talks and they also may learn by looking at the excerpts of the conversations in the mentor development modules."

Most communications that were monitored or archived were through the discussion board areas. In all cases participants were made aware that these areas were monitored and that content may be used in evaluation of the program and for research purposes. Subject 9A explained that "... we had people sign that things can be used for research purposes. If they declined, then we

just simply don't use their data, but most of the people are aware that they're working with a research university and we're curious [laughs]."

Online Resources. Most programs had online resources for participants to use such as articles on classroom management, lesson plans, newsletters, links to websites for instruction, certification, standards, and other areas of interest. Some programs even had "On Demand" or "Ask an Expert" features. Still others, depending on the population they served, had district or state forms for just about anything such purchase requests, district policies, state certification, professional development, conferences, association memberships, etc. Several programs' online resources included a lesson plan builder. Subject 13 described the lesson plan program they had available: "It's awesome. They write their lesson plan and then the tool allows them to click on the state standards and the induction standards that they'll use in this lesson plan. And then it puts it in this form and they can print it out and there's their lesson plan" (Subject 13). Online resources were not just for the new teachers. What most programs tried to do was best described by the Subject 22, who said they were trying to provide 24/7 access to resources that "...new teachers have said they wanted and mentors have felt that new teachers needed, as well as then creating places for the mentors, themselves, to have access to resources that they can use in support of novice teachers." Subject 14A said their online system helped streamline the process of finding the proper forms and following district procedures: "...the idea was to provide a single source of information for the new teachers online so they didn't have to bounce around from department to department and wait in line for those different sorts of things." Their portal system puts their "district policies and procedures and the practices into an online environment that is real accessible to all of its employees" (Subject 14A).

Availability of Hardware. The availability of hardware was an important element—and sometimes a problem—for participation in the online support programs. Obviously, participants needed hardware to access the program. For the majority of programs in this study, it was assumed and expected that participants had their own hardware available, whether it was a school or home computer. There were only two programs that actually provided laptops to their program participants. Another program used PDAs as their primary hardware tool and they provided all participants, both mentors and mentees, Palm Pilots for this purpose. Subject 7 shared her view of using the Palms: “I felt then, and I strongly feel now, that it is a viable option for having just-in-time delivery of mentoring to teachers ...” She continued to explain that “... if you’re connected wirelessly and have it with you, it’s a convenient way to be able to receive and ask for support ...”

Technical Assistance. The technical assistance for most programs was basically provided within the training for participants. A detailed discussion of training is covered in the program development section of this chapter. However, that said, most training was done face-to-face and, particularly, the initial training included technical assistance such as how to login, navigate, join discussions, send e-mail, etc. Technical assistance as far as trouble shooting was sporadic among programs. Some programs offered assistance over the phone for problems with logins and software issues, but for the most part, any connection and hardware issues were left up to the participants’ school site technology support personnel. Therefore, the majority of programs did not provide 24/7 technical assistance, with the exception of the five programs that used an online professional learning community service. Those five programs all received 24/7 technical assistance from the people at this particular online service as part of the service agreement with that vendor. Training and technical assistance for using this service was often a joint effort

between the service staff and the technical person of a specific program. As Subject 18 explained, although they had some technical assistance as part of their grant, they relied a lot on the “people at [the online service] who are there all the time if you’ve got a question. They also have regularly scheduled training sessions that anybody can come into, so we are definitely using their internal resources as part of it, too.”

Program Software. Program software varied widely among online support programs. Most programs used several different software programs for their various services. As previously mentioned, e-mail service was often left up to the individual participants to use the e-mail accounts they already had available to them, whether it be a personal account or a school district or university account. Some programs did provide e-mail accounts to participants via commercial programs such as WebCrossing, Blackboard, WebCT, Yahoo Groups, or software designed specifically for a particular e-mentoring program. These commercial or customized software programs also provided other communication and collaboration tools for threaded discussions, chat rooms, online resources, information on demand, documents sharing and archiving, and even lesson plan builders. Only one program reported using video conferencing, although it was mostly used for training purposes. A few programs used open source software which allowed them to adjust the programming code to meet their needs. Subject 6 was a strong advocate of using this type of software, having used it in two different online mentoring programs: “I am just absolutely convinced this kind ... these online mentoring systems for online support systems for new teachers must, must, must be powered by open source software.” These two programs were one of several that had customized software that could be used to collect and organize a database of profiles of mentors and mentees and assist in matching participants, or at least provide the profiles to allow self-selection. Subject 6 went on to say that

they eventually intend to make their software available to other organizations that want to provide e-mentoring: “Because of funding difficulties, etc., we think it is important to have this system, after we have worked on it and tweaked it, to have it available to them free of charge.”

Task Stream was another software program that some of e-mentoring programs reported using for electronic portfolio development and tracking professional development. In addition, some of the programs had a portal system in which all the services provided were accessed through one login, while other programs had services scattered among different sites.

There were a number of programs using an online professional learning community service, which is essentially a virtual campus that leases “buildings and offices” for organizations to set up their online learning communities. Organizations pay for a virtual building or a floor of a building and can set up business, so to speak, to hold online discussions (both synchronous and asynchronous), store resources, do e-mail, hold training sessions, etc. The obvious benefit of this service is that it provides the server space and 24/7 technical support, training, and infrastructure for the online learning community. They can also track activity and generate reports of activity for the program directors. In addition, besides being part of the organization’s online community, tenants also have the benefit of joining other online communities within the campus. This benefit was reported by several study participants, with Subject 20B expressing that beyond having the space for their group to collaborate, “I think the more powerful piece to it is that opens them up to an entire world of other educators with other interests, with all those other things. So that, to me, is a big advantage.” Another benefit of the online service is the confidentiality it affords users. As Subject 14D explained, the participants feel more secure discussing issues knowing that their administrators would not have access to the conversations online and their information could not be used for any evaluation purposes by school administrators.

Four programs used online modules presenting content regarding a variety of teaching issues and scenarios, which the beginning teachers go through and then consult with their support provider or facilitator. Three of these programs' modules are run online through a server funded by a statewide beginning teacher support program. The fourth program runs their modules on-site in a computer lab, with ongoing support available online.

With the range of technology used in these programs running the gamut, making technology decisions can be a daunting task. One program (Subject 20C) shared this advice:

I think what people need to really do is do a good front-end analysis of what they are trying to accomplish with the e-mentoring. When people get hepped up about technology, they just run off right away and start bringing vendors in and looking at software. And that's probably one of the last things you ought to be doing. One of the first things you ought to be doing is a really good needs assessment: what is it that's the problem here? What problem are you really trying to solve? And then set forth a solid set of program outcomes and performance objectives for people involved in this activity. And once you have those kinds of targets that you can point at, it's pretty easy to figure out what software is going to work.

Relationship Building. Building relationships was a key to the success of the online mentoring programs in this study. There were a number of elements that programs believed supported the effort to create and build relationships between and among mentors and mentees. The recurring themes that surfaced in this area included the use of face-to-face meetings, the importance of confidentiality, having an innate sense of mentoring, modeling appropriate behavior, responding in a timely and meaningful manner, and the ability to embrace the use of technology to support mentoring.

Most of the programs in this study had participants who met both online and face-to-face, and all of these programs felt very strongly that the face-to-face meetings were important to building the online relationships. Many of them met face-to-face prior to the online part of their program and then met several times throughout the year. Subject 14E said they encouraged their participants to meet on their own if possible: "... so it wasn't totally online and that also helped to establish bonds." Subject 7, whose participants did *not* meet face-to-face, remarked that:

It was a huge mistake on my part ... That was the one thing that everybody said that... and I deliberately did not have them meet... what ended up happening was the mentors took much longer to establish a level of trust with the intern... that's what the mentors felt anyway, than if they had met with them.

Even programs that did not have their participants intentionally meet face-to-face supported the idea that a face-to-face meeting could strengthen the relationship or that face-to-face mentoring is the preferred approach when available. However, these programs, as well as the ones that used face-to-face with their online mentoring, did see the benefits of anonymous communications. One program indicated that even though participants had met each other, they had the option of posting anonymously to the threaded discussions if they wished. There is also a difference between never meeting someone face-to-face and meeting them face-to-face but not working in the same district. This leads to the issue of confidentiality and the comfort level of confiding in people without any backlash. The importance of confidentiality was brought up many times during the interviews for this study and, according to program administrators, it weighed heavily on the minds of beginning teachers. Subject 2 did have their participants meet face-to-face but they worked in different districts. She spoke of the importance of this in relationship building, especially for the new teachers who are often insecure about some of the

things they are talking about: “They are talking to their e-mentors about areas of their teaching that, perhaps, they feel uncomfortable with or inadequate and usually they are not; they are just new teachers.” She believes this has allowed them to be more authentic and spontaneous and that “there has been a much richer exchange in relationship development with this mode of mentoring ...” (Subject 2).

Several programs felt that the people who want to participate in online mentoring are usually the ones that enjoy mentoring and have a knack for it by their very nature. One director (Subject 6) believed that the kinds of teachers who are going to volunteer to online mentor are probably already nurturing new teachers. She continued to say “... I don't think you could ever teach an adult to be nurturing online; I think they already have to be nurturing whether they are nurturing all around, you know, face-to-face and online.”

Several programs indicated that the opportunity to see appropriate online support provided participants a model for their own behavior. One method of modeling appropriate mentoring behavior was by practicing with mentoring scenarios in training sessions. A number of programs provided scenarios of various problem teaching situations for mentors to respond to and, after they provided responses, they would discuss them to help identify appropriate and helpful responses. The use of discussion boards also provided the opportunity to model online support. By participating in online discussion boards—even just observing the interaction and how the facilitator handles the discussions—participants could see how questions are posed and answered.

Programs also indicated that for relationships to develop, the participants needed to be responsive to their partner's or group's inquiries in a timely manner and found that responses that were meaningful helped establish more trusting and helpful relationships. Subject 14E said

they noticed that “the more effective cadres were more active, where the facilitators responded quickly to the teachers’ needs and posts. And so that, I think, established a nurturing relationship where they have an atmosphere or a community of trust.” Subject 16 shared this observation of developing relationships online:

I think it’s the kind of thing that you would do in a face-to-face group, but it’s more challenging online because you don’t have body language and tone of voice to really communicate it. But you can do it. And I think it’s through reassuring people that their questions are valid and appropriate and good questions. And picking up on what the issues they bring up are and asking good questions around those. So, I guess it comes down to validating the teachers’ concerns and how to provide scaffolding so that they can begin to think about those problems in new and more productive ways. And I think through that process, they realize that this is a safe and supportive environment where they are going to be empowered to solve their own problems.

Subject 2 found that sharing some authentic experiences to the new teachers and even just a short personal story was very effective. She said their research from looking at some of their qualitative data showed them that the most successful relationships are “those where the mentor shares, in a very real way, their experience—what they are doing in a classroom on a very concrete level.” She added that short conversations, nothing too lengthy, also seemed to be the best way to respond.

Nearly all programs believed effective communication and facilitation were extremely important in establishing online relationships within a group. The concept of an appropriate online communication style was mentioned in many of the interviews. This was probably best

explained by the people who administered a large district-wide program and used the term “online voice” when discussing the importance of strong facilitators. Subject 14B described this online style as:

... being extremely gentle, supportive yet directive. As a facilitator you need to move your group along, so you’ve got to keep them progressing. And in order to do that you have to do it tactfully and you have to do it with great consideration. And you have to pull in the non-speaker and you have to just work the group forward. And your voice and how you say things, that’s what the voice means, how you say it. It’s super, super important to keeping the group together and to keeping feelings good. And online, you know from e-mails and things, it’s so easy to misinterpret. You’re missing all the other visual cues and auditory cues we use in regular life.

Several programs indicated that having participants who embraced the technology rather than fear it was certainly an important factor in developing relationships online and the eventual success of the program. In general, the new teachers (mentees) were more apt to accept the use of technology for support, although there were always some participants on each side (mentors and mentees) who were excited about it and others who were hesitant and skeptical. Subject 23, whose program targeted students during their field experience said they had about 17 students who were early adopters and really excited about using the online system and “They had the most conversations and they used it the most and they established the closest relationships with their mentors. And then other people were just not so quick to get hooked.”

Community of Practice. Nearly all programs emphasized the importance of building a sense of community in the online mentoring environment. For many programs the concept of a

professional learning community was the foundation of their online support program. They saw this as an opportunity to bring people together despite time and location to engage in a community of practice. Subject 18 said part of their design concept was about being a community of practice and described their vision: "... we really do believe in the community model, where teachers work as a group and feel part of a group and that mentors can work with them, although on a one-to-one basis but also in a community environment." Programs also believed it was important that these online communities had a defined purpose and that purpose was clear to its participants: that they were providing a support service unlike others available to the participants. Again, Subject 18 best described this idea:

I mean the other is that the community has to be a community for a purpose. We can't just go in and say "Thou shalt form a community" ... So the authentic purpose aspect of it, I think, is important. The regularity of communication; the comfort, the sense the technology is comfortable and there's always somebody there to help you. The fact that the people leading the groups are people who are like you, understand you, are not there to evaluate you. All those kinds of things, I think, are part of the necessities for making these successful.

For the programs that met face-to-face, many mentioned that the online community kept the group closer and in touch and even made the face-to-face meetings more productive. Subject 17 believed their online network was really the "glue" that kept them together between meetings and that since there was a two week span between meetings, "Yahoo Groups is what makes people feel more a part of the community when they're not at our meetings."

Technology Considerations and the Literature Review. The variety of technologies used in the online mentoring programs in this study was reflective of the variety suggested in the

literature. Some type of communications technology is required for the program to function and the literature suggested these may include e-mail, and synchronous and asynchronous discussions (Bennett, et al., 1998; Harris, et al., 1996). Programs reported using either e-mail or online discussions and, oftentimes, both. Some programs had only the asynchronous threaded discussions available, while some provided both asynchronous and synchronous. The literature supported the idea of providing hardware and Internet access to participants, or at least making sure they had the necessary devices and access to participate; it also suggested the programs provide technical assistance, or at least make sure such assistance was available to participants at their sites (Bennett, et al., 1998). Most programs did not provide hardware to the participants and expected them have their own computers and access to the Internet. In most cases programs provided some technical assistance, but it was often combined with technical support from the participant's site. The literature recognized that some commercial software could support the services provided in online mentoring such as e-mail and discussions but, oftentimes, customized software was needed for specialized services such as collection of profile information and matching participants (O'Neill, et al., 2003). The literature also supported the need to provide participants with easy-to-find resources to enhance the support provided (Bennett, et al., 1998). Many programs provided access to resource materials for instruction as well as links to other professional resources such as local and state standards, procedures, and forms. Programs reported that software varied from commercially available programs to programs written specifically for the online support program. The literature provided suggestions for developing mentoring relationships online that combined methods that one would use in a face-to-face setting as well as some methods that helped to overcome the sometimes impersonal nature or limited abilities of online communications. These included a) using a tone within the

communications that conveyed understanding and genuine interest; b) being responsive in a timely manner; c) providing guidance to help mentees realize their own solutions, while at times recognizing when a direct suggestion is needed; and d) providing a balance of academic and personal information sharing (Bennett, et al., 1998; Harris, et al., 1996; Zachary, 2000).

