TEACHER TRANSFORMATION AND CRITICAL COLLEGIALITY
IN ONLINE LEARNING ENVIRONMENTS

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By
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The purpose of the study was to understand transformative learning in teachers’ critical colleague relationships while participating in online, collaborative action research. This included generation of theory by teacher action-researchers relevant to their own practice, with a view to teacher transformation over time. The study addressed the primary research question, “What is the potential of critical colleague relationships to transform teacher action-researchers in a shared online learning environment?”

The participants in the study were 11 in-service teachers in school districts in northeast Ohio, working in four critical colleague groups in online action research situations. Two of these groups were involved in a grant project through eTech Ohio, a professional development arm of the Ohio Department of Education, with the goal of integrating emerging technologies into their respective teaching practice. The other two groups were students in a master’s degree program in cultural foundations of education at a mid-sized, research-based, Midwestern university; the online action research course for this group was a capstone project for their program. Earlier studies of the two courses were conducted prior to the dissertation research.

Data collection consisted of transcripts of the online participation in both action research courses, followed by focus group and individual interviews. Data analysis used a grounded theory approach, based on Strauss and Corbin (1998) and situational analysis.
and mapping as developed by Clarke (2005). Findings included “inclusional flow” as the central category of interest, along with its subcategories of inclusional survival, vision, and liberation. This state of inclusional flow empowered the participants to engage in the process of interchanging perspectives and “sparking” new conversations, which led to positive, long-term effects on teacher practice, along with transformative learning in teacher professional development in both categories of change in meaning scheme and meaning perspective (Mezirow, 1994).
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CHAPTER I

INTRODUCTION TO THE STUDY

Background of the Research Problem

It appears that professional development in teaching is continually facing a challenge to reinvent itself in order to adapt to changing conditions and expectations in American education. Recently, mandates from the No Child Left Behind legislation (U.S. Department of Education, 2001), the standards-based movements on both federal and state levels, and changes in licensure requirements in individual states have put teachers in a precarious position; these developments are challenging notions of teacher change and transformation that are from the inside-out or “naturalistic change” (Richardson & Placier, 2001, p. 908). In spite of professional development approaches that have featured some form of reflective practice, teachers are all too often confronted with the predicament of how to engage in professional development as transformative learning while satisfying a myriad of demands from various external sources, in school cultures that may foster ongoing states of collegial disconnection and teacher isolation (Pomson, 2005). This lack of collegiality is also a common critique in online teacher professional development (Carr-Chellman, 2005).

Teachers are often expected to make adjustments in their practice with a view to student learning, which is not only measured by, but is defined as increases in test score performance. While improvements in testing are not necessarily meaningless educational goals in and of themselves, they are limited in that they often only contribute to a subject-
matter understanding. Henderson and Hawthorne (2000) have elucidated a framework of teacher practice that not only includes student achievement in the area of subject-matter understanding, but in what they called “3-S understanding,” which encompasses the self, subject, and society (Dewey, 1902/1990, p. 6). Even with the many recent models and strategies of teacher professional development that have emerged over the past 20 years, it is ironic that teachers in many cases are still expected to be functioning more as transmitters of knowledge and/or skills, rather than as professionals exercising “wise curriculum judgments” (Henderson & Kesson, 2004, p. 44) and experiencing personal and professional growth with a view to teaching “the whole child” (Rothstein, Wilder, & Jacobsen, 2007). This fossilization of the teacher’s role runs contrary to the notion of teaching as professional artistry (Eisner, 2002) and operates according to an assumption that teaching is a static, almost lifeless activity without aesthetic aspects. Although changes may be expected in student performance, it seems that the teacher herself is not expected to change. Rather, she is expected to maintain an unarticulated, yet hegemonic status quo that is safe and carries out the demands of top-down curriculum initiatives. There is no guarantee that the teacher can make wise professional judgments and find room to grow in a localized context such as the typical classroom. Teachers need to be able to change from the inside out in order to satisfy the demands of how to meet their students’ needs best as seen in the student’s experiences, which are constantly in flux and intimately connected to curriculum in terms of the content area(s) at hand at any given time (Dewey, 1902/1990).
It should also be understood that the lives of teachers, that is, teachers as learners, are found in the sphere of adult learning, which Knowles (1973) suggested has properties and objectives that may be unique to an adult and distinct from younger learners (andragogy vs. pedagogy). Among these is the notion that adults seek to maintain a degree of active ownership over their learning, with particular attention to context and with a collaborative orientation (Knowles, Holton, & Swanson, 2005). Although Jarvis (1987) pointed out that Knowles later acknowledged the idea that there may be overlap between the life experiences and learning readiness of the younger learner and the adult, the social contexts of adults often vary from those of children or adolescents in that it is useful to consider the uniqueness of adult learning and how that may play a role in the professional development of educators.

Adult learning theory is at present multi-faceted with many branches (Merriam, 2001). Transformative learning is one branch that is particularly helpful for understanding teachers as developing professionals, as they identify and face “disorienting dilemmas” in their own practice and reflect on prior assumptions: “transformative learning results in new or transformed meaning schemes, or, when reflection focuses on premises, transformed meaning perspectives” (Mezirow, 1991, p. 6; Cranton, 1994). Of particular importance for teachers is that transformative learning is dependent to a great degree on dialogue; this is especially problematic for teachers who are working in school cultures of isolation.

“Action research is one means by which teachers may address these issues. Action research (AR) is a process of theorizing and testing our own, as well as other
people’s, ideas and theories in practice” (Arhar, Holly, & Kasten, 2001, p. 33). Central to this definition is the question, “How can I improve my practice?” (Whitehead, 1989).

Arhar et al. (2001) also suggested that an important facet of AR is engaging in collaborative efforts rather than working alone. Part of this collaborative experience is the phenomenon of “critical colleagues” or “critical friends.” Although critical colleague relationships have been addressed in the research literature over the past 10–15 years, there have been few studies that examine the dynamics of critical collegiality for researchers in an online environment and what implications these dynamics may have for teacher professional development and transformation over time. This takes on a practical interest regarding what occurs at the conclusion of an action research class when teachers return to the same environment(s), which may include a degree of isolation.

Online learning environments are increasingly becoming a part of many teachers’ professional development experiences. Online learning, or e-learning, is an emergent and burgeoning field of the educational research literature. The developing technologies and practices of online learning are an outgrowth of a long history of the distance learning tradition (D. R. Garrison & Anderson, 2003). There is a question in the research literature as to the qualitative nature of online learning, as to whether online learning points to qualitatively different or new learning processes, or is simply a means of information transmission, and/or management of time, location, or course materials (Meyer, 2002).

Many studies in the online learning literature cite constructivism as a theoretical orientation (McPherson & Nunes, 2004; Meyer, 2002). Constructivism tells us that meaning is personally and socially constructed (Crotty, 1998, as cited in Creswell, 2003).
This is the primary learning theory underlying studies dealing with educators working collaboratively in online learning communities (Davies, Ramsay, Lindfield, & Couperthwaite, 2005; Leh, 2002; Stacey, Smith, & Barty, 2004). Learning in an online community presents rich potential for understanding how teachers may change as they collaborate as critical colleagues while seeking ways to improve their own practice.

**Statement of the Problem**

Whatever a teacher’s work setting or circumstances may be, transformative authenticity and personalization are two elements often missing from professional development for teachers nationwide (Peery, 2004). The research problem is the inservice teachers’ predicament of how professional development can facilitate transformative learning while satisfying the myriad of demands placed upon teachers from a variety of external sources, including a school culture of teacher isolation. One way teachers may deal with this challenge is by engaging in action research, particularly in a collaborative context where they may participate in relationships of critical collegiality. Taking part in this process while making use of shared online learning environments is one means of addressing the research problem above.

**Personal Background and One Scholar’s Journey**

My career in secondary teaching (foreign language and language arts) in a suburban school district in northeast Ohio has spanned over 20 years. During this time, I have experienced firsthand the difficulties for teachers who live in school cultures that promote a hegemony of teacher isolation. The “closed-door syndrome” appeared at first to be a characteristic of many veteran teachers with whom I worked early in my teaching
career, and seemed to be what many experienced teachers did either to survive each
workday or to protect their teaching practice from outside influence or interference.
With the advent of expanded proficiency testing in Ohio in so-called “core” subjects in
the late 1980s and the development of standards for all content areas, teaching behind a
closed classroom door was no longer a viable option. Along with high-stakes testing and
the standards movement came increased accountability for most teachers. Since I have
spent most of my career as a foreign language teacher (without corresponding proficiency
tests in the state of Ohio), I have not been asked to submit to state or national testing,
other than voluntary participation in preparing students for the Advanced Placement
language exam for French. Nonetheless, an ethos of accountability is present in my
teaching practice currently, albeit without the pressure some teachers face in producing
test results to accommodate school “report cards” as measurements of progress vis-à-vis
state standards, or reaching and maintaining Annual Yearly Progress (AYP), as specified
by the legislation in No Child Left Behind (U.S. Department of Education, 2001).

Another parallel strand in my professional career in teaching has been my
participation in various professional development activities, on regional, state, and
district levels. These rarely resulted in sustained transformation in my patterns of practice
as a teacher. Unfortunately, many of these professional development opportunities
suffered from the maladies often cited in the professional literature, that is, brevity of
time, top-down directives as to topics of priority, and lack of ongoing follow-through
(Fiszer, 2004).
In particular, one of these professional development opportunities in my own teaching practice has been influential in identifying the research problem for this study. From 2003-2006, I have had the opportunity to participate in a professional learning community program in my present teaching assignment. This program is a variation of the professional learning community model of DuFour and Eaker (1998). Our program featured weekly team meetings, organized by academic departments, with required weekly logs to supply assessment results based on identifying points of “weakness.” However, I saw a need in this setting for a deeper level of collaboration and collegiality; this was especially so after I conducted a qualitative case study on the possibilities of more reflective processes in this program (Loe, 2005).

After beginning my doctoral studies at Kent State University in 2002, I also rekindled my interest in curriculum theory, particularly in the area of teaching as professional artistry, leading to a realization of a democratic “good life” (Eisner, 2002; Henderson & Hawthorne, 2000). During the coursework phase of my program, I also became acquainted with action research, particularly the work of Jack Whitehead and Jean McNiff, who have been inspirational in regard to teachers generating their own “living theories” of education (Whitehead, 1989) and taking these living theories into the public sphere, in effect becoming public intellectuals and champions of teacher transformation in “politically contested territories” (McNiff, 2001).

**Theoretical Orientation**

I plan to contextualize and situate this study according to a sociocultural and transformative learning orientation. Sociocultural theory is based primarily on the work
of psychologist Lev Vygotsky, who advocated meaning making through social interaction and “mediation of actions through cultural artifacts, especially language in both its oral and written forms” (Moll, 2001, p. 113). Moll (1990) also stated that “Vygotsky regarded education . . . as the quintessential sociocultural activity” (p. 1). Moll (2001), citing Engeström (1993), suggested that one might study this social interaction in terms of integrated system, or what he called “a collective but heterogeneous and variable activity system, a unified whole, as the primary unit of analysis without losing sight of active individuals, a prime concern of teaching” (p. 124).

Transformative learning is one strand of adult learning theory and is based on the work of Jack Mezirow (1994), who stated that learning is “the social process of construing and appropriating a new or revised interpretation of the meaning of one’s experience as a guide to action” (pp. 222-223). Transformative learning occurs in four fundamental categories: three of these involve changes in “meaning schemes,” that is, “particular knowledge, beliefs, value judgments, and feelings” that appear in specific, contextual situations (Mezirow, 1991, p. 44). The fourth category is change in “meaning perspectives,” or revisiting and reconfiguring our underlying assumptions of our meaning schemes where changes in meaning schemes may not be sufficient. What Mezirow referred to as “perspective transformation” goes beyond a teacher’s everyday decision-making in a classroom, and addresses issues of embodied values and professional calling. Mezirow (1994) called this deeper phenomenon of perspective transformation “the engine of adult development” (p. 228).
Purpose of the Study and Statement of Research Questions

The purpose of the study was to understand transformative learning in teachers’ critical colleague relationships while participating in online, collaborative action research. This included generation of theory by teacher action-researchers relevant to their own practice, with a view to teacher transformation over time. The study addressed the primary research question, “What is the potential of critical colleague relationships to transform teacher action-researchers in a shared online learning environment?”

I also explored the following subquestions:

1. Arhar, Holly, and Kasten (2001) stated that “action research is a process of [collaborative] theorizing” (p. 33) that may lead to “living theory,” that is, renewed professional practice consistent with the practitioner’s evolving values, accounting for both appropriateness and sufficient profundity of these values in a public arena of collaboration (Mellett, Laidlaw, & Whitehead, n.d.; Whitehead, 1989). How does critical collegiality in a shared online learning environment provide a context for generative theorizing and making explicit “living theory” for teacher action-researchers as it relates to their understanding of teaching and learning?

2. From the perspective of the participants, what is the long-term effect on teaching practice of participation in an action research online course with critical colleagues?
3. To what extent do categories of transformative learning (transformation of meaning schemes and/or meaning perspectives) play a role in critical colleague relationships?

**Description and Findings of Earlier Studies**

This research began as a series of two earlier studies conducted from the fall of 2006 through the summer of 2007 (Loe, 2008). The research question for each project was: How might I understand the professional development of teacher action-researchers through collaborative work in an online setting? Both studies included in-service teachers in northeast Ohio who were engaging in action research in a graduate course format. Participants from these two courses were selected via purposive sampling. The first study examined the online data (discussion boards and chat sessions) of 15 teachers from five area school districts taking an online action research course through eTech Ohio, a professional development program sponsored by the Ohio Department of Education. The course was set up in four sections made up of a total of over 60 teachers throughout the state. With the intent of keeping the sample size manageable for the purposes of an early study, I chose to sample one section of the course that included teachers in northeast Ohio. These teachers had received a grant from eTech Ohio with the goal of integrating technology into the teachers’ classrooms. Participants worked in five critical colleague teams, with each team consisting of teachers from their respective schools. Their action research projects included the application of instructional technology in high school foreign language (oral communication skill in upper-level Spanish using cyber-portfolios), middle school foreign language (listening and speaking skills in Spanish
using podcasts), elementary level literacy (reading fluency using digital media devices such as iPods and Smartboards; using digital whiteboards in small group and differentiated instruction), and elementary level science (student motivation and analyzing data using Palms).