Programs consistently reported the need for these kinds of skills in developing supportive relationships online. The literature extolled the power of online communications to create a sense of community among people who would otherwise not be able to meet due to time and distance issues, but also advised that these relationships need to be established and tended (Bennett, et al., 1998; Boyle & Boice, 1998; Harris, et al., 1996; Headlam-Wells, et al., 2006). Programs believed that a sense of community was the foundation of their program and found that just merely getting people together online was not going to be enough. They found they had to provide leadership and guidance to help their participants realize the potential of an online professional learning community.

Leadership Strategies

Table 6 presents the category of leadership strategies and the dimensional range of the properties related to leadership strategies.

Table 6

Properties and Dimensional Range of Leadership Strategies

Category	Properties	Dimensional Range
Leadership strategies	Skills and knowledge	teaching experience → leadership experience
	Leadership style	single/collaborative → team/collaborative
	Challenges	participant (specific) → program (general)
	Change/Future	making changes → showing results

For the purpose of this study, the category of “leadership strategies” includes the following properties: (a) skills and knowledge, (b) leadership style, (c) challenges, and (d) change and the future.

Skills and Knowledge. All subjects in this study had a background in classroom teaching or worked in education in some capacity. Many of them currently work in higher education, most in teacher education. Many of the subjects work or have worked in some leadership capacity, mostly in professional development and teacher preparation. When asked what knowledge and skills are required of program administrators, all the study participants believed it was important that leaders of these online support programs had a background in classroom teaching. Other major themes were knowledge of and experience in professional development and an understanding of the needs of new teachers and mentoring. Subject 2 said she believed a leader of this kind of program should have “a very strong understanding of K-12 education from a classroom and practitioner perspective” with a “deep respect for the value and complexity of what teachers do on a daily basis.” Subject 22 emphasized the importance of having an understanding of the “developmental phases of early career teachers” and “how to develop

mentoring skills in teacher leaders.” She also believed a leader must be able to realize that the unique aspects of online “can enhance and build upon the existing structures for early career teachers to support them” (Subject 22).

Most subjects also thought that a program administrator needs to have some understanding of the technology the program uses—not to the level of being a programmer, but at least the ability to see its potential and utilize it in one’s own work. Nearly all of the programs had a specific technology person—other than the director—that oversaw the technical issues of programming and trouble shooting. However, all subjects felt the administrator(s) of the program should be comfortable using the technology that they expected the participants to use. Subjects also thought that anyone working in an online support program needed good communication skills, both verbal and written, as well as online communication skills. Subject 9B believed leaders need a “certain comfort of working with technology,” “knowledge of professional development and working with adults,” need to “know quite a bit about communication,” and “willing to always be reflecting and thinking about what’s going on.”

Many subjects talked of the need to be very organized and very flexible. It came up several times in the interviews that, prior to their involvement in the program, they had no idea of how much detail and time was involved in starting up and administering this kind of program. It was so important to be detail oriented, yet see the big picture of what they were trying to accomplish. Subject 23, who ran a program on a one-year grant, talked about the need to be highly organized, to attend to the many little details, and be very collaborative: “... you’ve got to be detailed oriented, you have to be very planful, you have to be caring, you have to have the overall picture ... You’ve got to have all different kinds of leadership ability to make this thing work.”

The ability to secure funding for these online support programs was another important and challenging skill of the administrator. As previously stated in the program development section, all programs depended at least in part—and usually primarily—on grants and foundation monies. It is an ongoing process to find the support for these programs, as Subject 6 stated, “Obviously, there is the fiscal responsibility where you have to seek out funding even while you are working on the last set of funding...”

Leadership Style. There was a very consistent theme among subjects that these online support programs require a collaborative leadership style. Often the programs involved a team or several different groups (mentors, new teachers, facilitators) and the ability to coordinate efforts and problem solve in a collegial manner was imperative. Themes of listening to concerns, responding to suggestions, and changing program elements were frequently cited throughout the interviews. Subject 6 said: “... the most important thing I could say to people, and it flows out into every aspect of what you do with a program like this, is you *must* continue to listen, continue to question, and respond accordingly.” Subject 14D said, “... you have to have a service-oriented nature, rather than a personal agenda. So it’s ‘Why are we doing this? Who does it help? What makes the most sense?’” It was also frequently mentioned that the leader needs to empower and trust those on the team to do their jobs and not try to micromanage. Many subjects in this study remarked that a top-down style would not work in this type of program. Subject 4 explained the style of leadership that so many of the programs seemed to also identify:

... It is generally not a program that can be done by one person ... I really look at it as team-building and trying to include people's input, getting everyone sort of moving in the same direction. And really trusting all the different people working on the project to have the insights of how to build it and because it's so much new

stuff. It is a pretty creative, open-ended type project, so we need that. I like a high degree of communication and to inform each other.

Subject 6 also thought a collaborative style team works best for these programs because “all your heads together working collaboratively are a heck of a lot better than just one highly placed program administrator.” She believed that because online mentoring is such new territory much of the strategy is learned on the fly, so to speak: “... because we are exploring, we are trying to figure out the best way to do it while we are doing it ... we have to build the plane while it is flying because there are teachers leaving the profession right now.” She also emphasized the need to have a sense of how everything is working, knowing what and how to delegate, but also to “refrain from doing everything.”

Most programs did have a team of people at various levels, however, there were a few programs that really had just one person overseeing the entire program, facilitating online communications, and taking care of all day-to-day operations. Even these administrators believed in a collegial leadership style. They still needed to work with groups of mentors and new teachers, and they involved these groups in decision making and setting directions based on what the participants said they needed. And perhaps even more so, because they were the only person running the program, they really needed to empower the mentors to do what they needed to do and trust them. Subject 7, who was the sole administrator of that program, said that she also used “a colleague-type style” and did not try to impose upon the mentors “a strict method of how they related relationship-wise to the interns.” She provided the technical training on the PDAs and the “parameters of what the minimums of what they needed to do so that they then could go ahead and kind of build their own mentoring program in a way that was their style.”

Although programs overwhelmingly identified the need for a collaborative leadership style of the program administrator, it was also often said that there must be support from the top of the organization to allow for this kind of program undertaking. Just as important, there must be support built from the bottom up as well. Subject 14 explained: “You need top down, bottom up in feedback and input all the time. If you do one without the other, you’ve got real buy-in problems. And you get exclusion; you get feelings of being excluded and that doesn’t work well.” She also emphasized the need for someone at the top of the organization to be your champion and accepted as a leader in the group to make sure things can and will get done.

Challenges. There were a number of issues cited by programs as challenges to administering an online support program for new teachers. The most common challenges included the amount of time it takes to administer the program, getting people to participate (including issues of time, finding value, meeting needs, overcoming fear of technology, technology problems), keeping up with changing needs, and securing funding.

Many programs cited the amount of time involved in program start up and maintenance. Most did not anticipate how much time would be involved, ironically, to create a program that would hopefully accommodate people’s busy schedules. Many of the time issues were due to the fact that any new program can be very time consuming to start up. The programs that were in operation for a number of years did not find the amount of time to maintain the program to be as much of a problem. The amount of time devoted to administration depended on the extent of the services offered, the number of personnel available to run the program, and the other commitments of the program director. Subject 1 stated, “My challenge is just not having enough time because I do so many other things. I teach classes and am director of another multi-million dollar grant and so just having the time.” Subject 17, who handles the facilitation of the online

communications of his program said, "... one of the major challenges is the sheer volume of messages. I think that it gets overwhelming at times to deal with the volume and I can't possibly answer every e-mail that goes out and I wouldn't be expected to." He said he tries to read all of them and thinks it's a bigger part of the job than it "probably it should be. But I feel like that as a leader of the organization I need to have a good handle on [it]."

Many programs reported that getting people to participate in the online environment was often a challenge. New teachers did not participate usually because of access issues and lack of time. Mentors did not participate usually because they were uncomfortable with the technology or resisted using the online system; they did not think it could be as effective as face-to-face mentoring. This was a shift in paradigms for many people and there was certainly a period of resistance and adjustment for a number of programs. As Subject 9A, who directs one of the longest running online support programs, shared "... we're still trying to learn how to encourage people to participate. And that's an ongoing challenge because this isn't normal behavior." Subject 22 spoke of the resistance of their mentors because they liked doing face-to-face mentoring: "They were actually quite threatened by the technology. Some of them were very savvy and comfortable with technology but were concerned that it was supposed to come in and take over."

A number of programs noted that finding time to participate was an issue for the new teachers as well. These novices have so many new responsibilities that they are dealing with that is often just one more thing expected of them, and when it is not a mandate for them to participate, it is one thing they can easily let go by the wayside. Subject 20B said because of so many other mandates, participating in an online support program is often at the bottom of the new teacher's list of priorities, so the challenge is "finding the right ways to get at it and make it

something that teachers do put up on their priority list and find it as a helpful tool to them and not an add-on.”

Programs also reported that another major challenge was keeping up with constantly changing needs of participants and making adjustments to accommodate those needs and requests. As new events emerged in the classroom lives of the new teachers the programs needed to address, and at times even anticipate, those needs and shift directions. As Subject 17 explained, “There are shifts in priorities and you’re constantly having to respond to those shifts. And something that was a priority today slipped to being a non-priority and you have to adjust and then recreate to address the new priority.” He gave the following example:

... perhaps a student committed suicide: something huge, you know, happens.

And all of a sudden you just have to shift. You drop what you were doing, you have to shift, you have to address the teachers’ needs now. The conversations online will be very, very different. And you’re going to have to find content, facilitate meaning, guest speakers. You’re going to have to give support to all the teachers and facilitators because they’re all coming at it from a personal level as well as a professional level, because it’s hit them different ways. You really have to be so responsive constantly.

Some programs explained that the lack of adequate technology, both access to it and outdated equipment, was an obstacle for participants. Most programs did not provide equipment to the participants, having them rely on their school district or their home computers for access to participate in the program. Oftentimes, this created problems if the computers were too outdated to provide reliable and efficient performance. Sometimes there were issues at the school sites regarding firewalls or lack of technical support. Subject 10 said one of their problems was access

to technology: "... some of the schools are so remote they don't have wiring, they don't have up-to-date computers and software that can handle our program. So some of them want to be on it and ... the computers just aren't powerful enough." Subject 23 said that what they first thought were participant problems turned out to be technical problems: "The only problem was some people got frustrated because they thought that either the mentor wasn't answering or the mentee wasn't answering back, and then when we actually checked it was the technology, not the person, in every case."

Funding was a challenge for every program. This ran the gamut from the funding to start up a program to funding to sustain a program. As previously reported in the program development section, all programs were at least partially funded through grants or foundations. A few programs also received some funding from their school districts or higher education institutions. The ability to find funding and sustain it was on every program administrator's agenda and an ongoing concern in order to keep the program running. Two of the programs in this study are no longer in service because the grants that funded them ran their course and they did not seek new funding. Three others had only a little over a year left on their start up grants and were not certain what the future held for them. Programs that were fairly established said that the cost of keeping the programs was really not that high—depending on services and personnel involved, of course—and were really quite cost effective compared to face-to-face programs.

Change. Programs consistently commented on the importance of reflecting and keeping an open mind to suggestions about the program. Online mentoring is such a new environment and concept for people and it is evolving. Program leaders found themselves constantly rethinking and retooling. Subject 14D said that their team went into this program with the

philosophy of embracing change, “that it’s always going to change. And it should [laughs].” She explained that “It needs to be continuously formative, continuously evaluated, re-directed, and ever-changing because needs are going to continue to change.” She advised to not be afraid of change and that “personally, I just put my head down and charge forward [laughs] and do what needs to be done ...” (Subject 14D).

Not only did program administrators need to be able to embrace and adjust to change, they needed to guide others in that process because, again, this is a new paradigm for many: mentoring has traditionally been face-to-face. The subjects contended that most participants’ online experience was with e-mail, searching the Internet, or maybe taking an online course. To actually try to develop a supportive relationship online with someone was quite new. Also, just because someone had been involved in face-to-face mentoring or had taken an online class did not mean this system would come naturally to them. Subject 18 spoke of the need to help participants with this adjustment: “...help them not be afraid of change ... it’s always going to take a comfort with whatever the new situation is, so part of it is making them feel that they can take control of the environment [laughs].” Subject 15 spoke of the challenge of moving people toward the online environment. She compared it to her experience as a school administrator trying to implement something new in her school:

You’ve got to plant seeds and tend to them and take care of them. And know when to let them go and just let them kind of fester or ... There’s times when you’ve really got to pull every weed around it. And like I said, you have to build capacity within your program to make sure you know the players that you need, to make sure they’reI mean there are so many people who are so on-board with

our online environment and it's because of them we are continuing on. There are big players and that makes a difference.

Future. Programs cited a number of issues regarding the future of their programs and the opportunities for e-mentoring in general. These issues included updating or refining services to better meet needs of participants, growth and scalability, funding, and demonstrating results in teacher retention and student achievement. Many programs spoke of their hopes to expand their program to provide more services and reach a larger audience. Subject 2 spoke of creating a more dynamic program by “involving more people in the program and coordinating of the program ... We are involving, identifying e-mentors who would like to be more involved in the administration of the program, getting more voices involved, more expertise, more perspective.” One of the newer programs (Subject 18) looked to the future hopes of their program and believed the time is right for this type of support system because people now have the technology to do this, but she added “all these things take time, which takes resources and people have to feel that this is a valuable use of their time and resources.”

While a number of programs had hopes to expand, some of the longer running programs have already started to expand. Subject 14A has worked with one program that has seen considerable growth and explained that the use of technology for new teacher support helps address the issue of scalability for the future other programs:

Traditional induction programs that we have for new teachers don't scale. We can't afford them. And when you are bringing in 10%, 15% new staff every year and keep pretending like they're not there, they won't be. And I think technology offers a cost effective way to put systems in place to reach out and engage them and get their buy-in early on in their life.

Subject 6 spoke of the idea of a national program versus a program that only provides service to one institution or school district. She said that “if funding, and consistent funding, can be located and created for a national suite of services, I do think, in many ways, that is preferable; especially for people who graduate from institutions that don't establish this as a priority.”

Funding for these programs continued to be an issue and concern for all programs when discussing the future and the ability to sustain services. Subject 1 stated simply, “We have to have funding because I think it is important to pay the mentors for doing this and to pay people to monitor it, administrate it and so on. So I think you need funding to sustain it.” Subject 6 spoke ardently of the need to adequately and continuously fund these programs. She also discussed the eminent push for teacher education programs to provide ongoing support to their graduates and that such a mandate needs dependable financial support.

... in terms of the fiscal aspects of the program, what really needs to happen is that these projects need to stop being grant funded; they need to be part of the regular operational budget. Part of that is just a recognition: it is over time recognition of the value of it. Recognition of the teacher preparation program, that it understands that our responsibility isn't only to the students up until the time they graduate but it also extends beyond that. Some states are mandating that ... some organizations are doing it, like I said before, because accrediting organizations are putting the pressure on to do that. But a program like this needs to be an ongoing program and its existence, and even its level of support or the amount and quality of what it can do, should not be dependent upon whether the people who are organizing and running it are good grant writers and whether there

is even funding available for this kind of thing, whether federally or locally or whatever (Subject 6).

Programs realized that in order to keep funding and sustain the programs they are going to need to show that these online support efforts are making a difference in teacher effectiveness, retention, and student achievement. Subject 4 said their program has plans to expand into more states but needs to decide how to plan for that growth and sustain funding. They will need to see if school district would be willing to pay for this kind of new teacher support. She concluded, “Those are really key questions that we need to know and we need to be able to show them some results around retention and effective teaching” (Subject 4).

Subjects were asked if they had any advice or lessons learned they wanted to extend to others considering an online support program. The data from this question were included in the analysis procedures, and these suggestions varied across the five general categories identified in the open coding process. Therefore, the results are included throughout this chapter and within the interpretive summary, postulations, and implications discussed in Chapter 5.

Leadership Strategies and the Literature Review. The leadership issues discussed in the interviews with study participants reflected very similar issues as those found in the review of literature. Although there is not a great deal of research regarding online mentoring, many of the leadership issues are grounded in research on traditional face-to-face mentoring programs (Single & Single, 2004). Participants in this study cited that important skills and knowledge of program administrators include experience as a classroom teacher, understanding new teacher needs, and knowledge of mentoring and professional development. These same skills are emphasized in mentoring and induction literature by Breaux and Wong (2003), Gordon and Maxey (2000), Moir (1990), the MENTOR (2003), and Zachary (2000). The collaborative

leadership style and the ability to work as a team, so often identified by study participants, is represented in the literature in leadership theories such as Theory Y (McGregor, 1960), Theory Z (Ouchi, 1981), and transformational leadership (Burns, 1978). The importance of listening, reflecting, and responding to program participants was also emphasized by program leaders. This is characteristic of reflective practice—in which one stays abreast with current research in practice, researches one's own practice, experiments with new approaches, reflects on experience, and then uses this knowledge to inform and guide decision making and action (Schön, 1983; Sergiovanni, 1991; Cunningham and Cordeiro, 2000). Program leaders also identified with chaos theory by taking risks and responding to changes, which could eventually lead to growth and improved order (Senge, 1990; Wheatley, 1992). Program leaders also identified characteristics of facilitative leadership (Hord, 1992) in which leaders move their organization forward in the change process by providing assistance in implementation through building capacity and empowerment among members. Study participants also frequently cited the ability to embrace change and guide others through the change process in order to lead in the facilitation of program development and administration (Fullan, 1991; Hord, 1992). Programs cited a number of current and future challenges that other kinds of online mentoring programs have reported such as engaging participants, responding to constantly changing needs, scaling up, and securing funding (Boyle & Boice, 1998; Cheng et al., 2003; Fulop, 2003; Harris et al., 1996; Single & Muller, 2001).

This concludes the section on open coding in which the categories and their properties and dimensions were identified. The next step in coding is the process of axial coding in which the data are de-contextualized into segments and then re-contextualized in new ways to eventually form the basis of the grounded theory.

Axial Coding

The examination of data through the process of open coding revealed five categories. Strauss & Corbin (1998) state this next stage of axial coding, “is the act of relating categories to subcategories along the lines of their properties and dimensions” to “form more precise and complete explanations about phenomena” (p. 124). Phenomena can be a problem, issue, or event that is significant to the respondents in the study. Subcategories answer questions of who, when, where, why, how, and with what results. Axial coding looks for the answers to these questions to reveal relationships among categories (Strauss & Corbin, 1998). Through the axial coding process the data were de-contextualized into segments and analyzed. After this analysis the segments were re-contextualized, identifying properties for each category as well as the dimensional ranges of those properties. Analysis of the re-contextualized data revealed phenomena related to a causal condition and properties of those phenomena. These relationships and properties are referred to as: “Causal Conditions,” “Phenomenon,” “Context,” “Intervening Condition,” “Action/Interaction,” and “Consequence.” These terms, as defined by Strauss and Corbin (1998), are briefly explained below. Further below, Table 7 shows these components of the axial coding process with the analytic flow between each component.

Causal Conditions. Causal conditions are “set of events or happenings that influence phenomenon” (Strauss & Corbin, 1998, p. 131). The causal condition for the categories in this study is the presence of leadership of online mentoring programs for new teachers. It is the leadership issues pertaining to this type of program that led to the development of each phenomenon.

Phenomenon. Strauss and Corbin (1998) state that phenomena are “repeated patterns of happenings, events, or actions/interactions that represent what people do or say, alone or

together, in response to the problems and situations in which they find themselves” (p. 130). It answers the question “What is going on here?” (Strauss & Corbin, 1998, p. 130). The phenomena for this study are each category that emerged during the process of open coding. The five phenomena that emerged are: (a) needs and benefits of participants, (b) program development, (c) professional development, (d) technical considerations, and (e) leadership strategies.

Context. Strauss and Corbin (1998) define context as “sets of conditions that come together to produce a specific situation” (p. 130). These conditions intersect dimensionally at a certain place and time creating circumstances to which people respond through actions or interactions (Strauss & Corbin, 1998). Each phenomenon in this study has a set of conditions or context that emerged as data were analyzed in segments (de-contextualized) and then put back together (re-contextualized) in a process described by Tesch (1990). In this study, each context has an intervening condition.

Intervening Condition. Intervening conditions are “a conceptual way of grouping answers to the questions why, where, how come, and when” (Strauss & Corbin, 1998, p. 128). These conditions form the set of circumstances or situations in which the phenomena are grounded (Strauss & Corbin, 1998).

Action/Interactions. Strauss & Corbin (1998) describe actions/interactions as strategic or routine responses made by groups or individuals to issues, problems, or events that happen under certain conditions. Actions/interactions answer the questions how and by whom.

Consequences. Strauss & Corbin (1998) describe consequences as the outcomes of actions/interactions or even the failure of an individual or group to respond to situations.

Consequences answer the question of what happens as a result of actions/interactions (Strauss & Corbin, 1998).

The process of axial coding began with identifying a causal condition and the related phenomenon of that causal condition. The phenomena are then related to the context or specific characteristics of each phenomenon. An intervening condition exists for each of the contexts and strategies or responses are made in reaction to the phenomena. As a result of the action or interaction a consequence occurs. Table 7 shows the components of the axial coding process with the analytic flow between each component.

Table 7

Axial Coding Process

causal condition → phenomenon → context →
intervening condition → action/interaction → consequence

The first step in axial coding is identifying the causal condition and the phenomena related to that causal condition. Table 8 displays the causal condition and its phenomena identified as a result of the axial coding of this study.

Table 8

Causal Condition and Phenomena

Causal Condition	Phenomena
Leadership needed for online support programs for new teachers	Needs and benefits of participants Program development Professional development Technology considerations Leadership strategies

The phenomena listed in Table 8 emerged as a result of the synthesis of the contexts and features of each context. Each phenomenon and the context of that phenomenon are also shown in separate “Tables” to more clearly present the analysis from the axial coding process. Following each of these “Tables” is the context of that phenomenon and the features of each context. For this study, the features of each context have been labeled as “Intervening Condition,” “Action/Interaction,” and “Consequence.” The first phenomenon presented is “Needs and Benefits of Participants.”

Needs and Benefits of Participants

The phenomenon of needs and benefits of participants emerged from the synthesis of six contexts. Table 9 lists the phenomenon of needs and benefits of participants and these six contexts.

Table 9

The Phenomenon of Needs and Benefits of Participants in Context

Phenomenon	Context
Needs and benefits of participants	New teacher pedagogical support
	New teacher emotional support
	New teacher social support
	New teacher programmatic support
	Mentor support
	Institution support

Listed below are the six contexts for the phenomenon of needs and benefits of participants and the features of each context. The contexts and features evolved from the process of axial coding.

Needs and Benefits of Participants Context #1: New teacher pedagogical support

Intervening Condition:

- New teachers needed support in a number of pedagogical areas.

Action/Interaction:

- Programs provided online support through mentors, discussion areas, and links to resources.
- Information was made available and/or online discussions covered classroom management, general and specific content, instructional methodology, curriculum standards, technical assistance, and recurring or cyclical issues.
- Pedagogical topics ranged from general to very specific.
- Most programs provided links to lesson plans and content area standards.
- Many programs included information and tips about preparing for cyclical events such as parent/teacher conferences, report cards, holidays, and beginning and ending the school year.
- Reflection on one's teaching practice was encouraged and modeled.

Consequence:

- Programs reported that new teacher feedback indicated they did benefit from online support in the pedagogical areas of classroom management, content, methodology, standards, cyclical issues, and reflective practice.

Needs and Benefits of Participants Context #2: New teacher emotional support

Intervening Condition:

- Programs reported that new teachers were seeking understanding, empathy, and encouragement and often a sounding board to voice concerns.

Action/Interaction:

- Programs provided new teachers a place that allowed them to voice concerns and encouraged them to maintain enthusiasm.
- Programs worked to build confidence in new teachers and empower them to problem solve.
- Programs provided opportunities to develop leadership skills.
- Programs offered advice to new teachers on taking care of themselves both emotionally and physically.

Consequence:

- Program reported that new teachers found the online program a place where they could find emotional support by providing an empathetic and encouraging environment.

Needs and Benefits of Participants Context #3: New teacher social support

Intervening Condition:

- Programs reported that new teachers needed to make connections with other educators and professionals.

Action/Interaction:

- Programs provided the opportunity to communicate online with other new teachers.
- Programs provided the opportunity to create an online network with experienced teachers and other professionals who could provide professional support and resources.

Consequence:

- Programs reported that new teachers were able to reduce feelings of isolation, gain another perspective of their teaching environment, and enhance their pool of resources by connecting with other new teachers, experienced teachers and education and research professionals.

Needs and Benefits of Participants Context #4: New teacher programmatic support

Intervening Condition:

- Programs reported that new teachers needed specific program services and support.

Action/Interaction:

- Programs were generally flexible and constantly adjusted to address changing needs of participants.
- Programs provided 24/7 access to participants.
- Programs usually provided anonymity of participants and always provided a non-evaluative, confidential, and secured environment.
- Programs often provided resources specific to a particular site (school district).
- Programs provided technical assistance in using the online environment.

Consequence:

- Programs provided services based on what they anticipated to be new teachers needs as well what participants actually requested within a nonjudgmental environment.

Needs and Benefits of Participants Context #5: Mentor support

Intervening Condition:

- Programs needed to address needs and provide benefits to the online mentors.

Action/Interaction:

- Online mentoring provided mentors time to reflect on their own practice.
- Mentors gained a new appreciation of the possibilities in creating professional learning communities in an online environment.
- Mentors were provided an opportunity to give back to the profession using a new approach that intrigued and re-energized them.
- Mentors were provided opportunities for growth and improvement in a number of areas including an increased comfort level with technology.

Consequence:

- Programs reported that mentors appreciated the chance to reflect on their practice, make new connections to a broader professional community, give back to the profession, and experience professional and personal growth by trying a new approach to mentoring.
- Some mentors did experience frustration and apprehension with using a non-face-to-face mentoring program.

Needs and Benefits of Participants Context #6: Institution support

Intervening Condition:

- Programs needed to address needs and benefits of the participating institutions.

Action/Interaction:

- Programs provided the opportunity to develop leadership through the connection to broader professional communities.
- Some programs exposed participants to grant opportunities and even provided training in writing grants resulting in successful grants for the schools.
- Most programs identified retention of new teachers as an important need and hoped the online environment would encourage teachers to stay in the profession.

- Many programs identified the need to show improvement in student achievement as a result of supported and effective new teachers.

Consequence:

- Programs reported improvement in opportunities for leadership development and grant acquisition.
- Of the few programs that tracked retention of new teachers nearly all saw improvement in retention, although it was not possible to credit the online program itself for the improvement.
- Programs were not yet able to show improved student achievement resulting from teacher participation in the online support systems.

Program Development

The phenomenon of program development emerged from the synthesis of eleven contexts. Table 10 lists the phenomenon of program development and these eleven contexts.

Table 10

The Phenomenon of Program Development in Context

Phenomenon	Context
Program Development	Impetus for the program Program planning and models considered Structure, outreach and services provided Funding sources Program personnel Recruitment of participants Expectations of participants Matching strategies Training of participants Facilitation of online communications Evaluation of the program

Listed below are the eleven contexts for the phenomenon of program development and the features of each context. The contexts and features evolved from the process of axial coding.

Program Development Context #1: Impetus for the program

Intervening Condition:

- Programs had a variety of motivations for using an online support program.

Action/Interaction:

- High attrition rates of new teachers, both locally and nationally, was the main impetus for nearly all programs.
- Programs developers believed the use of online communications could address the issue of time and place for their new teachers and the people who support them.
- Addressing teacher shortages in a number of content areas were also cited as reasons for implementing a program.
- Programs that were part of university teacher education departments expressed the desire to provide continued support and retain contact with their graduates
- Programs believed an online program would be an avenue to answer a state or district mandate for induction and mentoring.
- Subjects expressed a personal commitment to supporting new teachers that was grounded in their own research interest or personal experience.