The second earlier study examined an online course in a master’s degree program in cultural foundations of education at a midsized, research-based, Midwestern university. In this course, 10 inservice teachers (a cohort from three northeast Ohio school districts) chose various action research projects of interest and concern to try out in their own classrooms. The participants worked through the course in four critical colleague teams. The final projects in this course included action research studies on classroom management procedures, interactions with substitute teachers, developing student self-control, and the efficacy of assigning student homework. All of the projects were designed for the elementary grades, except for the homework project, which also included middle school students. The participants in this course were not required to implement technology in their projects, and they were not operating under a grant to purchase and implement materials, as was the case with the eTech Ohio group. Both courses were similar in format, following a similar syllabus based on the book *Action Research for Teachers: Traveling the Yellow Brick Road* by Arhar et al. (2001). Each class worked collaboratively in action research teams as a course requirement, and produced team projects in the form of proposals/action plans, along with final papers providing accounts and reflections of their experiences.
The online data from both courses were downloaded and analyzed for emergent themes reappearing throughout (Charmaz, 2006) to assist in forming my research problem and primary question for my current inquiry. The following themes emerged: (a) evolution and maintenance of ongoing “critical colleague” relationships. These relationships include, but are not limited to, non-judgmental and empathic questioning, trust, and idea sharing (Swaffield, 2005); (b) external instructional standards as continual frames of reference. The participants in both studies exhibited an ongoing awareness that their action research projects included factors of accountability, acknowledging that student learning from these projects would be viewed in light of instructional standards relative to appropriate content areas; (c) willingness of the participants to continue as critical colleagues beyond the timeline and parameters of the course(s), particularly in the area of portraying their learning to others and making their professional growth public. Participants had expressed a desire to continue their participation through online means (at the eTech Ohio website) or by bringing other teachers into the critical colleague group for possible future projects; and (d) practical, collaborative problem solving using the online technology of chat sessions and discussion boards while combining these with other forms of collaborative activity. The participants did not restrict themselves to the online forums provided in the courses to complete their course assignments, but used additional strategies such as face-to-face visits, e-mail, the telephone, and online blogs.

**Description of the Study**

The findings from the earlier studies above provided a context for the emergence of my primary research question, “What is the potential of critical colleague relationships
to transform teacher action-researchers in a shared online environment?” It became clear from the earlier studies’ data that the critical colleague relationship was a vital component for the potential for rich professional development and teacher transformation through action research in an online setting.

I based this study largely on the naturalistic inquiry model of Lincoln and Guba (1985). I chose this approach because an emergent design seemed to be most appropriate for this project. One possibility was that the participants in both of the early studies may still be in the process of living out the applications of their action research in their respective teaching settings; therefore, changes may have been taking place in these teachers’ practice that could have been relevant to the findings of the study.

Data collection included the online data mentioned previously, along with documents from the two online courses and semi-structured interview data, in both focus group and individual formats. I collected the interview data after the completion and defense of the dissertation proposal.

Following the naturalistic model of Lincoln and Guba (1985), I used a grounded theory approach for data analysis. This approach, also known as the constant comparative method, was first formulated by Glaser and Strauss (1967) and later refined by Strauss and Corbin (1998), Charmaz (2006), and A. E. Clarke (2005). Erlandson, Harris, Skipper, and Allen (1993) stated that “data analysis in a naturalistic project must include the interactive process of collection and analysis as well as the forming of a gestalt at the conclusion of the project” (p. 113). This “gestalt” consisted of generated theories grounded in the data and any lessons learned after the completion of the study.
Significance of the Study

My anticipation is that this study will be of value on several levels and for a varied audience. Whereas this project is not intended to be generalized to all populations, the findings about critical colleagues and transformative learning may be transferable to different settings and contexts, particularly those that use action research and online technologies in their respective professional development practices, in fields such as nursing, postsecondary education, or private business sectors.

Another aspect of potential significance is in the area of online learning and how we can understand transformative learning as generative for practitioners, particularly when utilizing and integrating technology in their own practice. This is particularly significant in light of teachers’ continual juggling of external demands of educational standards, performance objectives, high-stakes assessments, and the like. Through this study, I am seeking to understand the potential of online learning environments to foster transformative learning in a context of a press for teacher conformity. It is hoped that this study might contribute to an understanding of how online learning may provide new models of development and growth for the education professional. One assumption in this regard is that future directions of online learning will need to include the ongoing development and transformation of the practitioner herself, rather than imposing new technologies with the expectation of immediate educational reform or improved teacher practice. This amounts to little more than pouring new wine into an old wineskin.

A third area of significance is the issue of time and teacher professional development. It is important to note that there has been little research to date on teacher
professional development over extended time periods, particularly in the areas of action research and online learning. The participants in this study were interviewed with sufficient time after the end of their respective action research coursework to allow for a view of how they have applied what they learned, and how they may have integrated their learning into their practice in a manner that translates to “deep change” (Peery, 2004), going beyond the conventional, often short-range parameters of the professional development workshop.

Summary and Organization of the Document

This study seeks to understand the relationship between critical collegiality and transformative learning among inservice teachers through action research as professional development with a shared online learning environment. The document is organized in a format of five chapters. Chapter one is an introduction to the study, including background and a statement of the research problem, theoretical orientation, purpose of the study, research questions, description and findings of the earlier studies, a description of the present study, and potential significance. Chapter two is a review of the literature that will contextualize and situate the study. Chapter three describes research design and methodology, data collection, data analysis, limitations of the study, and trustworthiness issues. Chapter four discusses the research findings with a view to addressing my research question and subquestions, setting the stage for the presentation of my emergent grounded theory. Finally, chapter five presents my conclusions and implications in terms of my integrative grounded theory, implications for teacher professional development and teacher culture, suggestions for further research, and lessons learned from the study.
CHAPTER II

REVIEW OF THE LITERATURE

Introduction

This study examines teacher transformation and critical collegiality in shared online learning environments. In addition to my personal experiences as both a classroom teacher and as a student in a doctoral program in curriculum and instruction, the educational research literature provided a rich background with a view to providing a rationale and contextualizing the research problem. The primary areas explored here included action research, perspectives on learning, and teacher professional development. I concluded the literature review with considerations of qualitative methodology, particularly naturalistic inquiry and grounded theory.

Action Research

Action research is an approach to inquiry that emphasizes the practitioner’s playing an active role as researcher, and examining her own practice with the intention of improving it. Action research has been with us for at least the past 60 years in a wide variety of fields such as nursing, social work, medicine, and rehabilitation counseling (Noffke, 1994).

In the United States, action research had its beginnings during the 1930s–1940s, beginning with the writings of John Collier in government work in agriculture and with Kurt Lewin in social policy (Noffke, 1989). In the 1950s, action research found its way into curriculum work in education (perhaps best known through the work of Stephen
Corey) and spread into the United Kingdom and to Australia, where centers of action research inquiry were founded and are active today. This international tradition continues into the 21st century with the work of researchers such as Jack Whitehead and Jean McNiff, who are currently introducing action research to teacher researchers in China, South Africa, and Israel, in addition to their own efforts based in the United Kingdom. Zeichner and Noffke (2001) identified five distinct historical traditions or movements in action research: (a) the Collier/Lewin/Corey tradition, (b) the “British teacher-as-researcher” tradition, (c) the “contemporary teacher researcher movement in North America,” (d) a university-based self-study movement, and (e) a “participatory research” tradition, worldwide in scope (p. 301).

A common theoretical source of action research is critical theory, a source which is well-documented in the literature (Arhar et al., 2001; Carr & Kemmis, 1986; Noffke & Stevenson, 1995). The critical perspective offers several fundamental positions: (a) emancipation, (b) making findings public, (c) visionary pragmatism, and (d) honoring “standpoint epistemologies.” Emancipation is the ability to live above and/or beyond marginalization and imbalances of justice and power (Carr & Kemmis, 1986). Making findings public involves putting these findings into the public arena for examination, discussion, and “validation of any knowledge claims” (Arhar et al., 2001; McDonough, 2006; Whitehead & McNiff, 2006). The critical perspective also includes “visionary pragmatism” (Henderson, 2001, p. 154), which is a question of “being willing to challenge our own beliefs and practices (as well) as those of others” (p. 155), and help(ing) our students to see the both the overt and covert obstacles in front of them, to
understand these obstacles, and ultimately, to see beyond them to a better life” (p. 157). Finally, many AR studies are done in a localized setting, and among the outcomes for the researcher are what Stringer (1999) called “standpoint epistemologies” (p. 205), which honor the life experience and viewpoints that any particular group may bring to a social setting or context. Another means of expressing this is that we should not be “simply reproducing another master narrative” (Giroux, 1995, p. 303). A balancing feature is how AR aims to be “practically critical” (Noffke & Stevenson, 1995). The premise here is that AR may change aspects of one’s practice in very tangible and concrete ways, addressing the question of how “critical pedagogy” might serve practical purposes in the classroom, in addition to identifying and being sensitive to inequalities and imbalances of justice and power. Giroux (1995) encouraged teachers to “work in solidarity with others to gain some control over the conditions of their work” (p. 303). And while this suggested local contexts for AR studies, there is a strand of literature that points to AR as a means of seeking paths in practice that are practical and transformative in wider social contexts (McNiff, 2001).

Action research may also function as a means of professional development in education, as well as in other professional fields (Wilson & Berne, 1999). In the case of AR as teacher professional development, student learning must be a part of the inquiry process (C. Clarke & Erickson, 2003). AR can deliver numerous potential benefits to the educational practitioner. Burbank and Kaschak (2003) stated that “through AR teachers can come to understand research as . . . personally beneficial” (p. 502), whereas Holly (1991) said that AR is “a personalization of the change process” (p. 153). These personal
benefits of AR for the teacher also suggest a powerful connection to teaching as a profession; “for teaching to assume the mantle of a profession, a central tenet of that practice is the ability of its members to inquire into their own practice . . . with the unique contexts in which they work” (C. Clarke & Erickson, 2003, p. 3). Engagement in action research in these “unique contexts” allows for growth beyond teachers’ work as a ritualistic endeavor (Rath, 2002).

AR as professional development often occurs in collaborative settings, and there are representative studies of these in the literature (Dickens, 1998). Although there is a presence of apparent passivity in some of the teacher professional development literature, much of it arising from the notion of a “deficiency model” in professional development programs, that teachers are in need of “repair” (Fiszer, 2004), Holly (1991) said that AR is a “missing link” in the power of teachers’ collaborative work, with teachers actively, rather than passively involved (p. 134). This may result in teachers going about their professional work differently (McDonough, 2006), but it also points to a change in vision, of seeing teaching and learning from new vantage points as they examine aspects of their practice through other lenses, including the lenses of their students (Arhar & Buck, 2000).

Finally, action research opens possibilities for practitioner/researchers to develop their own “living theories” of their practice (Whitehead, 1989). These theories are “living” in the sense that they arise from blockages or denial of practitioners’ own evolving professional values, and address these blockages so that the practitioner might engage in elevated and enhanced practice that is more consistent with one’s own
aspirations for professional growth (Arhar et al., 2001). This process is seen as both creative and generative (J. Garrison, 1997; Whitehead & McNiff, 2006). Diaz-Maggioli (2004) called these living theories “teacher success stories” which are intended to be made public (p. 5), and carried through in everyday practice (DuFour & DuFour-Burnette, 2006, citing Fullan, 2005). Rath (2002) likened this to a “border crossing” in which one must face hitches in practice, with a willingness to move beyond conventional boundaries and to face the unknown.

**Perspectives on Learning**

The perspectives on learning that follow represent learning theories that I believe are most appropriate for this study. Since this study deals with teacher action-researchers as adult learners, it became apparent that an appropriate adult learning theory was necessary for this research. In particular, transformative learning is a specific strand of adult learning that resonates with studying adult learners in an action research setting, since action researchers are dealing with challenges in practice that correspond with Mezirow’s (1991) “disorienting dilemmas,” while seeking some type of improvement or change (transformation) in their practice.

One objective of this study is to theorize how teachers may experience transformation in critical colleague relationships. Sociocultural and activity theory endeavor to set forth learning as a process of mediation in a collaborative activity system. The participants in this study worked collaboratively in online critical colleague groups that I began to see were mediated activity systems in their own right. These theories had
the potential to shed considerable light on understanding teacher professional development via collaboration and critical collegiality.

**Adult Learning Theory**

Although there are many and varied theories of learning (Knowles et al., 2005), it is important to recognize at the outset that teachers are adults who are in a profession where their learning carries a vital link to the learning and success of their students, regardless of student age or teaching setting. Therefore, adult learning theory can provide insight and perspective as to the learning opportunities of teachers and their professional development as they navigate through their careers. Merriam and Caffarella (1999) suggested that “what is . . . crucial is the recognition that [adult] learning opportunities come in many sizes, shapes, and forms” (p. 43). There are many wide and varied contexts in which adult learning occurs (Cranton, 1994). Burbules (2006) stated that adult learning is both “lifelong and lifewide” (p. 283). The authors’ point here was that a wide spectrum of learning experiences takes place throughout the life cycle and is not restricted to the experiences of children or youth.

Adult learning theory includes many strands. In her survey of the subject, Merriam (2001) identified andragogy, self-directed learning, and transformative learning as earlier strands that have come to be thought of as classical theories of adult learning. A number of newer strands have entered the adult learning picture, including feminism, context-based learning, roles of emotion and imagination, communities of practice, and findings from recent brain research. Others, such as Oja (1991) and Hoare (2006) favored stage theories and developmental approaches for exploring adult learning. Day (1999)
stated that “being an adult learner means reflecting upon purposes and practices and the
values and social contexts in which these are expressed” (p. 47). From this wide variety
of viewpoints, it is clear that there is no one-size-fits-all framework to come to terms with
how adults learn.

Knowles et al. (2005) presented a concise history of our understanding of adult
learning. The authors suggested that there was a gradual development of what they call
“an integrated framework” to understand adult learning experiences (p. 36), and that this
development arose from several different fields of study, including philosophical,
psychological, and sociological perspectives, as well as adult education programs. They
also stated that there were two primary pathways of scholarship in the field of adult
learning during the early 20th century: (a) the “scientific,” and (b) the “artistic or
intuitive/reflective” (p. 36). These two pathways are discernible in the more recent
growth of adult learning theory (Merriam, 2001).

Malcolm Knowles is probably best-known for his elucidation of andragogy as a
means of understanding unique characteristics of adult learning. Knowles (1973) made a
distinction between pedagogy as children’s learning, and andragogy as learning within
the domain and lived experience of the adult. Knowles based his view of andragogy on
the premise that adults learn from a foundation of their lived experience, making clear
and timely connections regarding the practicality of their learning. Although Knowles
later allowed for overlap between pedagogy and andragogy (Jarvis, 1987), the concept of
andragogy became very influential in viewing adult learning as a set of experiences that
have unique qualities as distinguished from the learning experiences of children. This has been particularly so regarding teacher professional development (Peery, 2004).

**Transformative Learning**

Transformative learning is one major strand of adult learning theory. Merriam and Caffarella (1999) alluded to the appropriateness of transformative learning as a theory of adult learning since it “is firmly anchored in life experience” (p. 320). It has been most widely known through the work of Jack Mezirow (1991, 2000), who began to develop his theory in his work in adult literacy education, along with qualitative study of women in both work and university life. Since the publication of Mezirow’s early work, transformative learning has become one of the most popular areas of research in adult learning, including a proliferation of books, conferences, and (as of 2002) approximately 100 doctoral dissertations (Marsick & Mezirow, 2002). The foundational goal of transformative learning is “effecting change in a frame of reference” (Mezirow, 1997, p. 5), with a view to “construing and appropriating a new or revised interpretation of the meaning of one’s experience as a guide to action” (Mezirow, 1994, pp. 222-223). Mezirow also saw transformative learning as “a meaning-making activity” (Merriam & Caffarella, 1999, p. 319).

Mezirow (1994) proposed two main levels on which we exercise judgment in relation to meaning as frames of reference. The first of these is meaning schemes, in which we make our everyday decisions in the moment; these are context-oriented and are the outworking of the second category of frames of reference: meaning perspectives. Meaning perspectives are a matter of “habitual orientation and expectations [which]
provide criteria for judgment” (p. 44). A change in these meaning perspectives involves our reflection on the underlying motives, values, and beliefs that undergird our practice in any endeavor. Mezirow also insisted that change or transformation of meaning perspectives is far less frequent than transformation of meaning schemes, and is a deeper transformative experience for the adult learner, in that she is examining and reflecting on prior assumptions, addressing, and possibly altering, the underlying reasons as to why the learner may take specific actions. Interestingly, although Mezirow saw perspective transformation as the level of transformative learning that occurs less frequently (Imel, 1998), he placed a high level of priority here, even calling it “the cardinal goal” and “the engine of adult learning” (1997, p. 5; 1994, p. 228). Two other aspects of frames of reference are what Mezirow referred to as the “two dimensions . . . of habits of mind and points of view” (1997, p. 5). Mezirow saw “points of view” as susceptible to continual readjustment, while he thought of “habits of mind” as oriented toward longer duration, pointing to the deeper change of perspective transformation.

It is noteworthy that transformative learning is not meant to be a neat or tidy approach. In fact, Mezirow stated that learning is not transformative if it “fits comfortably in our existing frames of reference” (1997, p. 7). It is based on what Mezirow (1991) called “disorienting dilemmas” (p. xvi), that is, situations, questions, and so forth, that are unsettling, bothersome, or problematic. They are often in the context of “a significant personal event . . . an acute internal personal and personal crisis” (Taylor, 2000, p. 298). These may call into question our values, patterns of practice, or judgment as we live and work in particular contexts. Whitehead (1989) referred to this phenomenon
as the “I’ contradiction,” where one’s current professional values or aspirations are somehow denied or blocked from their fulfillment in practice. As these dilemmas are addressed and one’s frames of reference, values, and/or aspirations are further understood (or changed altogether), transformative learning occurs.

Imel (1998) has stated that transformative learning cannot be understood in terms of one modality. As an outgrowth of the original strand of the transformative learning literature as created by Mezirow, more recent directions in the field have questioned Mezirow’s emphasis on transformative learning as a primarily rational or cognitive approach to learning. This view counteracts this rational/cognitive viewpoint by balancing it with aspects that allow for intuition, affect, and artistry (Cranton, 1994; Grabove, 1997; Imel, 1998). It also allows for the idea of “authenticity” of the teaching self, even when engaging in critical reflection and dialogue in collaboration (Cranton, 1994).

In transformative learning, perspective transformation has both practical and empowering aspects as well. Kritskaya and Dirkx (2000) said that “transformative learning as inner work is not merely a narcissistic, me-oriented perspective” (p. 8). Citing Palmer (1998), they also stated that this is “outer work through an inner journey” (p. 4). Cranton (1994) suggested that professional development models that emphasize technical expertise need not be ignored, as long as there is an understanding that this technical expertise includes “content . . . derived from an emerging theory of practice” (p. 214). Arising from this emergent theory, Cranton also believed that empowerment must precede transformative learning in addition to what she called an “increased” stage of
empowerment which follows. This notion of empowerment owes much to Habermas’s framework of learning and interests (Arhar et al., 2001), and figured prominently in Mezirow’s earlier work (1991). As empowering as transformative learning may be, it is important to note that is not necessarily appropriate for every teaching/learning situation (Imel, 1998). Some settings do not call for a reflective examination of one’s meaning perspectives in order to determine that learning has occurred.

To conclude this section, it is appropriate to cite Taylor (2000) regarding the current state of our understanding of transformative learning:

It is imperative, in this new millennium, that we set a new direction of research for transformative learning theory that focuses on understanding with greater depth its inherent complexities, that engages a wider range of research designs and methodologies, and that investigates most thoroughly transformative learning as a viable model for teaching adults. If this theory of adult learning is to remain of significance to adult educators it must continue to inform adult educators in ways they can improve their teaching practically and theoretically. (p. 286)

**Sociocultural Theory**

One perspective on learning that has received a considerable renewal of attention since the 1970s is sociocultural (Vygotskian) theory. This theory of learning began with the work of Soviet psychologist Lev Vygotsky (1896–1934). Although Vygotsky had a varied background in several fields, including literature and semiotics, he began to work in psychology with a focus on addressing disunity in the field in Soviet Russia at that time (Wertsch, 1985). During the 1920s, Soviet psychology as a discipline was facing
competing schools of thought that included behaviorism, gestalt theories, and Marxist viewpoints, among others, as a means of understanding and explaining psychological phenomena (Cole & Scribner, as cited in Vygotsky, 1978). Vygotsky was seeking an approach that used social and cultural settings as an integrative means to account for learning processes (Cole & Scribner, as cited in Vygotsky, 1978). This was especially the case in the field of education; in fact, Moll (1990) stated that “Vygotsky regarded education . . . as the quintessential sociocultural activity” (p. 1).

According to Wertsch (1985), Vygotsky operated with the “assumption that psychological phenomena can be understood only by examining the genesis of complete living units of functioning,” and that the whole can be understood in terms of the individual unit (p. 5). This process is also known as ontogenesis, and follows a developmental trajectory in social settings (Wertsch & Toma, 1995). Gover (1996) thought of this sociocultural development in terms of emergent narrative, which he said is based on “five integrated dimensions: (a) time; (b) artifacts (language, signs, and symbols); (c) affect; (d) activity; and (e) self-reflexiveness” (p. 3). Gover contrasted this with an individualistic/correspondence model in which change or development are not dependent on social context, and in which language is little more than a collection of transmitted containers, corresponding to particular meanings.

Perhaps the best known feature of Vygotsky’s theory is the “zone of proximal development” (ZPD). Vygotsky (1978) defined this as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in
collaboration with more capable peers” (p. 86). It is also the arena in which the phenomenon of “scaffolding” occurs, where mediated meaning arises as a process of generative acts, with the capacity of going beyond a transmission model of technical skill (Moll, 1990, in Daniels, 2001). Daniels also pointed out that the character of the scaffolding within the ZPD may vary from one situation to another, depending on such factors as who is collaborating within the zone, as well as how the meaning is mediated there. Tudge (1990), in studies of peer collaboration of children in the ZPD, acknowledged that the ZPD is a place where “ontogenetic development” occurs (p. 158). However, Tudge is not convinced that the ZPD itself is a panacea; “there is no guarantee that the meaning that is created when two peers interact will be at a higher level” (p. 169). Antòn and Dicamilla (1999) believed that a central goal of operating collaboratively in the ZPD is self-regulation, a realization of internalization on the interpersonal level after mediating action intrapersonally.

Vygotsky’s influence has developed to the extent that there is a family of related theoretical viewpoints that has become known as “neo-Vygotskian” theory. Among these are (a) distributed cognition (Salomon, 1993); (b) situated learning (Lave & Wenger, 1991); (c) communities of practice (Wenger, 1998); and (d) activity theory (Engeström, 1999). While there is a degree of overlap in all of these in that they have developed from Vygotsky’s earlier work, activity theory is particularly informative in this area of the literature for the purpose of this study.

Engeström (1999) set forth five key concepts of activity theory. These include the following:
1. “a collective, artifact-mediated, and object-oriented activity system, seen in its network relations to other activity systems . . . as the prime unit of analysis” or interconnectedness with other activity systems as a key assumption.

2. “multi-voicedness of activity systems,” which includes many voices beyond those of the individual in a system.

3. “historicity,” a rich and multi-dimensional unfolding of activity over time.

4. the “central role of contradictions as sources of change and development,” allowing for conflict, disagreement, or disharmony in the change process.

5. the “possibility of expansive transformations in activity systems.”

Transformation in an activity system moves from the internalized to the externalized, often in the form of problem-solving. (pp. 4-5)

These concepts indicate a number of noteworthy aspects. First, this variation of Vygotskian theory is based on the idea that the individual, although important, does not operate only in a network of relationships to other people or to interconnected/mediated tools, but is situated in a system that is in motion (active), and is mediating meaning through interaction with other activity systems. This view also allows for nonlinearity, imperfections, conflict, and so forth, within the activity system (“central role of contradictions”), and growth over time (“expansive transformations” and “historicity,” respectively). Engeström (1999) also believed that the zone of proximal development plays a central role in what he called transformative “expansive cycles” (p. 33). Karpov (2003) had a similar view in his notion of a “leading” activity that includes “mediation [that] produces major developmental accomplishments,” setting up the next step in
transformative processes (p. 141). Interestingly, these activity systems may include the zone of proximal development under the heading of “leading activity,” approaching the ZPD as activity rather than as a place (McCafferty, 2002).

Wertsch (1981) has identified and defined several aspects of activity theory. One central aspect here is that the terms “activity” and “action” must be distinguished from one another. Acknowledging A. N. Leont’ev’s seminal contribution to this area, Wertsch defined activity as social mediation with an object or objects, while action is defined as goal-directed or objective-directed. In addition, Wertsch did not see the theory of activity as static or conflict-free. Like Engeström (1999), Wertsch allowed for conflict of individual goals in mediated action and for the possibility of transformation through “teleological action” (Daniels, 2001, p. 79), completing one of Engeström’s transformative “expansive cycles” (p. 33).

Activity theory has progressed through developmental phases that are referred to frequently as being “first, second or third generation.” For the most part, this can be thought of as looking “beyond the singular activity system and to examine and work towards transformation of networks of activity” (Daniels, 2001, p. 92). It is this expansion toward a plurality of activity systems functioning in mediated action that accounts for the second and third generation models in the literature. Activity systems do not stand alone, but are interconnected throughout all of social life (Roth & Lee, 2007).

Roth and Lee (2007) discussed several advantages of research from the perspective of activity theory. One of these was that
This framework can potentially overcome a range of troublesome dualisms in education: individual versus collective, body versus mind, subject versus object, and theory versus praxis. By making activity the minimal unit of analysis, activity theorists take a holistic approach without reducing any pole of a dualism to its corresponding opposite. . . . This integration occurs at a higher level: the activity as a whole. (p. 218)

Another advantage was how activity theory has the potential to transcend time and space by “stretching across social and material environments” (p. 189).

In conclusion, sociocultural theory offered one view of learning as a process of making meaning via social mediation. While the original concepts of Vygotsky are still highly influential in education circles, the development of varieties of neo-Vygotskian theory offer further insights into this approach to learning. This is particularly the case when considering recent developments in activity theory.

**Online Learning**

The literature on online learning (e-learning) is in a rapid state of expansion and change. This state of flux is a reflection of the emergent and expansive character of the field itself. Carr-Chellman (2005) called online learning “one of the hottest new training modalities in the United States” (p. 145). Online learning has also been called “a mature field” with “its own rules, structures, achievements, and literature” (Keegan, 2000, p. 90). Evidence of this development is the number of international conferences and journals that have appeared in the field, as well as the publication of *The Sage Handbook of E-learning Research* (Andrews & Haythornthwaite, 2007).
Online learning is the most recent manifestation of distance learning, which has a history dating to the 19th century and the use of correspondence courses as a means of distance learning. Fletcher (2004) has gone so far as to suggest that online learning represents the latest revolution in learning, with the first two being the advent of writing and the introduction of books via the printing press. The industrial age decontextualized education as it moved away from apprenticeship models of learning, with an ethos of separation and isolation that followed (Figueiredo & Afonso, 2006; Keegan, 2000). Connick and Russo (1995) suggested that educational trends in the United States have been a response to changing needs (examples of these are the junior college and the GI Bill), and the advent of access to computer technology in the 1980s opened the door to making the rapidity of word processing and information gathering available. However, it was the introduction and rapid development of the Internet beginning in the mid-1990s that moved online learning into view as a distinctive area of practice and for potential research and inquiry, with much forward motion in the field since 1995 (Lewis, Snow, Farris, Levin, & Greene, 1999).

While the Internet has been called a “piggy-back” technology in that it was based on the older technology of the telephone to a great extent (Jones, 1997, p. 8), it has been referred to as a “disruptive” one as well, in the sense that the Internet has introduced an element of excitement and anticipation for new avenues of teaching and learning in a “new global dimension” (D. R. Garrison & Anderson, 2003; Keegan, 2000, p. 6; Mason & Rennie, 2006). One distinctive feature of distance education using online technologies is that the “possibility of teaching face-to-face (F2F) at a distance was born of the
electronics revolution of the 1980s” (Keegan, 2000, p. x). This feature might be termed an “interactive turn” in the literature, leading to subsequent studies of online collaboration and community, which I address later in this section.