Consequence:

- Programs were developed and implemented to try to meet the needs of new teachers in an effort to increase teacher retention, address teacher shortages in high demand content areas, provide continuing support to graduates of teacher education programs, meet an induction program mandate, address issues of time and place for mentor relationships, and fulfill a personal desire to help new teachers.

Program Development Context #2: Program planning and models considered

Intervening Condition:

- Programs needed a plan for program development and implementation.

Action/Interaction:

- Many programs formed design or advisory committees to plan and design the program to get input from a variety of stakeholders.
- Many programs looked at other mentoring programs, both online and face-to-face, as models for ideas that they could use or adapt for their own design.

Consequence:

- Programs used a very collaborative approach in the planning and development of their programs that incorporated best practices of other online and face-to-face mentoring programs.
- Programs learned the importance of articulating the programs goals and carefully designing a plan to reach those goals.

Program Development Context #3: Structure, outreach, and services provided by programs

Intervening Condition:

- There was a wide variety of structure, outreach, and services that programs needed to provide.

Action/Interaction:

- Programs were structured as one-to-one mentoring or group mentoring.
- Programs served new and pre-service teachers from local areas, nationally, and even internationally.
- Program outreach usually was specific to a school district, region, or state, or to graduates of specific teacher education programs.
- Generally, all grade levels and content areas were served by the programs.
- Length of time of support varied anywhere from the first year up until the fifth year.
- Online services provided included (a) one-to-one communications; (b) group communications via discussion areas (asynchronous) and live chats (synchronous); (c) content area resources; (d) pedagogical resources; (e) frequently asked questions; (f) instructional modules; (g) lesson plan builders; (h) document share ability; and (i) links to district policies, state standards, and credentialing information.
- Programs generally had restricted access to the discussion areas, but provided public access to the online resources.
- Programs did not allow school district administration access to discuss areas or e-mail exchanges within the program's online environment.

Consequence:

- Programs were able to structure their programs to provide a variety of services for participants.
- Participants were provided a confidential and safe online environment that did not allow access for school administrators or the general public.

Program Development Context #4: Funding sources

Intervening Condition:

- Funding was needed for programs for development, implementation, and continuation.

Action/Interaction:

- Programs were funded by multiple sources, both internal and external.
- The majority of programs were funded by grants and foundations.
- Some programs received partial funding from their institutions.
- A small number of the programs received state funding.

Consequence:

- There was a need to seek funding from multiple sources and the search for continued funding was an ongoing challenge.

Program Development Context #5: Program personnel

Intervening Condition:

- All programs needed staff to handle day-to-day operations, such as recruitment, training, facilitation, and technological operations.

Action/Interaction:

- Programs had at least one person to oversee day-to-day operations, usually referred to as the program manager or director.
- All programs had someone to handle the technology used by the programs; this was usually not the day-to-day person.
- Larger programs generally had more than two people involved in running the program.

Consequence:

- The programs were widely varied in the number of people needed to administer the operations; anywhere from one to a team of people.

Program Development Context #6: Recruitment of participants

Intervening Condition:

- Programs needed to recruit both mentor and mentee participants.

Action/Interaction:

- Both mentor and mentee recruitment was primarily on a volunteer basis.
- Mentors included university professors, experienced and recommended teachers from school districts, retired educators, and National Board Certified teachers.
- Program mentees included graduates or pre-service students of their universities and colleges, teachers new to school districts, and in a few cases, any new teacher that wanted to participate.
- Mentors were contacted via phone calls, e-mail and surface mail, professional presentations and conferences.
- Mentors were usually provided a stipend.
- Few mentees received a monetary stipend for participation, although other incentives were generally available such as continuing education credits, advanced certification, and use of equipment for connectivity.
- Many programs had websites that provided application procedures in addition to program information, links to resources, and password protected access to discussion areas.

Consequence:

- Mentors were recruited on a volunteer basis and selected based on their qualifications for excellent teaching and a desire to mentor new teachers and were often paid a stipend.
- Mentees were recruited on a mostly volunteer basis and were either members of a school district or graduates or pre-service students of a teacher education program that provided this service.

Program Development Context #7: Expectations of participants

Intervening Condition:

- There were some expectations regarding participation in the online support programs.

Action/Interaction:

- Some programs required participants to engage in online communications a certain number of times per week or month, believing that regular contact would keep them involved and provide the most benefits of the program.
- Some programs had no set participation requirement, allowing participants to engage when they felt they needed support.
- Some programs required participants to sign agreements regarding their participation, while other did not require a formal agreement.

Consequence:

- Degree of participation was primarily mentee-driven, with most programs having some kind of minimum requirement for participation.
- There was mixed opinion among programs regarding the issue of requiring participants to engage online on a regular basis or allowing participants to engage on an as-needed basis.

Program Development Context #8: Matching strategies

Intervening Condition:

- Programs needed a matching strategy that fit the structure of their mentor:mentee relationships and the parameters of the program.

Action/Interaction:

- Programs used one-to-one matches, one-to several (2-6), and group mentoring, with one mentor to up to 20 mentees.
- Some programs assigned mentees to mentors, while other programs allowed mentees to self-select their mentor or group.
- Much of the matching was according to grade level or content area.
- Some matches were predetermined by a prior relationship between the mentor and mentee.
- Some programs provided personality and professional profiles of mentors to help in the self-selection process.
- Some matching was intentionally within district and some was outside of district.

Consequence:

- Programs were able to use a variety of matching strategies based on the mentoring structure of the program, the availability of mentors, and the needs of the mentees.
- Programs that assigned matches felt they could make very good choices for mentees based on requests made by the mentees.
- Programs that provided self-selection of mentors or groups felt they provided mentees choices that could meet their own individual needs.

Program Development Context #9: Training of participants

Intervening Condition:

- Programs reported a need to provide some training to mentors, mentees, and facilitators to participate in the online support environment.

Action/Interaction:

- Training common to all participants included: guidelines of the online mentoring program, use of the technology specific to the program (e-mail, discussion board, website navigation), e-mail etiquette, and building relationships.
- Training provided to mentors included: being a mentor, the nature of the new teacher, teacher socialization, teacher development and leadership, peer coaching, and questioning strategies.
- Training provided to mentees included: classroom management, organizing the classroom, literacy issues, and how to be mentored.
- Programs used feedback from check points and evaluations throughout the duration of the program to help decide on the type of training needed.
- Training took place either face-to-face, online, or a combination of both.
- Training was often provided in the initial orientation to participation in the program and continued on an ongoing or as-needed basis.

Consequence:

- Participants were provided training specific to their role in the program and was often based on feedback from participants on what they felt they needed and when.
- Programs provided training face-to-face, online, or a combination of both depending on the resources of the program and the needs of the participants.
- Some programs found that training on an as-needed basis was a more productive approach and less demanding on the busy schedules of mentors and new teachers.

Program Development Context #10: Facilitation of online communications

Intervening Condition:

- Online communications required some kind of facilitation provided by the program.

Action/Interaction:

- Many programs had people who specifically facilitated online communications in the discussion boards.
- Sometimes the facilitators was a mentor; other times, it was a staff member—even the director—of the program.
- Specific training provided to facilitators included: how much to advise, support, and offer resources, and the style of online communication or “online voice.”

Consequence:

- Facilitators played a key role in the success of the online communications by feeding questions, responding to inquiries, and maintaining open lines of discussion among participants.

Program Development Context #11: Evaluation of the program

Intervening Condition:

- All programs had some form of data collection for evaluation purposes.

Action/Interaction:

- Programs primarily used surveys, interviews, and focus groups to gather formative data.
- Programs collected data from mentees regarding what the new teachers needed in both professional and personal support, issues with participation and technology of the program, frequency of participation, and satisfaction with the support provided.
- Programs collected data from mentors regarding support and training they wanted in mentoring, communicating online, technology support, and satisfaction with their role and contributions to the program.
- Very few programs collected data on the retention of their participants in the teaching profession, although some of the longer running programs had just started to track retention of their participants.
- Very few programs had collected data on teacher efficacy or student achievement that might have some relation to participation in an online support program.
- Nearly all programs provided reports to their funding sources regarding the progress of the program and data collected from those served by the program.

Consequence:

- Formative data was used to make adjustments to the program to better meet participants—both mentees and mentors—needs.
- Nearly all programs reported that participants' satisfaction with the support they received in the program was the most important indicator of program success.
- Most programs believed that participation was key to success of a program but the expected level of participation varied.
- Some programs felt that the frequency and quality of online engagement of the participants was a measure for success for the program, although that measure could be skewed if there were program requirements imposed on participants to engagement a certain number of times.
- Very few programs had been operational long enough to collect data on retention of their participants in the teaching profession.
- The few programs that had retention data did report increases in retention of new

teachers, but not feel they could directly link participation in the online support to this increase but saw it as a possible contributing factor.

- Very few programs have tracked any connections to improved teacher efficacy and student achievement due to participation in an online support program.
- Several programs have shared their experiences in published journal articles and presentations at professional conferences, as well as provided research topics for graduate student dissertations.
- Nearly all programs indicated that funding sources and stakeholders received reports on the progress and evaluations of their programs.

Professional Development

The phenomenon of professional development emerged from the synthesis of two contexts. Table 11 lists the phenomenon of professional development and these two contexts.

Table 11

The Phenomenon of Professional Development in Context

Phenomenon	Context
Professional Development	Functions within the overall professional development for new teachers Learning styles addressed

Listed below are the two contexts for the phenomenon of professional development and the features of each context. The contexts and features evolved from the process of axial coding.

Professional Development Context #1: Functions within the overall professional development for new teachers

Intervening Condition:

- Programs needed to provide a variety of support systems to accommodate professional development needs.

Action/Interaction:

- Many programs offered other services besides the online environment including face-to-face mentoring and site based workshops.
- Some programs were involved in the support within a district, while other programs had no involvement in other support within a district
- Participation in the online portion of the program was usually on a voluntary basis.

- Programs usually, although not always, provided some choice in when and how often participants engaged in online activities.
- Some programs were designed to meet a mandate or standards for new teacher induction.
- Some programs offered the ability for participants to earn credits toward advanced certification or credentialing.
- Programs requested and made changes as a result of teacher input regarding content and delivery.

Consequence:

- Most new teachers were able to use online mentoring as a supplement to the other supports they had available.
- Some new teachers had only the online mentoring as their support.
- The programs' degree of control of the participants' professional development opportunities varied.
- Programs were able to provide flexibility of time and place and choices in the level and type of services participants could engage in.
- Some programs were able to use online mentoring to help meet a mandate or standards for teacher induction.
- Some participants were able to earn credits toward advanced certification or credentials.
- Participants had some ownership in the programs since their input was requested and used to improve program services.

Professional Development Context #2: Learning styles addressed

Intervening Condition:

- Programs needed to offer a broad array of services in which the participants could engage.
- Use of technology could affect attitude and engagement of participants.

Action/Interaction:

- Programs provided both text-based and human resources and communication for participants, usually on a 24/7 basis.
- Programs provided participants a variety of levels and kinds of support and participants were able to make choices as needed for their teaching context.
- Programs offered collaborative communication opportunities via online discussion boards.
- Programs used activities that required participants to reflect and write about their experiences and questions.
- Programs used a variety of technological tools to try to meet participants' learning needs.

Consequence:

- Programs filled the need of participants to have immediate usable knowledge.
- Programs provided opportunities for self-directed learning and problem-solving.
- Programs encouraged reflective practice of participants.
- Programs provided a collaborative environment for professional engagement that valued individual experience.
- Programs met the needs of a variety of adult learning styles, but not all.
- Some participants were very comfortable with technology of the online environment, while others were afraid and resisted or resented it.

Technology Considerations

The phenomenon of technology considerations emerged from the synthesis of nine contexts. Table 12 lists the phenomenon of technology considerations and these nine contexts.

Table 12

The Phenomenon of Technology Considerations in Context

Phenomenon	Context
Technology Considerations	<p>Internet provided access to the services of the program.</p> <p>E-mail was used for communication among and between participants.</p> <p>Participants could engage in online group communications.</p> <p>Online resources were available in many programs.</p> <p>Availability of hardware was essential for participation.</p> <p>Technical assistance was sometimes available for participants.</p> <p>Selection of program software depended on program services.</p> <p>Building of online relationships was important to keep participants engaged.</p> <p>Development of an online community of practice.</p>

Listed below are the nine contexts for the phenomenon of technology considerations and the features of each context. The contexts and features evolved from the process of axial coding.

Technology Consideration Context#1: Internet provided access to services of the program.

Intervening Condition:

- Participant needed access to the Internet.

Action/Interaction:

- Participants used the Internet to connect to a number of program services.
- Participants accessed the Internet either from school or home computer.

Consequence:

- Access to the Internet was a critical requirement for participants.
- Participants who had easy access to the Internet utilized the program more often.
- Participants who did not have easy access to the Internet found it difficult to engage in the program.

Technology Consideration Context #2: E-mail was used for communication among and between participants.

Intervening Condition:

- Participants needed to communication between and among themselves and program personnel.

Action/Interaction:

- Participants used e-mail services for communication provided by the online mentoring program, their schools district, or their personal e-mail account.

Consequence:

- E-mail was one of the primary means of communication between and among program participants and program personnel.

Technology Consideration Context #3: Participants could engage in online group communications.

Intervening Condition:

- Participants needed a means for group discussions online.

Action/Interaction:

- Asynchronous discussion boards were used for group communication.
- Synchronous chats were available in some programs.
- Discussions areas were generally open to only those involved in the program.

Consequence:

- Threaded discussions provided a means by which program participants could post questions or concerns they were encountering.
- Both synchronous and asynchronous discussions provided anytime/any place communications for participants.
- Program personnel could monitor online discussions to track usage, determine participant needs, address problems, and remove inappropriate postings.
- Making discussion areas open to only people associated with the program provided authentic modeling for online behavior and help prevent inappropriate postings.

Technology Consideration Context #4: Online resources were available in many programs.

Intervening Condition:

- Participants needed quick access to resources that support the many functions of teaching.

Action/Interaction:

- Most programs provided online resources for both mentors and new teachers.
- Online resources included a wide variety of information related to classroom management, lesson plans, district or state policies, standards, certification, professional development, and association memberships.

Consequence:

- Participants were afforded 24/7 access to a multitude of resources to support their teaching profession.

Technology Consideration Context #5: Availability of hardware was essential for participation.

Intervening Condition:

- Participants needed hardware to have access to the online support.

Action/Interaction:

- Most programs did not provide the necessary hardware for participants to have access to program resources.
- Only three programs actually provided hardware as part of the participation agreement: two provided laptops and one provided PDAs.

Consequence:

- Access to the necessary hardware for participation in the online support was largely left up to the participants or their school districts.

Technology Consideration Context #6: Technical assistance was sometimes available for participants.

Intervening Condition:

- Program participants often needed technical assistance to participate.

Action/Interaction:

- Most programs provided technical assistance within their training and on an as-needed basis.
- Some technical assistance was provided through the program personal, some was provided on-site with local technical personnel of the school district, and some was provided through a vendor of an online professional learning community service.

Consequence:

- Depending on the particular problem, technical assistance was provided either by the program personnel or the technical personnel of the particular school.
- With the exception of the five programs that used the online professional learning community service, most programs did not have 24/7 technical help for participants.

Technology Consideration Context #7: Program software varied widely among online support programs.

Intervening Condition:

- Programs needed software programs that could provide the services they wanted to offer.

Action/Interaction:

- Programs often used commercial software programs such as WebCrossing, Blackboard and WebCT for their online communications.
- Some programs had software written specifically for their program, particularly for data profiles on the participants for matching purposes.
- A few programs used open source software and appreciated the flexibility it afforded them.
- An online professional learning community service was subscribed to by several programs to provide an online community environment.
- Task Stream was a software program used by several programs for electronic portfolio development and tracking professional development.

Consequence:

- Software varied according to the services provided by the online support program.

Technology Consideration Context #8: Building relationships between participants.

Intervening Condition:

- The online mentoring programs needed to build relationships between and among participants.

Action/Interaction:

- Use of face-to-face meetings helped initially establish relationships.
- Confidentiality of communications established trust between participants.
- Discussion boards and training sessions helped participants model appropriate and supportive online behavior.
- Being nurturing and using an appropriate “online voice” (mentors and facilitators) helped establish relationships between participants.
- Being responsive in a timely way and authentic in their communications (both mentors and mentees) helped develop more meaningful relationships.
- Participants’ ability to embrace the use of technology in mentoring relationship helped overcome skepticism and technical hurdles.

Consequence:

- Participants who were willing to embrace and work within the unique environment of online communications were able to build supportive and meaningful relationships.

Technology Consideration Context #9: Development of an online community of practice.

Intervening Condition:

- Programs needed to develop a sense of community among their participants.

Action/Interaction:

- The online environment served as a professional learning community.
- Programs had a defined purpose which was shared among participants.
- Online communications kept participants connected to one another, particularly between face-to-face sessions.

Consequence:

- Programs were able to provide a purposeful learning community to participants.

Leadership Strategies

The phenomenon of leadership strategies emerged from the synthesis of five contexts.

Table 13 lists the phenomenon of leadership strategies and these five contexts.

Table 13

The Phenomenon of Leadership Strategies in Context

Phenomenon	Context
Leadership strategies	Skills and knowledge of program administrators
	Leadership style
	Challenges
	Change
	Future of programs

Listed below are the five contexts for the phenomenon of leadership strategies and the features of each context. The contexts and features evolved from the process of axial coding.

Leadership Strategies Context #1: Skills and knowledge of program administrators

Intervening Condition:

- Program leaders needed some important skills and knowledge.

Action/Interaction:

- Experience as a classroom teacher.
- Knowledge of mentoring and beginning teacher needs.
- Knowledge of professional development and adult learners.
- Ability and willingness to use technology in online communications.
- Willingness to seek funding from a variety of sources.
- Highly organized, detail-oriented, flexible and open to new ideas.

Consequence:

- Program leaders had a broad range of skills and knowledge as well as the willingness to acquire new knowledge to work in an innovative and developing program such as online mentoring.

Leadership Strategies Context #2: Leadership style

Intervening Condition:

- Program administrators needed a leadership style that worked with a wide variety of support members and had the ability to move an innovative program forward.

Action/Interaction:

- Use of a collaborative leadership style.
- Utilize a team-oriented approach to work with a wide variety of members.
- Practice collegial problem solving.
- Have the ability to empower and trust members to do their jobs.
- Stay in touch (keep the pulse) with what is happening in the program.
- Be involved at various levels but try not to micro-manage.

Consequence:

- The leadership style that appeared to work best was a collaborative, team-building approach that empowered members to do their job, while still staying informed and involved.

Leadership Strategies Context #3: Challenges

Intervening Condition:

- Programs had a number of challenges in starting and maintaining the online systems.

Action/Interaction:

- Finding enough time to administer the program.
- Dealing with a lack of participation by mentors and new teachers.
- Responding to constantly changing needs.
- Addressing technology problems.
- Finding and securing program funding.

Consequence:

- Program leaders found they had to continuously respond to the challenges of meeting the needs of participants and encouraging their online activity, handling technology issues, and seeking funding to sustain the programs.

Leadership Strategies Context #4: Change

Intervening Condition:

- Program leaders needed to be able to respond to change.

Action/Interaction:

- Leaders kept an open mind and remained flexible with requests of the various parties involved in the program.
- Leaders took a role in guiding participants and program personnel through the ongoing change processes.

Consequence:

- Leaders made changes in the program in response to requests and suggestions from mentors, new teachers, and program personnel in an effort to best meet the needs of its constituents.
- Leaders helped program participants and personnel adjust to the idea of a new way of mentoring.

Leadership Strategies Context #5: Future of programs

Intervening Condition:

- Leaders had concerns about the future of their online support programs.

Action/Interaction:

- Leaders made plans to refine, update and expand services.
- Leaders explored ways for growth to reach a larger audience.
- Leaders pursued the search for continued funding and new sources of funding to sustain their programs.
- Leaders continued to consider ways to reliably assess and evaluate whether these online support efforts are making a difference in teacher effectiveness, retention, and student achievement.

Consequence:

- Program leaders realized that in order improve and expand services they need to seek continued funding, and yet, the ability to sustain the programs and funding were also going to depend on their ability to show that these programs are showing positive results in teaching and learning.

This concludes the axial coding process. Through this process the causal condition of “leadership needed for online support programs for new teachers” was identified. This causal condition led to the development of five phenomena. During axial coding each of the original five categories emerged a phenomenon. In the initial axial coding process the data were de-contextualized into segments and analyzed. Then the segments were re-contextualized, and the five phenomena were analyzed by identifying the (a) “Context” of each phenomenon; (b) the “Intervening Condition” of that context; (c) the “Action/Interaction” related to the phenomenon; and (d) the “Consequence” of the action/interaction. At the conclusion of the axial coding process, the data segments were analyzed again revealing interrelationships between the five phenomena. With the conclusion of this microanalysis through axial coding, the next level of coding takes a more macroanalysis approach. This stage of the coding process is selective coding.

Selective Coding

Selective coding provides a holistic view of the phenomena and properties that were identified in the open and axial coding processes. The process of selective coding involves “integrating and refining categories” (Strauss & Corbin, 1998, p. 143). This process identifies the interrelationships between the core category and the phenomena, now referred to as subcategories. Through this integration of the subcategories, a larger theoretical scheme is formed and the research findings become theory. These interrelationships are presented through a story line, composed of the findings of the analysis during axial coding, and focus on the five phenomena (subcategories). The story line is in narrative form and allows for the formulation of the grounded theory.

The story line is composed of the context of each phenomenon, along with the concepts related to the context identified in **bold** typeface. The story line that follows is in narrative form and shows the interrelationships of the phenomena, and is entitled “The Leadership Role in Online Support Programs for Beginning Teachers.”

The Leadership Role in Online Support Programs for Beginning Teachers

Understanding the context of online support programs for new teachers provides a clearer vision of the leadership role of the program administrators. Therefore, an explanation of what online support programs intend to do and what they look like is necessary to provide the context in which leaders of these programs function. Throughout this narrative will be characteristics of online support programs for new teachers woven within the responsibilities and roles of program leadership.

Leaders of online support programs for beginning teachers try to **address the pedagogical, emotional, social, and programmatic needs of new teachers**. Their programs

also try to address **the needs of mentors**, the people who support new teachers within these online environments. Leaders aspire to build programs that provide online support in the pedagogical areas of **classroom management, content, methodology, standards, cyclical issues, and reflective practice**. They also try to give new teachers **emotional support** by providing an **empathetic and encouraging environment** to **build confidence** in new teachers and **empower them to problem solve**, as well as **develop leadership skills**. Program leaders seek to provide **social support** to new teachers by **reducing feelings of isolation** and **enhancing their pool of resources** by connecting them with other new teachers, experienced teachers, and education and research professionals. By providing these connections outside of their classrooms, the programs can provide new teachers **another perspective of their teaching environment and situations**. Leaders build programmatic support into the online programs by providing services based on what **they anticipate to be new teachers' needs as well what participants actually request**. These services include (a) program flexibility to **constantly adjust to changing needs of participants**; (b) **24/7 access**; (c) **anonymity of participants**; (d) **a non-evaluative, confidential, and secured environment**; (e) **resources specific to a particular site**; and (f) **technical assistance** in using the online environment.

Program leaders also support the mentors of these programs by providing the opportunity for them to (a) **reflect on their practice**; (b) **make new connections to a broader professional community**; (c) **give back to the profession**; and (d) **experience professional and personal growth** by trying this new approach to mentoring. The leaders also find they need to address the times when mentors experience **frustration and apprehension with using a non-face-to-face mentoring program**. Leaders hope involvement in these programs can benefit the institutions by providing **opportunities for leadership development and grant acquisition, increased**

retention of new and experienced teachers and, eventually, the anticipated trickle down effect of **improved student achievement resulting from teacher participation**.

The leaders of online support programs develop and implement these programs to try to meet the needs of new teachers in an effort to (a) **increase teacher retention**; (b) **address teacher shortages in high demand content areas**; (c) **provide continuing support to graduates of teacher education programs**; (d) **meet an induction program mandate**; and (e) **fulfill a personal commitment to help new teachers**. Program leaders use a very **collaborative approach in the planning and development** of their programs and **incorporate best practices of other online and face-to-face mentoring programs** by **researching what other programs have done**. Leaders may want to consider a **blended model** that utilizes both face-to-face and online support. Many leaders **establish an advisory committee** in an effort to get **input from a variety of stakeholders** to help guide their decision making. Leaders emphasize the **importance of defining the purpose of the program, articulating the programs goals, carefully designing a plan to reach those goals** and developing an **evaluation strategy**. They also advise that, as in most new program implementation, even with careful planning there will always be **unanticipated problems** and the need to **make changes accordingly**.

Leaders structure their programs to **provide a variety of services** for participants. Online services provided by these programs often include (a) **one-to-one communications**; (b) group communications via **discussion areas (asynchronous)** and **live chats (synchronous)**; (c) **content area resources**; (d) **pedagogical resources**; (e) **frequently asked questions**; (f) **instructional modules**; (g) **lesson plan builders**; (h) **document share ability**; and (i) **links to district policies, state standards, and credentialing information**. Programs are structured as **one-to-one mentoring** or **group mentoring** and may serve **new and pre-service teachers from**

local areas, nationally, and even internationally. The length of time that support is provided can vary anywhere from the **first year up until the fifth year of teaching.** Leaders structure their programs to provide a **confidential and safe online environment** that does not allow access for school administrators or the general public.

Programs may have anywhere from **one to a team of people to administer the operations** such as such as **recruitment, training, facilitation, and technology.** Depending on the size of the program, the leader may have some of these specific responsibilities in addition to overseeing the overall functioning of the program. Many program leaders believe it would be very difficult for an online support program to be run by one individual and that a **collaborative team effort is the best model.** Leaders emphasize the **importance of finding the right people** to work in this kind of program: those who have a **broad range of educational backgrounds** and are **dedicated to supporting new teachers.**

Program leaders **recruit mentors on a volunteer basis** and select them based on their **qualifications of excellent teaching** and a **desire to mentor new teachers.** Mentors are often paid a stipend. **Mentees are also recruited on a mostly volunteer basis** and are either (a) **new teachers of a school district** served by an online program or (b) **graduates or pre-service students of a teacher education program** that provides this service. **Mentees may be given a monetary stipend** for participation, although other incentives are sometimes available such as **continuing education credits, advanced certification, and use of equipment** for connectivity. **Degree of participation is primarily mentee-driven,** on an as-needed basis, although some programs request a minimum requirement for participation, such as a weekly or monthly communication.

Programs use a **variety of matching strategies** based on the mentoring structure, the parameters of the program, the availability of mentors, and the needs of the mentees. Programs might use **one-to-one matches**, **one-to several** (2-6), or **group mentoring**, with one mentor having up to 20 mentees. Some **programs assign mentees to mentors**, while other programs **allow mentees to self-select** their mentor or group. Some programs provide **personality and professional profiles of mentors** to help in the self-selection process. There are software programs available to assist with this task. Much of the **matching is usually according to grade level or content area**. Program leaders whose programs assign matches believe **they make very good choices for mentees** based on requests made by the mentees. Leaders of programs that provide **self-selection** of mentors or mentor groups believe they provide mentees an important opportunity to make a **choice that meets their own individual needs**.

Programs **define roles and expectations** and provide participants **training specific to their role in the program** and leaders emphasize the **importance of basing the training on feedback from participants** indicating what they need and when. Training common to all participants often includes: (a) **guidelines of the online mentoring program**; (b) **use of the technology specific to the program** (i.e., e-mail, discussion board, website navigation); (c) **e-mail etiquette**; and (d) **building relationships**. Training specific to mentors may include: (a) **being a mentor**; (b) **the nature of the new teacher**; (c) **teacher socialization**; (d) **teacher development and leadership**; (e) **peer coaching**; and (f) **questioning strategies**. Training provided to mentees may include: **classroom management, organizing the classroom, literacy issues, and how to be mentored**. Training may be **face-to-face, online**, or a combination of both depending on the resources of the program and the needs of the participants. Some leaders

believe that **training on an as-needed basis is a more productive approach and less demanding** on the busy schedules of mentors and new teachers.

Formative data is used to make adjustments to the program to better meet participant needs. Most programs leaders believe **that participants' satisfaction with the support they received in the program is the most important indicator of program success**. Programs need to **collect data on retention of their participants in the teaching profession**, particularly if new teacher retention is a goal of the program. Programs that have retention data do report **some increases in retention of new teachers**, but program leaders are not yet confident in directly linking participation in the online support to the increase in retention—although they **see it as a possible contributing factor**. Most programs do not yet track **connections to improved teacher efficacy and student achievement** due to participation in an online support program, but leaders realize this is another outcome they **need to eventually track to validate continued funding**. Program leaders and their colleagues sometimes **share their experiences with their online support programs in published journal articles and presentations at professional conferences**. Program leaders also **provide reports on the progress and evaluations of their programs to their funding sources**.