It is important to note that the majority of studies in online learning are based on a constructivist model (Mason & Rennie, 2006; MacPherson & Nunes, 2004; Paloff & Pratt, 1999; Twigg, 2001). Constructivist orientation is an ontology wherein we are involved in an active construction of knowledge (Figueiredo & Afonso, 2006). Ally (2004) suggested that constructivism is an active process, and that “a major emphasis . . . is situated learning, which states that learning is contextual” (p. 91). The literature is also rooted in Deweyan social constructivism, leading to constructing reality in community (Dewey, 1916).

A recurring theme in the online learning literature is the discussion of how one might understand the nature or essence of online spaces and the functions/experiences of people who use them. McPherson and Nunes (2004) suggested that prior social contexts may be a poor fit for learning in online spaces. Whereas Rheingold (1993) brought the term “virtual community” into the online learning literature (as well as possibly bringing the term “virtual” into everyday discourse), we tend to understand the concept of being “virtual” as being unreal or inauthentic, a substitute for the real or authentic in our other life experiences. However, Mason and Rennie (2006) posited that the online environment is no less “real” than the physical. They also cited other examples such as “the market” and “political ‘spheres of influence’” as cases in point (p. 26). Jones (1997) also posed the question as to whether offline phenomena are manifested online, in the sense that we
might understand the online environment in the same manner as we do our lives elsewhere. Jones also questioned whether we are actually “overcoming” space and time online, a common attribute of online environments (Meyer, 2002) or simply “living in” space and time (Jones, 1997, p. 11). Jones thought of being online as a “discontinuous narrative space” where “we ‘feel’ space much like a fish ‘feels’ water” (pp. 9, 11). At this point in our understanding of essences of online environments (as well as online learning), it is still difficult to articulate, since these contexts are often “indefinite . . . not physically visible . . . but are inferred from mediated evidence” (Figueiredo & Afonso, 2006, p. 4).

As stated above, another noteworthy characteristic of online environments is “interactivity” (Fletcher, 2004, p. 124). One conception of the interactive nature of online spaces is a metaphor of rope and how its strands are progressively and more intricately intertwined as we examine the rope more closely (Figueiredo & Afonso, 2006). Figueiredo and Afonso also suggested that the term “environment” is not most suitable for describing online spaces, as they feel the term does not account for inherent interaction. They believed that life online is an interaction between “content and context,” with a “yin-yang quality” (p. 15). This put forth the idea that although there is interaction between content and context online, some of each is contained in the other, and that the term “patterns of context” is to be preferred over the notion of linear process (p. 14). Interactivity is also a prominent facet throughout the generations of technological development as distance learning, whether it involves interaction between teacher and student or between student and student (Lewis et al., 1999). D. R. Garrison and Anderson
(2003) took this a step further when they stated that there is a need for future research seeking understanding of what they call the “transactional perspective” in online learning (p. 14). This perspective was based to a large degree on viewpoints of Dewey (1938), who advocated that “control of individual actions is effected by the whole situation in which individuals are involved, in which they share and of which they are co-operative or interacting parts” (p. 53). There was a strong link between Garrison and Anderson’s “community of inquiry” online model and Dewey’s (1916) ideas regarding interactive inquiry and problem-solving within a democratic community.

Since the online environment often involves communication and interaction, a very large segment of the online learning literature dealt with community and collaboration. The concept of working collaboratively in online communities has held a great deal of initial promise (Mason & Rennie, 2006), with the notion that the Internet has the “capacity to support new kinds of community” (Burbules, 2006, p. 273). In the research literature, these “new” communities were based to a great degree on the sociological tradition, examining the interactions among people in group settings (Delanty, 2003). A common model for online communities was the community of practice (Wenger, 1998), that places priority on participation and belonging based on discourse (Delanty, 2003; Kennedy & Duffy, 2004), where participants are “actively involved in constructing knowledge” (Mason & Rennie, 2006, p. 103). Delanty viewed communication as a vital aspect of online community, without which it is not possible to nurture these communities over time.
Delanty (2003), in his examination of the sociological literature of community, noted Tönnies’s distinction between gemeinschaft (community) and gesellschaft (society). He stated that gemeinschaft points to community as “relational” and that gesellschaft points to society as “mechanical” (p. 3). While we may think of the application of online technology as being in the “mechanical” mode, the literature on online communities also included the “relational,” reflecting collaborative online learning as “a social process” (Charalambos, Michalinos, & Chamberlain, 2004, p. 136). It is this blend of the mechanical and the relational that was evident in both theoretical and empirical studies on collaborative online learning (Paloff & Pratt, 1999).

There appeared to be two primary strands that ran through the online community literature. These dealt with (a) forming or constructing the online community, and (b) nurturing and sustaining it (Charalambos et al., 2004). In the process involving the formation and construction of online community, design of the online experience was paramount (McConnell, 2006; Wang, Sierra, & Folger, 2003). This not only included the choice(s) of technologies to be used in specific learning settings, but also applied to decisions regarding learning opportunities (Whatley & Bell, 2003). The latter was particularly important in an instructional course setting where the course facilitator played a large part in decision making (Kennedy & Duffy, 2004). Kennedy and Duffy also argued that these communities should involve all stakeholders; in this way possibilities for collegiality can be established early in the process (Whatley & Bell, 2003).
However, although the task of designing online learning spaces may be a formidable one (especially as a prelude to the formation of collaborative communities), the literature suggested that nurturing and sustaining a collaborative online community has its own challenges. For example, King, Mallet, and Bates (2006), in their summary of case studies on online learning, posited that change processes are not predictable, and include “tensions between sustainability and change” (p. 3). These tensions may have been due in part to the complexity of the online community itself. Numerous examples of studies elucidated numerous aspects of online community. Among these were what Mason and Rennie (2006) called “key criteria”: (a) “self-generated evolution,” (b) “involvement and interactivity,” and (c) “frequency and duration of visits . . . to [the] site” (p. 27). They also discussed the notion of moving beyond a view of “community as physical territory . . . where people feel a part of a web of diverse and interlocking relationships” (p. 25). Kennedy and Duffy (2004) suggested that two important factors in online community include (a) “a sense of belonging,” and (b) “a sense of responsibility for the sustenance of the community” (p. 207). Trust, mediation through periods of disagreement, time and work intensiveness, conflict resolution, and emergence of collective identity are other attributes of ongoing life in the online community (McConnell, 2006.)

A prominent model in the online learning community literature was the “community of inquiry” framework developed by D. R. Garrison and Anderson (2003). Their model described several aspects of online community that may be informative for understanding the community from the perspectives of formation/construction and
sustenance. The authors presented three aspects of online community that they articulated in terms of “presence.” These included: (a) cognitive presence, (b) social presence, and (c) teaching presence. Cognitive presence deals with “intent and actual learning outcomes . . . a generic structure of critical thinking . . . designed to construct meaning and confirm understanding” (p. 28). Social presence is a phenomenon that includes an affective aspect suggesting an ethos of safety and trust. Finally, teaching presence “brings all the elements of a community of inquiry together in a balanced and functional relationship congruent with the intended outcomes and the needs and capabilities of the learners” (p. 29).

Finally, these three overlap to make up an “educational experience.” As noted previously, Garrison and Anderson’s view of this experience was connected to interaction within the community, or a “transaction” between and among participants.

Meyer (2002) saw the notion of “presence” having a deep impact in our understanding of online learning. Stodel, Thompson, and MacDonald (2006) also believed there is room for further research on the interactions of these notions of presence. They suggested that online learners sometimes miss opportunities for face-to-face interaction, and that “aspects of what online learners miss about face-to-face learning relate to deficiencies in presence” (p. 17). They also stated that each community has a responsibility to “unpack” its purpose and unique importance, with an understanding that the “attitudes, practices, and expectations need to be fundamentally different in an online context compared to face-to-face” (pp. 17, 19). These aspects of online presence in D. R. Garrison and Anderson’s (2003) model of an online community of inquiry were but one illustration of how multifaceted online community can be, and
how there is still a great deal of future research needed in order to deepen our understanding of it.

As complex as the study of the nature of cyberspace or the detailed aspects of online community may be, there was a fundamental issue in the literature as to whether online learning does indeed live up to its expectations, particularly in substantive areas such as professional development in teaching. Studies cited frequently in this regard were Russell (1999) and Clark (1983, in Fletcher, 2004). Respectively, these studies state that use of electronic media do not result in substantial gains in learning that would not have occurred otherwise, and that media are nothing more than a conduit for transmission of information, rather than something leading to transformation for the learner. This is to be compared to instances in the professional literature that mentioned the early promise and enthusiasm that accompanied the introduction of learning in online spaces, and how, over the past several years, a somewhat less optimistic picture of online effectiveness has emerged (Mason & Rennie, 2006; Zemsky & Massy, 2005).

There were several points of debate when addressing the effectiveness of learning online in the context of professional development. First, there was the issue of whether online learning technologies, such as Powerpoint, WebCT, and Blackboard, “make it almost too easy for faculty to transfer their standard teaching materials to the Web” (Zemsky & Massy, 2005, p. 248). This concern was also expressed by Twigg (2001) when she referred to online instruction dealing with “old solutions to new problems . . . [by] migrating . . . on-ground approaches online” (pp. 3, 5). Second, there was the concern about whether online professional development keeps the primary focus on the
technologies at hand or on the learners themselves (Bugeja, 2007). Third, Twigg cited a now classic study by Russell (1999) in which he maintained that the use of electronic media offers no discernible advantage for those using them. This issue of effectiveness in learning using specific media was also discussed by Kozma (1991).

Finally, there was also ongoing dialogue in the online learning literature as to its overall effectiveness. Fletcher, Tobias, and Wisher (2007), quoting Richard Snow (1980), cautioned that online learning should not be understood as a “garden of panaceas” (p. 99). Very strong concerns have been expressed by Dede (2006) when he stated how “evidence of effectiveness is generally lacking, anecdotal, or based on participant surveys conducted immediately after learning experiences, rather than later when a better sense of long-range impact is attainable” (p. 2). Dede put forth this concern while pointing out that this is the case even while there are many forms, methods, and approaches to online professional development, along with rapid expansion in the field. Whitehouse, Breit, McCloskey, Ketelhut, and Dede (2006), in their review of empirical studies in online professional development, claimed that much of the theorizing in these studies is based on a rather light treatment of the “research context” (p. 25). In addition, Bugeja (2007) suggested that American culture has become so enamored of the role of technology in our systems of everyday living that we have confused the working of technology with the potential learning available in online environments.

**Teacher Professional Development**

Teacher professional development has gone through several periods of adjustment and reinvention throughout its history. Even a cursory reading of the many editions of the
Handbook of Research on Teaching reveals that the role(s) of the teacher has changed dramatically over the past 45 years. And yet, with the proliferation of many programs and initiatives to help teachers to do a “better job” as education professionals, the literature clearly revealed that the field still faces a number of challenges and frustrations. Along with professional development models and trends in the literature, I address some of the problematic areas in this discussion as well.

Sparks and Loucks-Horsley (1990) defined teacher professional development as “those processes that improve the job-related knowledge, skills, or attitudes of school employees” (pp. 234-235). Diaz-Maggioli (2004) defined this development as “a career-long process in which educators fine-tune their teaching to meet student needs” (p. 5). However, while these authors provided succinct definitions here, there was also an acknowledgement that there is still a great deal to be understood about this process. One lens through which we might understand teacher professional development is via an examination of its prevalent models. The benefit of looking into a field in terms of its models is that these delineate frameworks of understanding over time and reveal much about how researchers and practitioners have attempted to understand and solve problems. Sparks and Loucks-Horsley (1990) identified several noteworthy models in teacher professional development. These included: (a) the “observation/assessment” model, (b) the “developmental/improvement process” model, (c) the “training” model, (d) the “individually guided” model, and (e) the “inquiry” model (p. 235). Similarly, Guskey (2000) listed seven models: (a) training, (b) observation/assessment, (c) involvement in a development/improvement process, (d) study groups, (e) inquiry/action
research, (f) individually guided activities, and (g) mentoring. Another model that has
come prevalent in recent years is the professional learning community (DuFour &
Eaker, 1998). Guskey stated that all of these models have advantages and disadvantages,
with an implication that there may not be a perfect, all-encompassing model that will be
appropriate for every professional development setting.

Although these models may be useful in getting a view of the territory in teacher
professional development, the recent literature also explored the field in terms of
centering on the teacher herself as “the center of all efforts to reform and improve
schools” (Lieberman & Miller, 2001, p. viii), and on the dynamics of teachers’ change
and growth. As Shulman (2004) stated, the “engine of reform . . . is the classroom
teacher” (p. 504). He went on to say that “efforts at school reform must give as much
attention to creating the conditions for teacher learning as for student learning” (p. 504).
Shulman also saw professional development as functioning as an ellipse rather than as a
circle. His point was that an ellipse “has two foci that define its orbit, not just one” (p.
518). These two foci were student and teacher learning. As noble as teachers’ goals
regarding student learning may be, along with many examples of student learning as a
goal for professional development endeavors (Hawley & Valli, 2000), the literature
suggested that teacher professional development may be an empty experience for
educators without a component which includes them as active change agents, as people
who are worthy of enjoying the benefits of the change process themselves (Day, 1999;
MacKinnon & Grunau, 1994; Peery, 2004).
Both the paths and processes of teacher professional development, however, are fraught with problematic issues that pose a formidable challenge to all involved. According to Guskey (2000), teacher professional development has often operated with a “narrow view” (p. 14), with the notion that the professional development experience, in whatever form, is “something [teachers] must endure and get out of the way” (p. 15). Little (1993), in reference to a training model that emphasizes short-term workshops as a means of developing teacher expertise, has stated that the “dominant training model [is] not adequate” (p. 129). It seems that there were two primary explanations in the literature for this state of affairs. First, the makeup of many school cultures and climates does not support teacher learning and teacher change (Johns, McGrath, & Mathur, 2006). Second, much teacher professional development is founded upon a perspective of teachers’ somehow being deficient in their practice, of not measuring up to professional standards, whether written or unwritten (Fiszer, 2004).