Program leaders find they need to seek **funding from multiple sources**, both internal and external, and the search for **continued funding is an ongoing challenge**. Funding most often comes from **grants and foundations**, but some may come from the **institutions or state funds**. Leaders see the potential of online support as an extension of traditional induction for school districts and an opportunity to provide outreach to graduates of teacher education programs. As such, they that hope in the future more consistent funding can be secured for these programs as part of overall new teacher support systems.

The leaders of online support programs for new teachers believe that **participants should be involved in the planning, implementation, and evaluation of professional development.** Participants should also **have choices in their goals and the activities** in which to participate. These goals and activities should be designed with needs of the participants in the forefront. Oftentimes, the online support is **a supplement to other professional development** the participants may have available to them, including face-to-face mentoring. In addition, online mentoring may be used to help **meet standards or a mandate for teacher induction**, or even provide the **opportunity to earn credits toward advanced certification or credentials for the participants.** Leaders of these programs believe it is important to provide **flexibility of time and place and allow choices in the level and type of services** in which participants can engage. Leaders believe participants feel some **ownership in the programs** when their **input is requested and used to improve program services.** By **making changes in response to requests and suggestions** from mentors, new teachers, and program personnel, leaders validate the importance of the members' voices and show commitment to meeting their needs—and demonstrate best practices of professional development.

Leaders of online support programs think knowledge **of adult learning theory is an important consideration in the way online support is made available to new teachers.** They recognize the **various learning styles of participants** and **provide choices to the help meet those needs.** The leaders try to design program services to **provide immediate usable knowledge to participants.** They provide **opportunities for self-directed learning and problem-solving** and **encourage reflective practice.** They also design the programs to **provide a collaborative environment for professional engagement.** Leaders of these programs try to meet the needs of a variety of adult learning styles, but **realize that the online environment**

does not meet all learning styles. They find that **some participants are very comfortable with technology** of the online system, while **others are afraid and resist or even resent it.**

Leaders indicate that access to the Internet is a critical requirement for participants since participants use either **e-mail or online discussions** and, oftentimes both, for their online communication. Programs may provide **asynchronous and/or synchronous discussions for group support** and as a means to model appropriate online support behavior. Video conferencing can provide another possibility for communication and for training sessions. Programs **sometimes provide hardware** to the participants, but most require them to **have their own computers and access to the Internet. Technical assistance should be made available to participants,** either from the staff of the online support program or combined with technical support from the participant's site. Online support programs use **software that supports the services their programs offer.** This **software may be commercially available** (such as online courseware) **or programs that are customized** for a particular online support system. Program leaders also indicate it is important to **provide instructional and other professional resources online** so that participants have **easy 24/7 access to these resources.**

Leaders realize the need for specific **skills in developing supportive relationships online.** These skills combine methods one would use in a face-to-face setting as well as methods that help to overcome the sometimes impersonal nature or limited abilities of online communications. These skills include a) **using a tone within the communications that conveys understanding and genuine interest;** b) **being responsive in a timely manner;** c) **providing guidance to help mentees realize their own solutions,** while at times recognizing when a direct suggestion is needed; and d) **providing a balance of academic and personal information sharing.** Leaders of these programs believe that online communication has **the potential to**

create a sense of community among people who would otherwise not be able to meet due to time and distance issues. They find, however, that just getting people together online is not enough and advise that these **relationships need to be established and tended to build trusting, meaningful** bonds. Program leaders believe **facilitators play a key role in the success of the online communications by feeding questions, responding to inquiries, and maintaining open lines of discussion among participants**. Leaders realize that they, too, have to **provide the necessary leadership and guidance to help their participants realize the potential of an online professional learning community**.

Online support program leaders indicate that important skills and knowledge of program administrators include **experience as a classroom teacher, understanding new teacher needs, and knowledge of mentoring and professional development**. These leaders must have an understanding of the unique experience of the first years of teaching and must recognize the many challenges of the beginning teacher. Program leaders must also have the **willingness to acquire new knowledge** necessary to work in an innovative and developing program such as online mentoring. These leaders need to have the **ability and willingness to use technology in online communications**. They must be **highly organized, detail-oriented, flexible, open to new ideas, and continuously responsive to the challenge of meeting the needs of participants**. Leaders need to remember to **be patient and give the program time to evolve**.

The leadership style that leaders most identify with is a **collaborative, team-building** approach that **empowers members** to do their job, while still **staying informed and involved**. The importance of **listening, reflecting, and responding to program participants**—characteristic of **reflective practice**—is also emphasized by program leaders. Leaders must also be able to **move their organization forward in the change process by providing assistance in**

implementation through building capacity and empowerment among members. Leaders can help program participants and personnel adjust to the idea of this new way of mentoring by modeling supportive behavior, both online and face-to-face, and continually advocating for the program. Leaders are advised to **get support from the top, but plan from the bottom.**

Program leaders cite a number of current and future **challenges such as engaging participants, responding to constantly changing needs, scaling up, and securing funding.** Leaders continue to consider ways to reliably assess and **evaluate whether these online support efforts are making a difference in teacher retention, effectiveness, and student achievement.** Program leaders realize that in order to improve and expand future services they need to seek continued funding, and yet, the ability to sustain the programs and funding are also going to depend upon their **ability to show that these programs are showing positive results in teaching and learning.**

The story line articulated during the selective coding process shows the interrelationships between the phenomena. This final integration of data during the selective coding process produced the core category “The Leadership Role in Online Support Programs for Beginning Teachers.” The core category is related to the five phenomena examined during the axial coding process. After the core category emerges, the phenomena are then referred to as subcategories. This indicates the relationship between the core category and its subcategories and forms the foundation of the narrative report.

Core Category

The core category, “The Leadership Role in Online Support Programs for Beginning Teachers,” is based upon the interrelationships between the subcategories from the selective coding process. These five subcategories are: (a) Needs and Benefits of Participants, (b) Program

Development, (c) Professional Development, (d) Technology Considerations, and (e) Leadership Strategies. These five subcategories are related to each other as well as the core category.

Subcategories

The interrelationships between the subcategories are discussed under the heading of each subcategory. The first subcategory is “Needs and Benefits of Participants.”

Needs and Benefits of Participants. Programs are designed and implemented to address the needs of new teachers and those who support new teachers. Participants were routinely asked for feedback throughout their involvement with the program and this feedback was used to make changes in the program. Therefore, this subcategory of “Needs and Benefits of Participants” is directly related to “Program Development.” This subcategory is also related to “Professional Development” because the needs of the participants was the primary focus of the type of professional development offered as well as the way it was offered, taking into consideration adult learning styles. This subcategory is also related “Technology Considerations” because the type of technology used and the ability to build supportive relationships online addressed the technological (programmatic) needs, emotional, and social needs of the participants. Finally, this subcategory also is related to “Leadership Strategies” because leaders must have the knowledge and skill to address new teacher and mentor needs and the ability to respond to those changing needs. They also must be able to take the participants through the change process of acclimating themselves to a new paradigm of mentoring to realize its benefits.

Program Development. Program development is directly related to “Needs and Benefits of Participants” because the impetus, planning, and evaluation functions within program development are all based on the needs of the participants. This subcategory is also related to “Technology Considerations” because the type of technology needed to support the program

must be considered in the planning of the program structure and training of participants.

“Program Development” is related to “Professional Development” because the type of services provided to the participants needs to address the professional development and learning style needs of the participants. “Program Development” is also related to “Leadership Strategies” because it is the program leaders who take the initiative in planning, designing, and implementing the program. It is also the leaders who select the personnel and participants, and make the decisions regarding program evaluation strategies. The development of these programs is consistently described as a collaborative team effort that works to design a program that can be adjusted to meet constantly changing needs.

Professional Development. “Professional Development” is clearly related to the subcategory “Needs and Benefits of Participants” because the type of professional development provided and the way it is provided (addressing adult learning styles) is based on the needs of the participants. “Professional Development” is also related to “Program Development” because, as already stated, the type of services provided to the participants—including training—needs to address the professional development and learning style needs of the participants. “Professional Development” is related to “Technology Considerations” because often the professional development that is needed is technological training and even the means by which it is delivered is via technological means. “Technology Considerations” includes establishing supportive and reflective relationships and building a community of practice online, which also relates to adult learning styles. The subcategory “Professional Development” is related to “Leadership Strategies” because it is important that leaders have knowledge of best practices in professional development, with the hope of leadership development for participants.

Technology Considerations. For reasons previously stated, “Technology Considerations” is related to “Needs and Benefits of Participants,” “Program Development,” and “Professional Development.” It is also related to “Leadership Strategies” because leaders must have competency and confidence in the technology that is being used to support the program. Leaders are also very much concerned with the ability to establish supportive relationships and a community of practice online, as this is the goal of most programs. Technology provides the means by which each of the subcategories’ needs are addressed, services are delivered, and functions are met. It is the current that runs through each of the subcategories and keeps them connected.

Leadership Strategies. “Leadership Strategies” is related to all of the other four subcategories as described previously under each subcategory heading. It is leadership that provides the foundation for each of the subcategories to stand. It is leadership that supports each of these and works within the knowledge base of these subcategories to move online support programs forward and ever-evolving as dynamic systems to develop and grow future educational leaders.

Summary

After data were collected from semi-structured interviews, the qualitative procedures of open, axial, and selective coding were applied. These analyses formed the findings reported in this chapter. During open coding, the data were “opened up” with identifying concepts and themes emerging. These themes were then de-contextualized into discreet data segments during the process of axial coding. During the microanalysis process of axial coding, the data segments were re-contextualized along the relationships that emerged between the phenomena. The axial coding process concluded with the identification of five phenomena and components within each

of these phenomena. The selective coding process was applied in the final stage of analysis. During this stage, a macroanalysis of the data was used on the re-contextualized data and a core category emerged from the phenomena identified in the axial coding process. The phenomena are then referred to as subcategories of the core category since they are related to the core category. The interrelationships of the subcategories form the basis of the grounded theory, which was articulated in the form of a narrative report. The narrative report is presented at the conclusion of the selective coding process and is titled: “The Leadership Role in Online Support Programs for Beginning Teachers.”

The findings from this study are summarized in the next chapter, Chapter Five. The summary includes the findings from the open, axial, and selective coding processes. The summary begins with “Holistic Analysis” of the findings and answers the two grand tour questions of this study: (a) How does an organization develop and administer an e-mentoring program that supports new teachers? and (b) What are the leadership traits of administrators of e-mentoring programs that support new teachers? In addition, Chapter Five explores the six subquestions which also framed this study. Chapter Five concludes with postulations and implications for practitioners and further research.

CHAPTER FIVE

Interpretive Summary, Postulations, and Implications

Introduction

Qualitative research is an inductive process in which the researcher builds a “complex, holistic picture” (Creswell, 1998) by interacting with study participants during data collection and then interprets this data to gain a new understanding of a phenomenon. Chapter Five summarizes the findings of Chapter Four and includes a holistic view of the core category “The Leadership Role in Online Support Programs for Beginning Teachers.” This chapter also includes a holistic view of the five subcategories of (a) Needs and Benefits of Participants, (b) Program Development, (c) Professional Development, (d) Technology Considerations, and (e) Leadership Strategies. The five phenomena that were identified during the microanalysis of the data are now referred to as subcategories since they are directly related to the core category. This shift acknowledges the interrelationships between all categories that emerged from the detailed analysis applied to the qualitative data and provides a holistic view of these relationships.

The first section starts with a holistic analysis describing the qualitative process of formulating a grounded theory, which moves from a micro to macro perspective of the previously analyzed data. This section concludes with an overview of the interrelationships of the categories and their relation to the literature. The next section is an exploration of the grand tour questions and subquestions that framed this study. Based on the holistic view of the findings from the qualitative data described in Chapter Four, three postulations emerged. These postulations are explained individually in the section *Postulations*. This chapter concludes with the section *Implications*, which describes implications for practitioners and for future studies.

Interpretive Summary

Holistic Analysis

A grounded theory regarding the “Leadership Role in Online Support Programs for Beginning Teachers” emerged as a result of the synthesis of analyzed qualitative data. The analytical procedures included the qualitative processes of open coding, axial coding, and selective coding, using a format suggested by Strauss and Corbin (1990). The grounded theory for this study is based upon five categories that emerged during the axial coding process. The selective coding process revealed a sixth category, referred to as the core category, which encompassed the other five categories. For the purpose of this study, the core category is the “Leadership Role in Online Support Programs for Beginning Teachers” and is significant because it integrates the following five subcategories: (a) Needs and Benefits of Participants, (b) Program Development, (c) Professional Development, (d) Technology Considerations, and (e) Leadership Strategies. Integrated together, the core category and the five subcategories form the basis of the grounded theory presented in Chapter Four.

Data were analyzed from a micro perspective during the axial coding stage and then re-examined from a macro perspective during the selective coding stage. From these analyses, a grounded theory began to emerge. This grounded theory was presented through a story line using rich, thick descriptions that provide a new perspective of the phenomenon. Through this holistic approach of various analytic processes, a new perspective of the leadership role for supporting beginning teachers online developed. This leadership role calls for a unique combination of skills, knowledge, and experience to oversee such innovative online programs as described in this study.

Exploration of Grand Tour and Subquestions

Analysis of the data collected from the semi-structured interviews revealed interrelationships between the core category, the “Leadership Role in Online Support Programs for Beginning Teachers,” and the five subcategories of (a) Needs and Benefits of Participants, (b) Program Development, (c) Professional Development, (d) Technology Considerations, and (e) Leadership Strategies. The analysis of these interrelationships and the components of these relationships provided a new and informative perspective on the two grand tour questions that framed this qualitative research design. The two grand tour questions were:

- How does an organization develop and administer an e-mentoring program that supports new teachers?
- What are the leadership traits of administrators of e-mentoring programs that support new teachers?

In this study, each subcategory was linked to a subquestion, with one subcategory encompassing two of the subquestions. The last subquestion was about facilitating change with regard to leadership style, and during the data analysis stages it seemed to be a natural component of the leadership strategies subcategory rather than standing as a subcategory of its own. In the following section the subquestions are referred to from a holistic perspective derived from the qualitative processes of open, axial, and selective coding, which are described in the previous section as well as in Chapter Four. This approach develops a picture of how the subjects in this study view the leadership role of online support programs for new teachers. The first subquestion looks at what needs of new teachers are addresses in an online support program.