Tomlinson (2004) defined school culture as something that is “more permanent and built into an organization than the climate. Culture is about . . . binding the organization together through its network of relationships” (p. 150). Historically in the United States, school culture has rarely been favorable to teachers’ opportunities to freely explore their own practice with the intention of improving it throughout their career spans (Cole & Knowles, 2000). Much of this arises from such issues as the structure of the school day and how or where time for teachers’ preparation of lessons and materials, collegial conversation, and so forth, may find a place. Darling-Hammond and Bullmaster (1998) referred to this as an ever-present metaphor of schooling as a place of factory-like
production. With the complexities involved in the teacher socialization process (Lortie, 1975), teacher professional development opportunities have functioned in many instances as “a patchwork of opportunities . . . [an] incoherent and cobbled-together nonsystem, structured and unstructured, formal and informal” (Wilson & Berne, 1999, p. 174).

Shulman (2004) suggested that the complexities of teaching are often misunderstood and underestimated. He said that the lifeworld of teaching is made up of “layer upon layer of incredible complexity” (p. 504). Berg (2002; citing Sarason, 1996) put forth the idea that schools must understand the unique qualities of this complex lifeworld, while avoiding comparisons to other professional cultures (such as business climate) that might confuse the issue(s) in approaching problem-solving unique to school settings. Perhaps two effects of this complexity were reflected in Fullan’s (1999) statement that “the biggest problem facing schools is fragmentation and overload” (p. 39). Little (1999) offered an interesting view regarding schooling when she said that “structure alone will not ensure student benefit or an environment for teacher learning” (p. 239). While reforms or adaptations of school structure may be helpful in assisting all stakeholders to seek the professional development of teachers, Little (1993) also emphasized that it is important to consider inner spaces of teachers in their continuing development. Similar concepts regarding these inner spaces have been developed by Parker Palmer (1998). Palmer believed that the “inner landscape” of the teacher is so important that he asserted that “technique is what teachers use until the real teacher arrives” (p. 5), and that it is unreasonable to expect optimal student learning if “schools . . . fail to support the teacher’s inner life” (p. 6).
These concerns with the inner workings of teacher practice are central to more teacher-focused approaches to professional development that place an emphasis on teacher inquiry and inside-out change (Berg, 2002). Fullan (1999) favored these approaches in the sense that the professional development of the teacher is built upon dynamic processes, and that studies of this development need to “capture movement,” with a view to capturing “how to get there” (p. 33). Berg (2002) said that this “movement” should be part of a school’s vision that moves outward. This was in direct contrast to top-down professional development initiatives that restrict and exclude teacher voice (Burbank & Kaschak, 2003) and may “ignore the talent of the school’s faculty” (Damore & Wiggins, 2004, p. 19). Wilson and Berne (1999) also recognized that top-down measures in the form of structural changes in assessments, courses of study, and the like, would not necessarily impact how teachers engage in their daily practice. Collaborative inquiry models appeared to hold a great deal of promise for teacher professional development. These are rooted in the autobiographical perspectives of practicing teachers, in which they seek to “construct an autobiographical account, to develop a living text” (Cole & Knowles, 2000, p. 107). One example of this model was the action research approach of Whitehead and McNiff (2006) in which a primary goal was to develop “living educational theories” to address Whitehead’s question, “How do I improve my practice?” When applied in a collaborative setting, this approach sought to develop standpoints about enhanced knowledge and practice (Whitehead, 1989) while working in a collaborative “web of betweenness” (Farren, 2006). Another (contrasting) example in the literature was the professional learning community model (DuFour &
Eaker, 1998). This model consisted of learning community teams that collaborate to address student achievement, primarily by exploring how to improve performance on student assessments, along with implementing an elaborate system of interventions. While the research literature supported student learning as a staple of improved teacher practice, it seems that the DuFour/Eaker model emphasized student performance to such an extent that teacher reflection and the dynamics of the teacher’s inner life may be neglected. It appears that there is room for further research into this model and how it might benefit from qualitative components to encourage critical reflection (Brookfield, 1995). This model is a clear example of what Day (1999) set forth as a major problem in teacher professional development, namely, facing the disequilibrium brought on by trying to balance being a “competent technician” with engaging in moral enterprise (p. 16). Even in a “professional learning community” setting as DuFour and Eaker described, it is still possible for practitioners to emphasize technical ability over moral enterprise (or vice-versa), to the extent that the inner aspects of the teaching professional’s life remain largely neglected.

**Teacher Collaboration**

From the preceding section on models and dynamics of teacher professional development, it is clear that various combinations of teachers working together often play a prominent role. Collaboration has long been a part of teachers’ professional lives, whether it occurs formally or informally. However, Damore and Wiggins (2004) stated that “collaboration is defined as a system of planned cooperative activities where educators . . . share roles and responsibilities for student learning” (p. 15). While this
definition may be appropriate for a consideration of procedural professional development activities, collaboration is actually a rich and complex process that may be a very powerful element in teacher change over the career/life span.

Miller (1990) argued that teacher collaboration is something that must be created, suggesting a deliberate (yet not a neatly packaged) process. Too often, teacher collaboration unfolds as something that occurs almost by happenstance, or by a “forcing” process that Hargreaves (1992; 1993b) called “contrived collegiality.” McDonough (2006) has identified developmental trajectories in collaborative settings, ranging from an initial time of resistance to a point of buy-in. However, it is important to note that this buy-in point can occur on a basis of teacher survival rather than on one of deeper collegiality (Damore & Wiggins, 2004). This is an example of how collaboration may be understood as a secondary process in professional development, even when a model may ostensibly identify itself as being collaborative in nature. Kennedy and Duffy (2004) made the point that “collaboration is a first principle and not an additional step” (p. 204).

One primary goal of teacher collaboration is to address the issue of teacher isolation in schools. Cole and Knowles (2000) stated that “teachers’ work traditionally has been contextualized by terms of isolation, independence, privacy, and survival” (p. 135). Little (1999) said that “schools are busy places that have become insular places” (p. 250). To a great extent, this isolation arises from a Darwinian influence that emphasizes teachers being able to adapt their behavior and thinking to ensure survival (Damore & Wiggins, 2004). The school as workplace exerts a heavy influence on this Darwinian perspective (Hargreaves, 1993b). Hargreaves (1992) noted that this is especially so when
considering the typical schedule or “architecture” of a teacher’s workday, with very little, if any, time to confer with colleagues or to engage in sustained critical reflection of any kind. The Darwinian perspective surfaced again in the work of biologist Alan Rayner (2008) on what he called “inclusionality.” His premise is that there are “no isolated wholes” in life, and that the dynamics of living in terms of isolated individual units contending for survival is extremely limiting.

Another aspect of collegiality that had a prominent place in the literature is “critical collegiality” or “critical friendship.” Costa and Kallick (1993) defined a critical friend as “someone who will provide new lenses through which [teachers] can refocus on their work” (p. 49). The authors also listed characteristics of critical friendship/colllegiality as a source of feedback, trust, support, a non-judgmental relationship, and a greater appreciation of work context. A similar list may be found in Swaffield (2002, 2005).

Interestingly, Swaffield (2002, 2005) has framed a debate about the use of the two terms. While these may be thought of as being interchangeable in some respects, Swaffield contended that the term “critical colleague” is preferable because the term “critical friend” has “inherent tension within the phrase,” while allowing for the idea that there is “no single accepted definition” (2005, p. 44).

It seems that Swaffield took this position because she saw the term critical friendship as an “apparent contradiction” (2002, p. 3). Her point was that including the terms “friend” or “friendship” in the discussion may be limiting as to understanding the deeper layers of a critically collegial relationship. In other words, the connotations
involved in the concept of friendship might cloud our vision of what it means for professional practitioners in any field to work together in deep collaboration.

**Qualitative Inquiry**

Research as qualitative inquiry is the study of phenomena, people, situations, or processes in order to arrive at a rich description and interpretative understanding of the research topic(s) at hand. One goal of qualitative inquiry is “making some part of the social world ‘readable’ to others” (Schram, 2006, p. 1). This type of research often involves data collection and analysis that does not center on “statistical procedures or other means of quantification” (Strauss & Corbin, 1998, pp. 10-11). Bogdan and Biklen (1992) discussed five characteristics of qualitative research. These included (a) study that occurs in naturalistic settings, (b) emphasis on data that provide description, (c) “concern with process,” (d) inductive data analysis, and (e) meaning-making (p. 6). Creswell (1998) defined qualitative research as an inquiry process 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).

Qualitative research should also be understood in terms of its paradigmatic orientation. The most common distinction in this regard is its existence in a naturalistic paradigm, as opposed to a positivist paradigm. The positivist view of research asserts that an objective answer may be found at the end of the research process, often by means of hypothesis testing. These objective findings are then meant to be predictable and generalizable in practice (Lincoln & Guba, 1985). A primary tenet of positivism is that
reality exists in such a way that it is independent of the researcher and the research participants; the researcher must uncover it rather than constructing it (Charmaz, 2006).

The naturalistic paradigm works very differently. It views reality as being an integrated whole, where “variables” cannot be isolated nor controlled in order to identify causal relationships, and where values play an indispensable role (Lincoln & Guba, 1985). Context and interaction are important aspects of this paradigm, in that there is a “fundamental assumption that all the subjects of such an inquiry are bound together by a complex web of interrelationships that results in . . . mutual simultaneous shaping” (Erlandson et al., 1993, p. 16).

This “mutual simultaneous shaping” also points to “emergence” as a property of this paradigm that has significant implications for naturalistic inquiry. Lincoln and Guba (1985) spoke of “emergent design” as part of the research process; the researcher is not bound to a rigid design that may not allow her to reconceptualize the study as additional findings are brought into view. At this point, it should be clear that a grounded theory approach to data collection and analysis would be very desirable for a naturalistic study. The “constant comparison” (analysis) of data from the beginning of data collection, with “theoretical sensitivity” to emerging theory throughout, is an appropriate fit for engaging in research from a naturalistic perspective (Glaser, 1978; Glaser & Strauss, 1967).

Whereas there are a number of varied approaches that fall into the category of qualitative research (with emergent approaches appearing regularly), Creswell (1998) identified and defined five primary research traditions in qualitative inquiry: (a) biography, (b) phenomenology, (c) grounded theory, (d) ethnography, and (e) case study.
These research traditions were not necessarily discrete categories; for example, coming to an understanding of a particular social phenomenon in a phenomenology project could also emerge from the data in a grounded theory study, case study, and so forth. All of these traditions have variations and subcategories that make the range of approaches to qualitative research very wide indeed. This also allows the researcher to adjust her approach to provide an appropriate fit in relation to the research problem and questions for a given project.

**Grounded Theory**

Grounded theory is a method for “the discovery of theory from data systematically obtained from social research” (Glaser & Strauss, 1967, p. 2). Schram (2006) also called grounded theory a means of “generating the basic social process occurring in the data” (p. 101). This method, also well-known as the “constant comparative method,” began through the work of Glaser and Strauss in sociology in the 1960s, and was first formulated in their seminal book, *The Discovery of Grounded Theory* (1967). Grounded theory has since expanded to become a popular method in many fields, including education (Bryant & Charmaz, 2007). Although Glaser and Strauss believed that grounded theory is workable for both qualitative and quantitative studies, the method has been used primarily in qualitative research, to the extent that Creswell (1998) has named it one of five major research traditions on qualitative inquiry.

Interestingly, grounded theory has developed from Glaser and Strauss’s early model to a “family tree” of sorts, with Glaser and Strauss separating somewhat in their understanding of the method (Patton, 2002). The main points of contention appeared to
arise from the question as to whether grounded theory locates itself within the positivist paradigm (even though it is most often used for qualitative inquiry), as well as the consequences of applying grounded theory data analysis in both narrow and prescriptive ways. In the 1980s, Strauss began working with former student Juliet Corbin on further development of the method, with the appearance of their *Basics of Qualitative Research* in 1990 elucidating a number of various techniques for analyzing qualitative data. This book became very popular as a textbook for research courses. However, Glaser had felt that these techniques were being followed too rigidly, not giving place for the researcher to maintain “theoretical sensitivity,” or a keen awareness of theory as it emerges, in data collection and analysis (Glaser, 1978). Glaser’s (2000; cited in Patton, 2002) concern seemed to stem from his suggestion that there is a depth to theorizing lacking in grounded theory research, of ending analysis before fuller theory emerges.

Further development of grounded theory has taken place through the work of researchers who at one time had been students of either Glaser or Strauss in their graduate seminars. Two of these former students, Kathy Charmaz and Adele C. Clarke, have produced significant strands of their own in the grounded theory literature. Charmaz has developed what she called a “constructivist” model (2000, 2006). Her position was that the researcher is just as much a part of constructing realities germane to a grounded theory study as are the participants. She contrasted her constructivist view with the idea that much of grounded theory is actually based in positivism, seeking a predictable reality that can be replicated. Charmaz also had a concern with the various frameworks popularly applied in data analysis in grounded theory, stating that these have become far
more than suggested pathways for the researcher to choose from, but that “guidelines turn into procedures and are reified into immutable rules, unlike Glaser and Strauss’s (1967) original flexible strategies” (2000, p. 524). Her emphasis in data analysis was to use “active codes” that “preserve images of experience” and that some means of approaching the data may become so complicated that they “can result in an overly complex architecture that obscures experience” (2000, pp. 524-525).

Adele Clarke (2005) has introduced another strand of grounded theory that she called “situational analysis.” Her contention here was that Strauss advanced grounded theory “around the postmodern turn” through his model of “social worlds and arenas . . . the often hidden infrastructures through which negotiations are organized” (A. E. Clarke & Friese, 2007, p. 363). According to Clarke and Friese, this allows us to view a social setting as an ever-changing “ongoing and situated organization of negotiations,” using an organizing metaphor of “layered mosaics” (p. 364).

A. E. Clarke’s primary tools for analysis of these social worlds consisted of a series of mapping strategies. A central assumption here was that “the conditions of the situation are in the situation. There is no such thing as ‘context’” (2005, p. 71). There were three main categories of these maps for data analysis and coming to a “situational understanding”: (a) situational maps, (b) social worlds/arenas maps, and (c) positional maps. These maps allow the researcher to analyze the aspects and interrelations within the situation at hand, in order to enrich the overall picture.
Conclusion

The preceding examination of the professional literature introduced areas of overlap that contributed to a contextualization of the research problem. Among these were: (a) contradictions in activity systems and the “‘I’ contradiction” as defined by Whitehead (1989); (b) Mezirow’s (1991) “disorienting dilemmas” in transformative learning theory and the “hitch in practice” in action research (Arhar et al., 2001); (c) practitioner theorizing that arises from practice in transformative learning (Cranton, 1994), and in the “living theory” approach to action research (Whitehead, 1989); and (d) problematic issues of collaboration and community in the online learning literature and similar issues in school settings in the literature of teacher professional development.

It is also noteworthy that that literature indicated a need for further research in transformative learning from a longer-term perspective, and particularly in light of engagement in action research (Taylor, 2000). McDonough (2006) also suggested that there is a need for further study on the long-term effects of action research as a means of professional development. Transformative learning has the potential to inform online teacher professional development, as Mezirow (1997) has issued a call for future work conditions that feature collaboration and application of technology.
CHAPTER III

DESIGN AND METHODOLOGY

Introduction

The overarching goal of this study was to understand critical collegiality in teacher action research and its potential for transformative learning in shared online learning environments. The research problem was the in-service teacher’s predicament of how professional development can facilitate transformative learning while satisfying the myriad of demands placed upon teachers from a variety of external sources, including a school culture of teacher isolation. One way teachers may deal with this challenge is by engaging in action research, particularly in a collaborative context where they may participate in relationships of critical collegiality. Taking part in this process while making use of shared online learning environments is one means of addressing the research problem above.

The study followed a qualitative, naturalistic research design using grounded theory. This chapter provides a discussion of this design, including the purpose of the study, research questions, method (qualitative, naturalistic inquiry and grounded theory), data collection, data analysis, limitations of the study, and trustworthiness issues.

The purpose of the study was to understand transformative learning within teachers’ critical colleague relationships while participating in online, collaborative action research. This included generation of theory by teacher action-researchers relevant to their own practice, with a view to teacher transformation over time. The study
addressed the primary research question, “What is the potential of critical colleague relationships to transform teacher action-researchers in a shared online learning environment?”

The study included the following subquestions:

1. Arhar, Holly, and Kasten (2001) stated that “action research is a process of [collaborative] theorizing” (p. 33) that may lead to “living theory,” that is, renewed professional practice consistent with the practitioner’s evolving values, accounting for both appropriateness and sufficient profundity of these values in a public arena of collaboration (Mellett, Laidlaw, & Whitehead, n.d.; Whitehead, 1989). How does critical collegiality in a shared online learning environment provide a context for generative theorizing and making explicit “living theory” for teacher action-researchers as it relates to their understanding of teaching and learning?

2. From the perspective of the participants, what is the long-term effect on teaching practice of participation in an action research online course with critical colleagues?

3. To what extent do categories of transformative learning (transformation of meaning schemes and/or meaning perspectives) play a role in critical colleague relationships?

**Method**

The study was designed with a qualitative, naturalistic approach. One goal of qualitative inquiry is “making some part of the social world ‘readable’ to others”
This social world is not set up arbitrarily with the goal of controlling for variables, proving/disproving a hypothesis, or accounting for prediction and replication, as in an experimental setting. On the contrary, Bogdan and Biklen (1992) stated that qualitative research occurs in naturalistic settings. In relation to this study, although the transcripts of the online data from the earlier studies are records of discourse that occurred in “cyberspace,” Jones (1997) suggested that the online environment is no less “real” or “naturalistic” than if someone were to observe and listen to teacher interaction and discourse in a face-to-face setting in real time.

According to Lincoln and Guba (1985), a naturalistic study “takes the form of successive iterations of four elements: purposive sampling, inductive analysis of the data obtained from the sample, development of grounded theory based on the inductive analysis, and projection of next steps in a constantly emerging design” (pp. 187–188). Their classic model also specified that data analysis culminates in the writing of “a case study report” (p. 189). This study was not intended to be a case study (although commonalities may be apparent). Conversely, I sought a theoretical (rather than primarily descriptive) understanding of the potential of critical collegiality to transform teacher action-researchers while participating in online, collaborative action research. This theoretical understanding includes emergence from the data of categories, their properties, conditions, and dimensions, along with analysis as to how these interact (Strauss & Corbin, 1998). I endeavored to integrate these insights into theory with a view to explaining and understanding the social processes and phenomena (Strauss & Corbin, 1998) involved in the primary research question and subquestions.
Earlier Studies

The impetus for this project came from two earlier studies I carried out as a doctoral student from the years 2006 to 2008. The participants in these studies consisted of two groups of in-service teachers in northeast Ohio. They came from a wide professional range, including both elementary and secondary levels, “core” subjects such as math and language arts/literacy, as well as several teachers in foreign language programs (primarily Spanish). They also placed themselves across the spectrum of a teacher’s career cycle, including teachers in early, middle, and late career stages. Both groups engaged in action research in the context of professional development courses. Both used an online component for purposes of general communication and online discussion in both open discussion forums and chat sessions with their critical colleague groups.

These teacher researcher groups enrolled in their respective online action research courses under different circumstances, and neither group was enrolled in their courses with the purpose of informing or supporting this study. The first group took a course entitled Action Research with Emerging Technologies, an online course offered through eTech Ohio, a professional development arm of the Ohio Department of Education. The purpose of the course was to integrate emerging educational technologies into classroom teaching, with action research as the framework of inquiry. Monies for the purchase of the technology needed for the teachers’ projects was provided by a grant from eTech Ohio. The course ran from May to November 2006, in two parts. The first part was dedicated to the teachers writing a proposal for their action research projects. The second
part was an implementation phase where the teachers tried out their new technology with their students according to the plans they made in their proposals. This was followed by writing their portrayals of both student and teacher learning. Online discussion was maintained throughout both parts of the course. During this time, over 60 teachers participated in these courses in sections spread throughout the state. Fifteen teachers participated in the section of the course that made up this earlier study. The participants had applied for the grant from their respective buildings in their school districts, and had formed their groups after they identified emerging instructional technologies that they wished to try out together in their schools to address areas of practice where they felt an integration of these technologies might be beneficial for their students.

The second participant group took a similar teacher professional development course during spring semester, 2007, in a master’s degree program in cultural foundations of education at a midsized, research-based, Midwestern university. The overarching goals for this program included learning to develop independent reflection on their own practice, thinking in terms of what it may mean for a teacher to be practicing with a political awareness and having a distinct voice in a democratic society. The course structure was similar to that of the eTech group, using the same required textbook and following similar assignments for both online discussion and written assignments. One difference in this instance was that the planning and implementation phases of the course were combined into one course throughout a standard academic semester. Another noteworthy difference is that the 10 teachers who participated in the course were part of a cohort that had been working together in this master’s program over the previous year.
Their choices of their respective critical colleague groups for the action research course clustered around whether they were teaching on the elementary or the secondary levels, as well as their personal knowledge of one another after working in the cohort over a year’s time.

Teachers in each group participated in earlier studies that I conducted in 2006–2008. I began examining the data by doing line-by-line reading of transcripts of the online data (discussion boards and critical colleague chat sessions). Using open coding (Strauss & Corbin, 1998), initial findings indicated the following emergent concepts: (a) evolution and maintenance of ongoing “critical colleague” relationships; (b) external instructional standards as continual frames of reference; (c) willingness of the participants to continue as critical colleagues beyond the timeline and parameters of the course(s), particularly in the area of making their professional growth public; and (d) practical, collaborative problem-solving using the online technology of chat sessions and discussion boards while combining these with other forms of collaborative activity. These preliminary concepts were helpful in providing focus for the research problem and questions for this study.

The earlier studies above provided both the context for this study as well as identification of teachers who would show potential as participants for addressing the primary research question and subquestions. At the conclusion of my earlier studies followed by my successful defense of the research proposal in November 2008, approval from the Institutional Review Board of Kent State University was obtained in December. The participants for this research became a formal part of the study by means of
purposive sampling. This approach to sampling is based on “relevance to the research question, analytical framework, and explanation or account being developed” (Schwandt, 2001, p. 232). This relevance is clear from the participants’ involvement in the online professional development courses described above, including online discussion boards and chat sessions, preparation of written course assignments, and implementation of their action research projects.

**Participants**

At this point, I contacted participants who I believed had met my selection criteria for this study, with the expectation of working with at least one or two critical colleague groups from each course, and to have a variety within these groups to point toward a rich theoretical understanding of the potential for transformative learning (Mezirow, 1991; Taylor, 2000). The criteria for selection included (a) participation of teachers from across the career-cycle spectrum (novice and expert); (b) a variety of teaching content areas; (c) previous commitment from the earlier studies to action research as professional development; and (d) a variety of work/teaching settings, that is, socioeconomic range across school districts. An equitable representation of gender was desirable; however, I did not obtain this, as all teacher participants in both groups are female. Assembling the critical colleague groups for participation in this research was a challenging task, since several people in both action research courses had changed e-mail addresses, found teaching positions elsewhere, or had married and changed their last names. It required approximately two months to assemble four critical colleague groups from the two courses. Two of the critical colleague groups had taken part in the eTech Ohio action
research project, and the other two were part of the university graduate course. This arrangement provided a desirable balance and variety of participants and research settings for the study (Table 1).

Table 1

Descriptive Categories of Teacher-Researcher Participants

<table>
<thead>
<tr>
<th>Group</th>
<th>Name</th>
<th>Assignment</th>
<th>Yrs experience</th>
<th>Setting/SES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Natalie</td>
<td>Spanish IV, AP</td>
<td>23</td>
<td>Suburban/high80</td>
</tr>
<tr>
<td>1</td>
<td>Sue</td>
<td>Spanish IV, AP</td>
<td>15</td>
<td>Suburban/high</td>
</tr>
<tr>
<td>2</td>
<td>Denise</td>
<td>Pre-K, K</td>
<td>4</td>
<td>Urban, suburban/medium</td>
</tr>
<tr>
<td>2</td>
<td>Kate</td>
<td>Grade 1</td>
<td>4</td>
<td>Suburban/medium</td>
</tr>
<tr>
<td>2</td>
<td>Valerie</td>
<td>Substitute</td>
<td>6</td>
<td>Suburban/medium</td>
</tr>
<tr>
<td>3</td>
<td>Marie</td>
<td>French (MS/HS)</td>
<td>8</td>
<td>Suburban/medium</td>
</tr>
<tr>
<td>3</td>
<td>Bridget</td>
<td>Substitute</td>
<td>3</td>
<td>Suburban/medium</td>
</tr>
<tr>
<td>4</td>
<td>Catherine</td>
<td>Grade 6</td>
<td>15</td>
<td>Urban/low</td>
</tr>
<tr>
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<td>Barb</td>
<td>Grades 5, 7-8</td>
<td>10</td>
<td>Urban/low</td>
</tr>
<tr>
<td>4</td>
<td>Deanna</td>
<td>Grade 4</td>
<td>7</td>
<td>Urban/low</td>
</tr>
<tr>
<td>4</td>
<td>Tammy</td>
<td>Intervention Specialist</td>
<td>12</td>
<td>Urban/low</td>
</tr>
</tbody>
</table>

Note. All names are pseudonyms. Teaching assignments begin from the school year of the action research projects and end at the participant interviews (January-March, 2009). Years experience = career totals. SES = estimated socio-economic status of school districts, in parentheses, based on available public data of per capita income and average home property values.

Socioeconomic levels in the various school districts ranged from high (critical colleague group 1) to medium (groups 2 and 3) to low (group 4). Content areas of the
participants varied from upper-level high school Spanish (group 1), to lower-level French (group 2), to elementary grades 4, 5, and 6 (group 4), to kindergarten and first grade (group 1). Two teachers who were substitutes on various grade levels at the time of the study participated as well (one each from group 2 and group 3), along with an elementary teacher who was working as an intervention specialist specializing in technology (group 4). There was also a wide range of experience among the participants, from first-year teachers (group 2), to veteran teachers, with the teacher of longest standing having 25 years of experience in the profession (group 1). Most of the participants were within their first 10 years of their teaching careers. Again, while the variety of socioeconomic levels of the school districts, along with participants’ content areas and teaching experience, provided the potential to address the research question and subquestions from a variety of perspectives, it turned out that all of the participants were female. It would have been very desirable to include male teachers in the study, but it was not possible to secure any male participants who would have been part of intact critical colleague groups, and able to participate in both the focus group and individual interviews.

In addition, it is important to note that each critical colleague group did not possess identical characteristics, nor were they expected to meet these criteria in the same manner. Rather, I was seeking a means to conduct theoretical sampling (Glaser, 1978; Glaser & Strauss, 1967) from group to group throughout the process of data collection and analysis, with the goal of acquiring a theoretical understanding of the potential for transformative learning in these critical colleague groups.
Data Collection

Data collection came from three primary sources: (a) course documents and/or products, as well as transcripts of online communication (discussion boards and chat sessions); (b) semi-structured focus group interviews; and (c) semi-structured individual interviews. These sources provided a rich and multifaceted view of the research setting and social milieu of the participants while accounting for triangulation (Lincoln & Guba, 1985).

As for my first data source, the documents consisted of course syllabi, class assignments, and participants’ written projects from the two online action research classes. I downloaded the transcripts of the online material as existing data from the previous pilot/exploratory studies. These online data included course assignments, class announcements, instructions for use of the online technology (Blackboard and WebCT), and dialogue through discussion boards and chat sessions within and among critical colleague groups.

The second and third data sources were semi-structured interviews with the participants in both focus group and individual settings (See Appendices A and B for interview protocols). The first round of interviewing occurred in a focus group format. Vaughn, Schumm, and Sinagub (1996) suggested several points that indicate a strong rationale for conducting focus group interviews in this study, including seeking further understanding of previous data, acknowledging many realities simultaneously, and the “loosening effect” from peers that may elicit deeper participation (p. 19). Morgan (1988) also asserted that interviewing in groups helps to maintain a focus on the activity among
the interviewees rather than on a strict interviewer/interviewee relationship. Since the research questions sought understanding of critical collegiality, it was advantageous to interview the participants in their original critical colleague groups, to hear their group perspectives and continue to do theoretical sampling in the critical colleague group context, particularly after an extended period since the completion of the required action research coursework.