Subquestion #1: How are the induction needs of new teachers met through an e-mentoring program? Subjects in this study reported that their online mentoring programs tried

to meet the induction needs of new teachers at many levels. These levels primarily included pedagogical, emotional, social, and programmatic. The pedagogical needs included issues in classroom management, content areas, teaching methodology, curriculum standards, cyclical issues (i.e., grading periods, calendar events), and reflective practice. Emotionally, the programs tried to provide an empathetic and encouraging environment for the new teachers that helps build their confidence, empowers them to problem solve, and develops leadership skills. The online programs provided access to a professional community that could address social needs of the new teachers by reducing feelings of isolation, enhance their pool of resources, and provide another perspective to their own teaching environment and situations. The programmatic needs included those features of the online program that provide the level of service the new teachers desired from a mentoring program. These features included (a) the ability to adjust to the changing needs of the new teachers, (b) 24/7 access to resources, (c) anonymity of participants; (d) a confidential, secured, and non-evaluative environment; (e) resources specific to the particular site (i.e., school or state), and (f) and technical assistance in using the online system.

The study also revealed that in addition to meeting needs of new teachers, mentors also found a supportive and energizing community through the online systems. These programs provided mentors the opportunity to reflect on their own practice, make connections to a broader professional community, give back to the teaching profession, and experience professional and personal growth. Schools participating in these online support programs also benefited from the professional growth and leadership development of their new teachers and mentors. Some subjects reported that some schools have seen improvements in teacher retention that may be connected to participation in the online programs. It was the hope of subjects in this study and the schools that they serve that these programs can make a difference in the retention efforts of

their new teachers and, ultimately, student achievement. For the time being, however, subjects were pleased with the comments received from many of their new teacher participants expressing how very valuable this support was to them.

Subquestion #2: What components must be considered in developing an e-mentoring program? Subjects in this study expressed the importance of articulating the organization's needs and goals for an online support program. Careful planning in the design and development of the program is imperative, including researching other similar programs. Including stakeholders in the planning and design process is highly recommended. This collaborative effort will help to determine the structure and services of the program. Subjects indicated that securing funding for a program can be challenging and will likely require a variety of funding sources. When selecting program personnel, including program support staff and mentors, subjects suggested finding people with teaching experience and who have a strong desire to help new teachers. Recruitment of participants (both mentors and mentees) will depend on the selected population served (i.e., locally, nationally), and it was generally suggested that participants join on a volunteer basis. Mentor and mentees may be matched one-to-one or one mentor to a group of mentees. This matching could be assigned, but many subjects suggested letting the new teachers self-select their mentors.

Subjects indicated that training of participants should be on an on-going basis throughout their participation in the program and often includes clarifying the roles of participants and providing technology assistance. There should also be ongoing facilitation of the online communications to encourage participation and help develop supportive relationships. Methods of program evaluation should be established early in the planning process of the program and

should articulate desired outcomes and be designed to assess participant satisfaction with the program. The feedback should continuously loop back into an ongoing development process.

Subquestion #3: How do program administrators perceive the function of professional development and incorporate principles of adult learning in relation to an e-mentoring program? Online support programs can provide a variety of professional development opportunities for new teachers. Many programs in this study offered other services beyond the online environment including face-to-face mentoring and site-based workshops. Most new teachers were able to use online mentoring as a supplement to the other supports they had available. However, some new teachers had only the online mentoring as their support and often reported this was their most important support. For most online programs the degree of control of the participants' professional development opportunities varied, therefore, the quantity and quality varied for participants. While some online programs were involved in the new teacher support within a district, many programs had no involvement in other support within a district. Participation in an online support program was usually on a voluntary basis and usually there was some choice in when and how often participants engaged in online activities. This provided participants the flexibility of time and place and choices in the level and type of services in which they could engage. Such an approach demonstrates best practices of professional development by providing participants choices in the type of support they believe they need (Guskey, 1994; Lawrence, 1974; Orlich, 1989).

Some programs in this study were designed to meet a mandate or standard for new teacher induction or offered the ability for participants to earn credits toward advanced certification or credentialing, providing the type of advancement often desired through professional development opportunities. Programs requested and made changes as a result of

teacher input regarding content and delivery. This provided participants a sense of ownership in the programs since their input was requested and used to improve program services.

These online mentoring programs addressed a variety of adult learning styles and principles including self-directed learning, collaboration, practical application of useable knowledge, problem-solving, and reflective practice (Brookfield, 1986; Cranton, 1994; Knowles, 1980, 1984; Mezirow, 1981, 1990). Although online support met many learning styles, not all participants found their needs met and some felt it lacked a human or personal connection.

Subquestion #4: What are some considerations involving the use of online communications and communities? Subjects in this study identified a number of technology considerations in the support of online mentoring programs. Obviously, the need for access to hardware and the Internet is mandatory to participate in online communications and to access the services of the programs. E-mail was used extensively between participants, as well as group communications such as synchronous and asynchronous online group discussions. Other resources such as links to research, lesson plans, and standards were often available through the program websites or portals. Providing technical assistance to participants was highly suggested, although not all programs did provide this. Selection of program software and other technology should be guided by the type of services the program provides, such as e-mail, discussion boards, chats, document sharing, etc. Building relationships online is the key to active participation, and program personnel need to be able to help those relationships along by facilitating discussions. Developing an online community of practice is often a main goal of online support programs and provides new teachers access to a variety of educational professionals who can support and enhance teaching practices.

Subquestion #5: What leadership and supervisory styles are identified or demonstrated by administrators of e-mentoring programs? Program leaders had a broad range of skills and knowledge such as experience as a classroom teacher and knowledge of mentoring, beginning teacher needs, professional development, and adult learners. Leaders also had the willingness to acquire new knowledge, particularly in the use of technology in online communications, and possessed real dedication to work in an innovative and developing program such as online mentoring. Program leaders need to be highly organized, detail-oriented, flexible, and open to new ideas. The ability to seek funding from a variety of sources was also frequently cited as an important skill.

The leadership style that seemed to work best for the programs was a collaborative, team-building, collegial problem-solving approach. Leaders also identified that it was important to empower members to do their jobs, while staying informed and involved at a variety of operational levels. Program leaders found they had to continuously respond to the challenges of meeting the changing needs of participants and encouraging their online activity, handling technology issues, and securing funding to sustain the programs. Program leaders frequently reported that another challenge for them was the amount of time involved in launching and administering a program, which was more than they anticipated, although the longer running programs did indicate this leveled off over time. Program leaders shared the following helpful insights and suggestions to others who may want to develop an online mentoring program:

- Research what other online mentoring programs have done.
- Define your purpose and how you will evaluate in the very beginning of program planning and development.
- Get support from the top but plan from the bottom.

- Constantly listen, be flexible, and open to change.
- Find the right people—with a broad perspective and variety of experience in education to provide program services.
- Define participants' roles and expectations and train accordingly.
- Make sure this is a value-added, not an add-on, to participants' busy lives.
- Provide effective facilitation—it is essential for building successful online relationships.
- Consider a blended model with face-to-face if possible.
- Be patient and give the program time to evolve.

Subquestion #6: How can an understanding of facilitating change influence a leadership style for an e-mentoring administrator? Program leaders found they needed to be able to respond to change by being open to new ideas and flexible with requests of the various parties involved in the program in an effort to best meet the needs of its constituents. Leaders guided participants and program personnel through the ongoing change process and helped others adjust to this new paradigm of mentoring. Leaders also looked toward the future of their programs with plans to refine and expand services, secure new and increased funding, and consider ways to reliably assess and evaluate whether these online support efforts are making a difference in teacher effectiveness, retention, and student achievement. Program leaders realized that the ability to improve services, continue funding, and sustain the programs will depend on their ability to show that these programs are showing positive results in teaching and learning. Leaders consistently expressed a willingness to be open to new ideas and changes in an effort to advance their programs.

Holistic analysis related to the literature. The literature pertaining to online mentoring programs is still rather new and limited and when specifically looking at programs for new teachers, it is even more restricted. Much of the literature is garnered from research on face-to-face mentoring and online mentoring in a variety of areas including business, industry, and education. Therefore, the literature review of this study gleans information from a wide variety of areas including new teacher needs, mentor program development, technology and online communications, professional development and adult learning, leadership theory, and change. The data from the semi-structured interviews have been analyzed to answer the two grand tour questions and six subquestions of this study, and the re-contextualized data find support in the existing literature in these defined areas.

In regard to the first area, identifying and addressing the needs of new teachers as cited by program leaders in this study are much the same as those identified in the literature by Breaux & Wong (2003), Britton et al., (1999), Kurtz (1983), Sargent (2003), and Veenmen (1984). Understanding Maslow's Hierarchy of Needs Theory (1954) and their relationship to the phases of first year teachers (Moir, 1990) helps to build the framework of the goals of an online mentoring program for new teachers.

The literature on program development of other mentoring programs, both face-to-face and online, supports many of the practices of the programs in this study (Bennet et al., 1998; Harris et al., 1996; Klecka et al., 2002; MENTOR, 2002; Single & Muller, 2001; Single & Single, 2004). Although many programs did not base their program development on any one program, they often based their plans on what other programs had tried.

Programs in this study also identified using practices in professional development and principles of adult learning within their online programs. Providing professional development

that is user-driven was a consistent theme within these programs (Guskey, 1994; Lawrence, 1974; Orlich, 1989). Recognizing and addressing adult learning styles was also evident in the way in which services were provided to both new teachers and mentors. Programs sought to provide professional development opportunities that gave participants choices, provided practical and immediately applicable information, and allowed self-direction, collaboration, and reflection (Brookfield, 1986; Cranton, 1994; Knowles, 1980, 1984; Mezirow, 1981, 1990).

Programs in this study reported using strategies for establishing and maintaining online communications and relationships that were consistent with those cited in the literature. These strategies included the need for regular online contact, getting to know one another both professionally and personally, understanding each other's context, prompt response time, providing opportunities for one-on-one communications and group communications, modeling appropriate online behavior, use of a facilitator, and building a sense of community (Bennet et al., 1998; Harris et al., 1996; Single & Muller, 2001; and Zachary, 2000).

Programs also identified similar leadership traits and strategies as those found in the literature with regard to program leadership. Specifically for mentoring programs for new teachers, these include the need to have a background in teaching, an understanding of the needs of new teachers, knowledge of mentoring, professional development, and adult learning theory (Breux and Wong, 2003; Gordon and Maxey, 2000; Moir, 1990; MENTOR, 2003; Zachary, 2000). In regard to leadership theory, programs consistently reported the need for a collaborative, team-building leadership style (Burns, 1978; McGregor, 1960; Ouchi, 1981) which uses reflective practice to guide decision-making (Cunningham and Cordeiro, 2000; Schön, 1983; Sergiovanni, 1991) and facilitates an atmosphere of collegiality and response to change (Fullan, 1991; Hord, 1992).

Postulations

Developing an Online Support Program for New Teachers

This study provided a broad view of the current status of online support for new teachers as well as detailed descriptions of program components and development issues. A rather wide variety of programs features were revealed, yet the purpose and goals of most programs were very similar. Program leaders stated that they looked at other programs, both face-to-face and online as well as programs outside of education, to help them in their development stages. Many programs suggested having design teams and advisory boards that include stakeholders at a variety of levels. It is also suggested that all possible funding sources should be considered to support these programs.

Leaders emphasized the need to establish goals for the program and decide early on how to assess outcomes. Programs need to provide a secure, reliable, and non-evaluative environment for support and collaboration among new and experienced teachers. Programs' goals should address new teachers' pedagogical, emotional, social, and programmatic needs. Programs should be designed to request continual feedback from participants at all levels to make sure they are meeting needs and expectations. It is important that programs meet the actual needs—not just the assumed needs—of participants. A constant cycle of formative evaluation will help assess goals and direct leaders in making changes to programs.

Voluntary participation of both mentors and mentees is highly advised among program leaders. Providing a stipend to mentors is recommended as well as some type of stipend or incentive for mentees, such as use of a laptop, professional membership fees or conference registration, or continuing education credits. Training of participants to clarify roles and expectations as well as provide necessary technology skills should be provided early on. It is also

suggested that guidance be provided regarding effective online communication and building relationships. This can be accomplished by modeling appropriate online communications through the use of a facilitator and should be on-going and on an as-needed basis. It is also advised that an online support program be a value-added part of professional development, not just an added responsibility to already busy schedules of new teachers. This could be accomplished by providing the opportunity for participants to receive continuing education credits or credit toward advanced certification or credentials.

Leaders also advise that technology decisions should be made later in the development process. Establish the goals and services of the program first and the technology decisions will be fall into place. This follows a primary principle of instructional technology design: don't let technology guide the instructional—or in this case, program—decisions (Maurer & Davidson, 1998). There are a number of commercial software programs as well as open source programs available that can support the functions of these systems. It will just be a matter of deciding what technology fits with the goals of the online support program.

There is the potential that online support can be an extension of traditional induction for school districts and an opportunity to provide outreach to graduates of teacher education programs. These systems can also provide access to a larger professional learning community and provide important networks to educators at all levels. As such, it is hoped that in the future more consistent funding can be secured for these programs as part of overall new teacher support systems.

Leadership Style for Online Support Systems for New Teachers

Many of the leadership styles described by subjects in this study are found in the literature of leadership theory. These theories include a collaborative style in which leaders

delegate authority, support subordinates to develop ideas and decision making skills, and function as a team (McGregor, 1960). A transformational leadership style (Burns, 1978; Leithwood et al., 1993) was also described by subjects in which they help team members develop a collaborative culture and problem solve together, foster staff development, map new directions for the program, gather resources, and respond to organizational change. Subjects identified the need to use reflective practice (Schön, 1983; Sergiovanni, 1991) by researching, experimenting, and sharing insights throughout the process of directing their programs. A facilitative leadership style (Hord, 1992) was also frequently cited as program leaders are in a role to move their programs forward by guiding and supporting their team members. The ability to be flexible and modify their leadership style according to various situations (Hersey & Blanchard, 1977, 1982) was also identified by subjects.