I began the interview process with the focus group interviews, using individual interviewing as follow-ups, with the purpose of gaining individual perspectives based on what the participants discussed with me as critical colleague groups. Two different interview protocols were used (Appendices A and B). The focus group interviews began in January 2009. After completing the focus group interviews with all four critical colleague groups, I conducted individual interviews with each participant, completing these in March 2009. I conducted both the focus group and individual interviews based on the availability of the critical colleagues both as groups and as individuals.

I followed up the focus group discussions with individual interviews. Interviewing the individual participants provided an opportunity to acquire the perspectives of these teachers as individual practitioners. This was particularly important in light of the high frequency of teacher isolation in many teaching settings, especially if the participants were obligated to return to solitary teaching settings after their experiences with their critical colleagues in their respective action research classes.

Finally, both focus group and individual interviewing began only after permission was granted through the Institutional Review Board at Kent State University. All
information regarding the identities of the participants was kept strictly confidential. In
any narrative passages referring to the participants, pseudonyms were used, and all
audiotape recordings of the interviews were erased at the conclusion of the study.

**Data Analysis**

In a grounded theory study, data analysis takes center stage in one important
sense: data analysis is meant to be in motion immediately after the data collection process
begins (Glaser & Strauss, 1967). This use of “constant comparison” between the data and
emerging theory is a cornerstone of grounded theory analysis. Throughout the study, it
was imperative to maintain “theoretical sensitivity” to emerging theory while being
prepared to return to the data (or to gather additional data if necessary), as a means of
applying theoretical sampling (Glaser, 1978).

The process that follows was based on analytic procedures primarily from Strauss
chose Strauss and Corbin’s model because it offered a set of guidelines that are especially
accessible for novice researchers and that can provide an almost prism-like view of the
data, since the authors’ suggestions of “analytic devices” approach a study from many
angles. However, it is vital to emphasize here that the procedures of Strauss and Corbin
are not meant to be applied in a fashion that removes the responsibility for critical
reflection and discretion on the part of the researcher. One important aspect of the
grounded theory approach is the use of coding procedures. Charmaz (2006) stated that
coding is most useful during the early portions of the process of inquiry. This point also
suggested that coding should be occurring throughout the data collection process, rather than waiting until the data are collected completely.

Early or “initial” coding (Charmaz, 2006) consisted of line-by-line coding of both the online data and the interviews as they progressed. My goal was to identify discrete, emergent ideas that may be grouped into concepts according to shared properties (Strauss & Corbin, 1998). Glaser and Strauss (1967) mentioned “in vivo codes” as one particularly important aspect of coding; in relation to the research question, these codes may indicate how the participants express their meaning schemes and meaning perspectives using their own “language of practice” (Yinger, 1999), which may relate to the potential for transformative learning (Mezirow, 1991). Examples of these early codes are “bouncing ideas off,” providing mutual support, and seeking help.

The next step was arranging these concepts into categories, “in more abstract explanatory terms” (Strauss & Corbin, 1998, p. 114). I expressed these in gerund form where possible to account for social process (Charmaz, 2000), while grouping these “active” categories under other titles where appropriate. For example, the category “bouncing ideas off” related to the more abstract term of “mediated dialogue” with active categories of choosing vulnerability and “dropping the walls.” Further, I examined these categories for what Strauss and Corbin referred to as “properties” and “dimensions” (p. 117). Strauss and Corbin stated that properties consist of “characteristics of a category, the delineation of which defines and gives it meaning,” while dimensions include “the range along which general properties of a category vary” (p. 101). In the example of the code “bouncing ideas off,” I expressed the properties and dimensions of this category
along a range that included fear of discovery, self-doubt, and so forth, to “dropping the walls” and a “collaboration effect” of boldness in communication. These categories, properties, and dimensions became the rough draft or “messy” version of my four situational maps (A. E. Clarke, 2005). Afterward, I wrote a first draft of the situational narratives, using my preliminary situational maps, analytic memos, diagrams, and operational notes to look for emergence of further categories and subcategories. Strauss and Corbin also stressed that at every stage of analyzing data, the researcher is engaged in posing questions and comparing categories, properties, dimensions, and so forth. In order to maintain the activities of comparing and questioning as the analysis progresses, I used the writing of analytic memos along with diagramming to provide various visual schemes of the data.

The next phase of analysis was what Strauss and Corbin (1998) called “axial” coding. This involved “relating categories to their subcategories, termed ‘axial’ because coding occurs around the axis of a category, linking categories at the level of properties and dimensions,” with a view to organizing data according to “structure and process,” made up of “conditions . . . actions/interactions . . . [and] consequences” (pp. 123, 128). An example of axial coding in this study is transactional online experience, where the conditions of online “presence” (D. R. Garrison & Anderson, 2003) are related to the actions/interactions of “sparking” of new conversations and co-creation through the perspectives of others, leading to the consequences of more deliberate reflection and teacher judgment, an ongoing record for teacher reference, and constructing generative theories. I sought a view of relationships among these categories and subcategories by
taking the first draft of the situational narratives and putting them into visual form. To accomplish this, I used CMap, a software program designed to assist in preparation of concept maps. Concept mapping is one means of providing a visual display of concepts and their relationships in a qualitative study (Maxwell, 2005). One advantage of concept mapping software is that it allows a researcher not only to record previous conclusions, but to proceed with the analysis itself by working with the program to rearrange and reframe relationships. This process was another means to approach theoretical sampling, in that the process suggested other areas of the data to revisit in order to continue the analysis.

The CMap concept mapping software was the means I used in the study to arrive at an “ordered” version of situational mapping (A. E. Clarke, 2005). Clarke referred to situational mapping as a “context within a situation,” and stated her preference of situational mapping to Strauss and Corbin’s (1998) conditional/consequential matrix. The situational map, in my view, had the potential to provide a very rich visual portrayal of conditions revealing structural features, conditions and aspects of process, and mediated activity in the critical colleague groups. While I used concept mapping software to generate the situational maps (Appendices C-F), I also used concept mapping as an analytic device to illustrate interconnectedness of conditions, dimensions, and consequences at various points during the process of data analysis. The “ordered” concept maps of the four critical colleague situations show my present understanding of the categories, subcategories, and relationships of social process involved in the four critical colleague participant groups after axial coding.
Selective coding is the following stage of data analysis where the researcher begins to organize the emergent theory from the data. I continued to read and sort my analytic memos, diagrams, and operational notes as a theory began to emerge through the selective coding process. The central tenets of selective coding are integration and refinement (Strauss & Corbin, 1998). At this point in the analysis, information gleaned points to a “central explanatory concept . . . major categories are related to it through explanatory statements of relationships” (p. 161). In this study, the “central explanatory concept” was “inclusional flow,” with subcategories of inclusional survival, vision, and liberation. There were also additional steps of “verification,” that is, of checking the emergent theory with the data itself and/or returning to the participants for their thoughts on the findings as a means of member checking (p. 161). I followed these steps as needed as I continued to refine my theory and approached the point of “theoretical saturation” (Glaser, 1978), which Glaser and Strauss (1967) define as the point where “no additional data are being found whereby the [researcher] can develop properties of the category” (p. 61). Glaser and Strauss also stated that theoretical saturation is reached by the process of “maximizing differences among groups. In the process, he generates his theory” (p. 62). In this study, groups consisted of the critical colleague groups who participated in their online action research.

Throughout the process of data collection and analysis, it is important to remember that there is a constant process of theoretical sampling that indicates where and how the researcher is to proceed (Glaser & Strauss, 1967). I believe that this is one aspect of the power of grounded theory, as the theory is actually in the process of development.
from the beginning. Since theoretical sampling involved returning to previous data, I found it necessary to revisit course documents, transcripts of online conversations and interviews, as well as my own memos and diagrams as part of the iterative process of building theory. I also sent the interview transcripts and situational maps to two doctoral student colleagues for peer debriefing, receiving feedback on the overall direction of the research. I included my colleagues’ comments in my operational notes and in my analytic memos (Table 2).

Finally, at the “writing up” stage of the research, I endeavored to write what Strauss and Corbin (1998) called “the analytic story” of the study. Writing this story was, in part, a matter of sorting the memos and analytic diagrams/maps previously created in order to ascertain how they are interrelated and to find the threads of the story that addressed the research questions. Charmaz (2006) recommended always looking for the abstract whenever possible, as this will maintain a theoretical center rather than a merely descriptive one. Further integration and development of the emerging theory, after detailed outlining and a first draft (Strauss & Corbin, 1998) and further sorting and rewriting built an argument (Charmaz, 2006) explaining and supporting theoretical understanding of the research problem. In this study, this analytic story consists of both the findings in chapter four, as well as the conclusions, implications, suggestions for future research, and lessons learned in chapter five.
### Table 2

**Data Collection and Analysis Schedule**

<table>
<thead>
<tr>
<th>PHASE 1</th>
<th>Oct. 2006-Aug. 2008</th>
<th>Earlier Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data collection:</td>
<td>Documents, course products (proposals and papers); transcripts of online data (critical colleague chat, discussion forum).</td>
<td></td>
</tr>
<tr>
<td>Data analysis:</td>
<td>Initial reading; line-by-line analysis with preliminary open coding; memos and diagramming. Constant comparison and theoretical sampling.</td>
<td></td>
</tr>
</tbody>
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<table>
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<th>PHASE 2</th>
<th>Jan.-Feb. 2009</th>
<th>Dissertation Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data collection:</td>
<td>Semi-structured focus group interviews</td>
<td></td>
</tr>
<tr>
<td>Data analysis:</td>
<td>Transcription and initial reading; line-by-line analysis with preliminary open coding; memos and diagramming. Constant comparison and theoretical sampling.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHASE 3</th>
<th>Mar.-Sept. 2009</th>
<th>Dissertation Research (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data collection:</td>
<td>Semi-structured individual interviews (follow-up)</td>
<td></td>
</tr>
<tr>
<td>Data analysis:</td>
<td>Transcription and initial reading; line-by-line analysis with open coding; memos and diagramming. Situational mapping. Axial coding. Constant comparison and theoretical sampling.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHASE 4</th>
<th>Sept. 2009-Mar. 2010</th>
<th>Dissertation Research (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data analysis:</td>
<td>Concept mapping. Selective coding, sorting of memos and diagrams, and emergence of central category of interest. Peer debriefing. Constant comparison and theoretical sampling. Integration and elaboration of emergent theory.</td>
<td></td>
</tr>
</tbody>
</table>

### Limitations of the Study

Three limitations need to be considered in order for readers of this research to make informed decisions as to its value and applicability to their own specific situations. These include limitations of context, role of the researcher, and sampling procedure.
First, this study is not intended to be generalized to a wide population (as in the positivist paradigm), nor is it meant to be predictive of what will occur in similar situations. However, the findings and conclusions from the study may have the potential to be transferable to other contexts as circumstances warrant, whether in P-12 classroom teaching settings or elsewhere, such as in rehabilitation counseling, nursing, or medical settings. For example, if this research were meant to be generalizable to a wide population, my expectation would be that other researchers could replicate the results of this study in another setting with online critical colleague action research groups, with control for participants and other variables, as one might expect in a positivist study done in a laboratory setting. I am making no such claim. However, I am suggesting that the findings of this study point to “this is what I see,” in terms of my understanding of the constructed realities of the participants through the collected data, with a view to asking the reader what she may see and how she might apply what I have learned, rather than “a condition of representativeness” (Lincoln & Guba, 1985, p. 297). Lincoln and Guba also stated that transferability is actually somewhat limited in nature, “an empirical matter, depending on the degree of similarity between sending and receiving contexts” (p. 297), and that determining this similarity between the context of this study and any subsequent research based on this project is the responsibility of subsequent researchers.

Second, I needed to be very careful about the fact that I am also a teaching professional. Although I was not involved in this research project as a participant, I was engaged in this research study as a full-time teaching practitioner. While I allowed for the fact that my experiences as an educator have played a role in the emergence and
definition of the research problem, it was important that I not project my background into
the experiences of the participants to the extent that their narratives became more about
me than about them. I also allowed for the interaction of (my)self with the participants
and their data during the constant comparison required of the grounded theory approach
to data analysis. To account for this and to address possible bias, I have kept a personal
written account of my “subjective ‘I’s” (Peshkin, 1988) in the form of personal memos,
along with an ongoing, personal researcher journal.

Finally, the sampling procedure for the study was purposeful sampling. I
recognized that not everyone who participated in the earlier studies was able or willing to
participate in this research project; as a result, I was not studying either of the online
groups in their totality. However, my intention was not to sample every member of the
two groups who participated in the initial exploratory studies, but to hear from
participants in these studies who met the criteria of richness of dialogue, commitment to
the online action research process beyond the parameters of the online conversations that
occurred during the formal coursework, and characteristics of “critical collegiality” as
described by Swaffield (2005).

**Trustworthiness**

Validity procedures in qualitative inquiry with a naturalistic approach are a matter
defined “validity” as “the correctness or credibility of a description, conclusion,
explanation, interpretation, or other sort of account” (p. 106). Maxwell also stated that
establishing validity is not a question of determining an “objective truth” but of
determining credibility. Lincoln and Guba argued that while the positivist paradigm emphasizes internal validity, external validity, reliability, and objectivity, the naturalistic paradigm features the four corresponding criteria of credibility, transferability, dependability, and confirmability. They defined trustworthiness as whether “the findings of an inquiry are worth paying attention to, worth taking account of” (p. 290). Erlandson et al. (1993) suggested that trustworthiness is what enables us to make “a reasonable claim to methodological soundness” (p. 131). However, they went on to say that this issue goes beyond building a defense of a naturalistic study in order to take on all comers who might dispute its soundness; it also becomes an ethical matter of protecting the realities that had been constructed by the participants throughout the study. This takes us back to one central goal of naturalistic inquiry, which is “to understand the constructions of the respondents on their own terms” (p. 132).