All subjects in this study described the need for a leadership style that is collaborative, team-oriented, and uses a collegial problem-solving approach. Program leaders believe it is very important to empower team members in an effort to strengthen this team approach. Leaders find they need to be informed at all levels but also need to trust in their team's abilities and resist trying to micromanage. The ability to be flexible and open to suggestions and possibilities is also very important. It is also imperative that program leaders be able to embrace change and help guide others through the change process. These online programs are often initially met with trepidation and the leaders are the ones who must smooth the way into this new territory. Leaders can help program participants and personnel adjust to the idea of this new way of mentoring by modeling supportive behavior, both online and face-to-face, and continually advocating for the program. Leading by example can set the tone for progress, growth, and success of these programs. Throughout the interviews it was evident that the people who are developing and

maintaining these online support programs are excited and committed to providing a service to new teachers that they truly hope will have a positive impact on their teaching careers.

Re-conceptualization of the Leadership Role in Online Support for Beginning Teachers

Online mentoring programs are still relatively new and the models for such programs are rather limited. This also means that the leadership role needed for these types of programs is still evolving. Yet based on the data collected in this study, a number of assertions can be made to help better understand what skills, knowledge, and leadership traits seem to work well in the development and administration of these programs. Subjects in this study shared a wealth of information about how their programs were conceived, developed, and maintained and described their leadership styles and characteristics. The leadership needed for these online programs is a unique combination of a professional educator, mentor, technology-wise communicator, and collaborative and facilitative leader.

Leaders of online support for new teachers need to accept the challenges of running these programs and securing the future of them. Many subjects in this study see these programs as, potentially, the future of how “we do business” in the area of teacher induction. However, consistent and sustained funding is a primary and ongoing challenge to sustain these programs. To do so, it will be imperative that programs can show a link to effective teaching, retention, and student achievement because of participation in an online support program. In addition, the need to collaborate with other programs was often cited in an effort to strengthen the practice and to advance research in this area. These responsibilities of sustenance will lie squarely on the broad shoulders of program leaders, and these leaders will need to advocate and be the champion for their programs.

Based on the descriptions of the requisite knowledge, skills, and leadership styles provided by subjects in this study and through the final synthesis of the data presented in this qualitative study, the following definition of the leadership role of online support programs for beginning teachers is proposed: *The leadership role of online support programs for beginning teachers requires an understanding of the needs of new teachers, a plan for development of an online program based on knowledge of the necessary program components, an understanding of professional development and adult learning, skills to effectively communicate online, and the ability to work in a collaborative, facilitative, and ever-changing environment.*

Implications

This study has generated a number of implications based on the findings. These implications are separated into two sections: (a) *Implications for Practitioners* and (b) *Implications for Future Studies*. The first section describes implications for those working in the area of new teacher support. The second section describes implications for further studies regarding specific areas of online support for new teachers.

Implications for Practitioners

Results presented in this study have a number of implications for those practicing in the area of new teacher support. These may include school administrators, teacher mentors, the new teachers themselves, and those within higher education in the field of teacher preparation. This study is two fold since it (a) provides a broad view of a number of online support programs for new teachers with descriptions of how programs were developed, administered, and sustained, and (b) describes the leadership styles and challenges of overseeing such programs. This is the first comprehensive examination of such programs in this support area and can provide valuable information to those considering such an endeavor. School administrators might consider this

kind of program as a relatively low cost way to provide quality induction support to a large number of teachers and over a wide geographical area. Teacher mentors and new teachers may see this as a convenient, flexible, as-needed support system that provides confidential, practical support. Those working in teacher preparation in higher education may find an online program a practical way to provide outreach for graduates of their teacher education programs. Although these programs may appear simple enough to develop and even seem to provide “one-stop shopping” for anytime support for new teachers, this study does make clear that there are a number of issues and problems that practitioners must heed when considering this type of venture. These challenges include the logistics of what type of services to provide, time commitments, maintaining participation, funding, and ultimately improving teacher retention.

Based on the findings in this study, these online programs show considerable promise for providing support to new teachers as well as establishing online learning communities of practice for all education professionals, but they must be carefully developed and tended, just as any mentoring relationship. The advice given by a number of program administrators was to be patient with the development and progress of the program. Any new idea takes time to process, time to catch on. As Subject 20B said, “I think it’s good to have the vision, but know that it takes time; it takes a lot of time to build.” The important thing is to continue to work on it as long as there is commitment from the leadership and indications that it is worth the effort. Subject 9A, who directs one of the longer running programs advised:

I guess the big thing, particularly from a leadership/administrator thing is to just not stop. . . And when funding runs out, a lot of these things die. And so it’s not going to work if people just throw up their hands and stop. So that’s probably on our list, is to not give up on the potential.

Implications for Future Studies

As previously mentioned, the use of online support systems or electronic mentoring is rather new in the area of beginning teacher support. Programs are not highly visible, nor easy to find as this researcher discovered when trying to find subjects for this study. The research and subsequent publications on these specific types of online programs is rather limited, although the interest in them seems to be high, as indicated during interviews with the study subjects. People working with these programs are very curious about what others are doing and anxious to find ways to collaborate and network with one another. Based on the findings within this study, the following are areas that are particularly lacking in information and further research is needed:

Requirements for participant online engagement. Setting specific requirements for participants to engage online was an issue of debate for some participants in this study. Some programs believed that participants should have the choice of participating only when they felt they needed help, while other programs required participants to engage in online communications a certain number of times per week, month, etc. The question that emerged was “Are we getting a true measure of useful engagement because participants are getting online because they feel they need the support or because they need to fulfill a program requirement?” It would be interesting to examine the satisfaction levels of those who had requirements versus those who did not to see if there is any difference in participants’ perceived value of the online support experience.

Technology for online support systems. There are many online communications systems and software available that can support the technological requirements of an online mentoring program. Some software is available commercially and widely used, such as WebCT and Blackboard. Some programs have been developed specifically for a particular e-mentoring

programs and use open source coding to make it customized to the user's needs. A study examining the various technologies these programs have used, including features, costs, pros and cons would be helpful to those looking to make decisions regarding the technology for their programs, whether starting a new program or updating their current one.

The role of the facilitator. Although many subjects in this study indicated that facilitation of online communications is the key to success of these programs, there is really no research on the role of the facilitator specifically for new teacher online support. Further exploring the role of the facilitator, and perhaps best practices of facilitation for these programs, would provide an important contribution to establishing effective practice in online facilitation of online support programs for new teachers. The concept of the "online voice" also needs further exploration for a better understanding of this phenomenon and how to train facilitators in this skill.

Measuring program effectiveness. Although nearly every program in this study cited teacher retention as a primary impetus for their programs, no one had a reliable system in place to track retention, let alone to find a definite relationship to participation in the program. Programs also did not have systems to measure teacher effectiveness or student achievement that may be related to participation in these programs. These will be difficult evaluations to make, but they will eventually be needed to justify these kinds of programs and sustain their support—both fiscally and philosophically. It will be a continuous challenge to bring attention to online mentoring and engage people to participate to help secure the future of these kinds of programs: As Subject 9A realized:

... I'm quite convinced that e-mentoring isn't capturing everyone's imagination, but it's helpful enough for a sufficient number of people that I think that what we're seeing is the early adoption phase of a new medium. And whether or not it

will ever be completely adopted, I think is open to question. ... So I still think we're in an early phase of a new medium and don't think that those of us who are working in this area should at all abandon the medium, but I think we need to keep working to understand its strengths and its limitations.

The opportunity for research in these online support systems for new teachers really is quite open. This is a new frontier in new teacher induction and support and it has generated excitement as well as frustration among those trying it. It is hoped that this study will help fill some of the void in the research and perhaps be a springboard for future studies in this area.

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Appendix A

Interview Request

My name is Nancy Clouse and I am a doctoral student at the University of Montana. Last spring I contacted you about possible participation in a research study regarding online mentoring for new teachers, and you indicated that you may be interested in participating. Specifically, the study will examine the leadership issues related to the administration of online mentoring programs for new teachers--based on the experiences of program administrators. The research proposal has been approved by my dissertation committee and the University of Montana IRB, and I am ready to collect the data. Your participation would provide an important contribution to the growing body of research related to online support for new teachers, and I hope that you are willing to participate.

I am currently scheduling telephone interviews with past and current program administrators over the next month or so. The interview should take approximately 40 minutes, and I am requesting permission to tape record it. I am attaching the interview questions and verbal consent form for your review.

Please let me know, either via e-mail at nancy.clouse@mso.umt.edu or phone (406-728-5219) if you are willing to participate, if you have any questions about the study, and a possible date and time you would be available for a telephone interview. My teaching schedule provides the following open times for me: Mondays and Fridays after 1:00 (Mountain Time) and generally all day on Tuesdays and Thursdays.

I appreciate your consideration of this request and I look forward to hearing from you.

Sincerely,

Nancy Clouse
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The University of Montana
Missoula, MT 59812
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Appendix B

Verbal Consent

VERBAL CONSENT TO PARTICIPATE IN THE RESEARCH STUDY: “The Leadership Role in Online Mentoring for Educators”

Purpose of the Study: You are being asked to take part in a research study that will explore the leadership issues of administering an online mentoring program for new teachers. The purpose of this study will be two-fold, (a) to provide a view of how e-mentoring programs are developed and implemented; and (b) to develop a theory that explains the process and leadership traits that facilitate the administration of such a program. Your participation in this study will contribute to the growing body of research related to online support for new teachers. We will share a summary of the findings with you if you so wish.

Procedures: You will be asked questions about your experience as an administrator of an online mentoring program for new teachers. This telephone interview and should take approximately 30-40 minutes. With your permission, the interview it will be audio tape recorded.

Confidentiality: Your identity will remain confidential and protected under the guidelines of the University of Montana Institutional Review Board. You will only be identified using a confidential subject code in the data analysis process and reporting. A key to this code will be kept in a locked file and will be destroyed after the data analysis. The faculty supervisor and I will be the only people who will know your identity. Your identity will not be revealed in this study or any reports from this study. No direct quotes from you will be used in the reporting of findings without your prior permission, and, if quoted, your identity will remain confidential. The audiotape for the interview will be transcribed without any information that could identify you. The tape will be erased after data analysis.

Risks/Discomforts/Voluntary Participation/Withdrawal: Your decision to take part in this research study is entirely voluntary. Be assured that you are free to decide not to participate, may skip any questions, or may decide at any time to withdraw from this study if you are uncomfortable with the process.

Compensation for Injury: Although we do not foresee any risk in taking part in this study, the following liability statement is required with all University of Montana consent forms:

In the event that you are injured as a result of this research, you should individually seek appropriate medical treatment. If the injury is caused by the negligence of the University or any of its employees, you may be entitled to reimbursement or compensation pursuant to the Comprehensive State Insurance Plan established by the Department of Administration under the authority of M.C.A., Title 2, Chapter 9. In the event of a claim for such injury, further

information may be obtained from the University's Claims representative or University Legal Counsel.

Questions: Do you have any questions at this time regarding this study or your participation?

If you have any questions later about the research study, please contact me (406-728-5219) or Dr. Roberta Evans, the Faculty Supervisor (406-243-2914). If you have any questions regarding your rights as a research subject, you may contact the Chair of the IRB through The University of Montana Research Office (406-243-6670).

Statement of Consent: I understand the nature of this research study. I have been informed of the risks and benefits involved, and all my questions have been answered to my satisfaction. Furthermore, I have been assured that any future questions I may have will also be answered by a member of the research team. I give verbal consent to take part in this study and understand that I may skip questions or withdraw from the study at any time. I understand I will receive, via personal e-mail, a copy of this consent form, including contact information.

Name of subject

Date consented

Appendix C

Interview Protocol

Opening Statements

Thank you for agreeing to do this interview. I appreciate you taking time from your busy schedule to participate in this study. The purpose of this study is to gain an understanding of the leadership issues involved in designing, implementing, and sustaining an online mentoring program that supports new teachers. This information could provide an important contribution to the body of research in this new area of professional development for educators.

I would like to go over a few points before we get started and make sure you are comfortable with this process and the expectations.

- I will be asking you questions about your experience with the online mentoring program you are involved with and will be taking notes during the interview. With your permission, I would also like to record this interview.
- Be assured that all information will be confidential. Your identity will not be revealed in this study or any reports from this study. I will be the only person who will know your identity. You will only be identified as S (for subject) in the notes. You will be given a confidential subject code to be used in the data analysis process and the reporting.
- Your confidentiality will also be protected by the Institutional Review Board at The University of Montana.
- You may choose to not answer questions or to stop the interview at any time if you are not comfortable.
- No direct quotes from you will be used without your prior permission and if quoted your identity will remain confidential.

Demographic Data

Date: _____ Time: _____ a.m. / p.m.

Setting: In-person _____ Telephone _____ Online _____

Program/Subject No. _____ Male _____ Female _____

Interview Questions

1. How did the need for this e-mentoring program evolve? (What was the impetus?)
2. Give a brief history of how this program has evolved and describe the current infrastructure of this program (funding, personnel, services provided, technology used, model or guidelines used).
3. Explain how participants are recruited and selected describe their rights and responsibilities. (From where and how does this program recruit participants? What are the eligibility criteria and what is the selection process? When and how often does recruitment take place? What are the rights and responsibilities for program participants, including any liability issues, stipends)?
4. What kind of matching strategy is used and why was this type of strategy chosen?
5. What kind of initial training is provided for mentors, protégés, and other participants and how is it presented? (online, face-to-face, etc.)?
6. What kind of ongoing training or coaching is provided to participants and how often?
7. Describe some of the qualifications you want in your trainers, online facilitators, and coaches.
8. What kind of technology is used for communication, including training? (Is the e-mail service provided through the program's own software or do participants use their own service)?

9. How are nurturing relationships—characteristic of mentoring— established via electronic communications?
10. What kind of program evaluation is used and how would you describe a successful program? (How are outcomes measured for protégés, mentors, and program refinement? How are the findings disseminated?)
11. What are some of the benefits seen from this program (particularly in response to teacher attrition)?
12. What kinds of needs does the program try to address for those new to the teaching profession?
13. How does this program fit into the overall professional development of your participants?
14. How would you describe your leadership style?
15. What are some of challenges of administering an innovative program like e-mentoring and how do you handle them?
16. What advice or lessons learned can be extended to others looking to develop and administer an e-mentoring program?
17. Do you have any changes you would like to make in this program? What is needed to sustain its future?

Closing Statements

I want to thank you again for your time. I am sure that the data collected from the interviews will provide important information that can contribute to the research and knowledge base of online mentoring and will also help other educators who may want to develop similar programs. I also hope you have found this beneficial in helping you understand your own decisions regarding the program you are involved with and recognize the leadership issues that you face as you work in an innovative program such as this.