With this in mind, there were several techniques appropriate for developing trustworthiness in this study. These included prolonged engagement, persistent observation, triangulation, member checking, and peer debriefing (Lincoln & Guba, 1985). Regarding prolonged engagement, I believe I spent enough time in the milieu of the data/research setting to account for possible inaccuracies in the data and for “building trust” with my participants, especially in working with the online transcripts during my earlier studies and using multiple interviews as follow-ups (p. 301). The procedures I used for data analysis throughout the study supplied me with a profundity of understanding of the research setting that accounted for the criterion of persistent observation. Multiple sources of data collection (online transcripts/course products and
both focus group and individual interviews) provided triangulation. Informal member checking was conducted as data collection progressed. Finally, the peer debriefing process was in the form of online correspondence with a small group of my own critical colleagues who were graduate students and/or university faculty working in the fields of grounded theory inquiry and/or action research both in the United States, the United Kingdom, and elsewhere. In addition, peer debriefing occurred after sending copies of my data and coding procedures to two fellow doctoral students who provided feedback on the direction of my data analysis.

**Summary**

The purpose of this study was to understand critical collegiality in teacher action research and its potential for transformative learning in shared online learning environments. The naturalistic model for qualitative inquiry, as presented by Lincoln and Guba (1985), along with a grounded theory approach to data collection and analysis, made up the guiding framework for designing and implementing this study. However, I did not necessarily see Lincoln and Guba’s procedures as described in their book as a series of lock-step prescriptions for conducting this type of inquiry. The same applies to techniques of grounded theory, particularly as described by Strauss and Corbin (1998).

While I intended to follow coding procedures as Strauss and Corbin (1998) set them out, I do agree with the authors when they presented their procedures as guidelines, providing me with an element of choice with some aspects of the analysis. I also allowed for recent developments in grounded theory, that is, the insights of Charmaz (2000, 2006).
and A. E. Clarke’s (2005) use of situational analysis, to allow the study to “breathe” and reveal its unique textures and insights.
CHAPTER IV
FINDINGS

Introduction

The purpose of the study was to understand transformative learning in teachers’
critical colleague relationships while participating in online, collaborative action
research. The primary research question was, “What is the potential of critical colleague
relationships to transform teacher action-researchers in a shared online learning
environment?” The study included the following subquestions:

1. How does critical collegiality in a shared online learning environment provide
   a context for generative theorizing and making explicit “living theory” for
   teacher action-researchers as it relates to their understanding of teaching and
   learning?

2. From the perspective of the participants, what is the long-term effect on
   teaching practice of participation in an action research online course with
   critical colleagues?

3. To what extent do categories of transformative learning (transformation of
   meaning schemes and/or meaning perspectives) play a role in critical
   colleague relationships?

The goal of this chapter is to present my findings for the study as they emerged
through my data collection (course products, focus group interviews, and individual
interviews) and data analysis (grounded theory coding procedures and situational
mapping) discussed in chapter three. Chapter four includes a discussion of emergent categories, subcategories, and their various interconnections, particularly in reference to studying the four teacher participant groups in terms of their respective situations (A. E. Clarke, 2005) and how these situations shed light on the research questions above. A brief discussion of the concept of situation as the foundation of Adele Clarke’s situational analysis for grounded theory precedes four “situational narratives” for each critical colleague group, corresponding to the four situational maps (Appendices C–F). I felt that it would be most advantageous to use my primary research question and subquestions as reference points for further discussion of the data analysis from this study. Finally, I identify and discuss my central category of interest. Presentation and discussion of the theory that emerged from this central category follow in chapter five.

**Situations**

Adele Clarke (2005) designed a situational analysis approach to grounded theory as a way to “regenerate” grounded theory analysis and inquiry from a constructivist point of view (p. xxi). Her mapping techniques, in particular, are a means of analysis and portrayal of social processes, a way to “elucidate the complexities of situations as the grounds of social life” (p. xxix). While Clarke presented her work as a “theory/methods package” for the generation of grounded theory (pp. xxii-xxiii), she also said that the approach may be used as a supplement to the analytic devices of Strauss and Corbin (1998).

As I considered both the work of Strauss and Corbin (1998) and A. E. Clarke (2005) in relation to my research problem and questions, I began to conceptualize these
four critical colleague groups as four situations: sociocultural settings that feature systems of mediated activity, including both human actors and inanimate aspects. For the purposes of this study, my understanding of the setting of each teacher-researcher/critical colleague group included (but was not limited to) online discourse and assignments, face-to-face contact, and their respective school cultures.

Clarke (2005) also stated that situational analysis includes a gestalt quality (p. 23) as well as the possibility of transformation for the actors therein. In addition, Clarke cited Massumi (2002), who defined “situation” as “an empirical context grasped from the point of view of the eventful washing-through it of an ongoing movement of transformation. In other words, the term situation is used to refer to the potentialization of a context” (p. 265). As a study in potential transformative teacher learning, this view appeared to be an appropriate fit for this project. It was the online learning literature (Jones, 1997), with its orientation toward the online space as an integral part of online learning, that brought about my intent to include these spaces as part of the overall situation for the critical colleague groups. Although these online spaces were not present in a physical sense during the participants’ action research, Jones’ position was that the online environment has a reality of its own that should not be discounted in conceptualizing the situations of each teacher group. I saw that it was necessary to study each critical colleague group from a viewpoint that encompassed more than the teachers’ physical classroom spaces. I believed that using Clarke’s analytic tool, situational mapping, might be helpful to arrive at a theoretical understanding of the social processes involved in the four critical colleague groups. This analytic tool was very useful as a means of seeing processes of
mediated activity in the four settings I have studied here. I also decided to add “situational narratives” to this chapter for each critical colleague group in order to provide a richer description and portrayal of my findings. Each situational narrative follows the same conceptual sequence, including:

1. A description of the groups’ respective action research courses and projects
2. Details of each participant’s professional background
3. Findings for the action research projects
4. An account of teacher learning
5. Description of each group’s relationship as critical colleagues
6. Details of each group’s experiences working collaboratively online

In addition, I want to emphasize that these narratives are not part of the narrative inquiry tradition of qualitative research. Rather, the narratives in this study are meant to tell an “analytic story” (Strauss & Corbin, 1998), and are rooted firmly in the grounded theory approach.

**Situational Narrative 1: Critical Colleague Group 1**

This critical colleague group worked on their action research through the eTech Ohio grant project. The overarching goal of the project was to integrate emerging technologies in teaching settings, using an action research model to study each group’s project and how these projects might improve teaching practice and student learning. The format for the project followed the textbook *Action Research for Teachers: Following the Yellow Brick Road*, by Arhar et al. (2001). The course also included an online component (using a Blackboard platform) that featured course assignments, discussion boards, chat
sessions, and space to submit completed papers. The two primary assignments were a completed action plan/proposal for the project (part 1) and a paper at the end of the project that discussed and assessed the implementation phase of the participants’ action research (part 2). The planning phase of the project began in February 2006, and the implementation phase occurred during the fall of that year, concluding in November.

The participants from this group included two teachers of upper-level high school Spanish (level IV and Advanced Placement). Natalie had been teaching for 23 years in this district, with a total of 25 years in the profession. Sue had been teaching in the district for 6 years at the time of the study, with a total of 15 years of teaching experience. Both teachers had been working in close proximity at their high school for 6 years, with their classrooms directly across the hall from one another.

One priority for both of them as foreign language teachers was that their students develop skill in oral communication. They found that they had provided insufficient opportunities for students to practice this skill with their students. They had tried many different approaches to improve student listening and speaking skills, including ancillary materials from their textbooks as well as a number of supplementary techniques such as dictations, songs, film and television clips, and activities based on cooperative learning. Although both Sue and Natalie exhibited a great deal of creativity and commitment to their students in developing a vast array of activities for their classes, both teachers still acknowledged that student anxiety and frustration with speaking Spanish remained an obstacle to developing students’ oral proficiency.
Natalie and Sue chose to work with fourth-year Spanish students, since this was a level common to both of their teaching assignments at the time of their action research study. There were four classes of these students in the project, with a total of 76 participating. Both teachers had administered a version of a language proficiency test to these students during the spring of 2006 to obtain baseline data. This test was adapted from the Collaborative Articulation and Assessment Project (CAAP), an assessment device developed originally by the Ohio State University. Natalie and Sue also used teacher-constructed student surveys to gather data regarding students’ previously accomplished tasks using a foreign language, and a student self-assessment called Linguafolio to collect data on student attitude and motivation regarding speaking in Spanish.

As for the technology that these teachers tried out for their project, they chose two avenues. The first was Audacity, a software program used for students to record oral conversations in audio files on a weekly basis. The second was the use of podcasting conversations with native speakers of Spanish. Students conversed with these native speakers on a one-to-one basis or as student pairs. The podcasts were prepared a minimum of two times during the project. Natalie and Sue evaluated these data according to the proficiency guidelines of the American Council on the Teaching of Foreign Languages (ACTFL). The data became what the teachers called “cyberfolios.”

Natalie and Sue came away from this action research study with two major findings regarding their students. The first was that there was only slight improvement in the scores on the CAAP after they administered the test the second time. While 33% of
their students scored higher on this assessment, many only scored higher by fractions of a point. The second finding, however, was that student motivation and confidence in speaking had increased greatly. Overall student confidence, according to the survey data, increased from 18 to 58%. Ninety-four percent of the students indicated that they were able to communicate effectively in Spanish in spite of imperfections in their grammatical structures. Finally, 90% of the students expressed eagerness to converse with native speakers in the future. Natalie and Sue were greatly encouraged by the increase in student motivation and confidence, along with the integral role of their added technology in their project.

The ongoing relationship of Natalie and Sue as critical colleagues was a constant presence in their action research project. Some of this, of course, was by design, since several assignments in the online course addressed critical collegiality with a view to engaging in collaborative action research. However, after interviewing Natalie and Sue both as a focus group and individually, it became clear that their critical colleague relationship went far beyond a superficial “group work” mentality. As the situational map suggests (Appendix C), their work together as critical colleagues includes a number of features which indicate a depth that was not apparent in the literature I reviewed on the critical colleague or the “critical friend.” This is not to suggest that the role of friendship is limiting or superficial when considering critical colleague relationships. Natalie and Sue stated they had been friends for several years, working together in the same school, and that their friendship had developed to a greater degree after completing their collaborative action research. Marie and Bridget (group 3) had also mentioned how their
friendship developed very quickly after meeting shortly before they did their action research project. Catherine and Tammy (group 4) had built a strong friendship before undertaking their project as well. While the concept of “friendship” was mentioned in the interview data by three of the four participant groups (although not by every participant), categories and subcategories that emerged from the data did not develop with “friendship” playing a prominent role.

Natalie and Sue worked together very closely as critical colleagues in a manner they described as “yin and yang,” with both teachers recognizing each others’ strengths and weaknesses and taking advantage of those to complete the tasks required for the action research project. They described it as “taking some of yours and taking some of mine.” This was especially apparent during the early stages of the implementation phase of the project, when they were experiencing a great deal of frustration with using the technology in the classroom.

As Natalie and Sue (Sue, in particular) ran into difficulties with getting their technology to work effectively in the classroom, this revealed an aspect of their work that would ultimately relate to the outcomes of their project and lead to transformative learning for them as critical colleagues. This had to do with the concept of survival, both through the action research project and the everyday life for them as teachers in this particular teaching setting. Survival had less of a literal meaning for these teachers, since they had been long-established in the district with high seniority in their department. However, they still experienced tensions in their work, such as working in a “fishbowl” district where the community at large, especially parents and school administration, had
significant influence on their everyday work; with the high socioeconomic level of the community came high expectations for both students and teachers. Oddly enough, Natalie and Sue felt somewhat insulated from parental and/or administrative influence on their teaching. They both felt that their facility with a foreign language gave them a status as “experts” in the eyes of other stakeholders in the school community, especially if those stakeholders did not speak a foreign language fluently themselves. Neither Natalie’s nor Sue’s expertise was called into question on a regular basis. Even with this insulation as “experts,” Sue and Natalie both indicated that the high-visibility characteristic of their school district produced an ethos of stress.

From the data, there were two other stress factors in Natalie and Sue’s teaching practice as well. One of these was the pressure of maximizing student performance on the Advanced Placement Spanish language exam. The other was competition among the teachers in their department, with frequent incidents of one-upmanship, such as removing colleagues’ names from shared instructional materials to prevent department members from receiving due recognition for their work.

In the midst of the stressful conditions involved in carrying out their action research study, along with the stressors present in their everyday teaching, Natalie and Sue found that there were outcomes in their project that they had not anticipated. One of these was an affirmation of the intensely personal quality of the critical colleague relationship. They found that there was a process of unveiling the teacher self in order to work through the assigned reflective activities together. This involved being able to put forth and accept critique of one’s practice. This was especially difficult for Sue. She
acknowledged being a perfectionist, and that perfectionism permeated her lesson planning and implementation in the classroom. Sue also had this to say about the personal nature of teaching and critique of teaching practice:

Teaching, to me, is so personal . . . when you stand up and create things, and you think they’re gonna really be good, to have someone come in and tell you that’s not really good, is kind of an attack on you. I think that’s one of the major problems in education . . . we don’t have the skin to take it when someone tells us it’s not good. (Sue, individual interview, February 6, 2009)

For both Sue and Natalie, this personal element was vital to their activity together as critical colleagues. For them, they found that they needed to take risks at times and supply the needed critique of their project (and of one another’s teaching) in order for their action research to develop. They had made mistakes along the way in applying the technology in their classrooms for their project, and learned to trust one another even more deeply as colleagues as they depended on one another to carry out the research. Although they felt that they were still in process, they felt that they were seeking a “deep understanding” of a “true” critical colleague relationship.

In several respects, the second unanticipated outcome for Sue and Natalie was the concept of “letting go.” This flowed out of the outcome of intense personal quality as critical colleagues, of putting oneself into the zone of critique from others and being able to grow and benefit from it. Both teachers found that, through the process of “bouncing ideas off” one another and reflecting with one another through dialogue online, they began to examine not only their teaching procedures in the classroom, but more of their
underlying assumptions and philosophies about their own teaching. In part, this was a matter of viewing these through the lens of the student learning that occurred during their project (increases in student motivation to continue conversing with native speakers of Spanish even if there might be errors in student grammar). It also included a perfectionist assumption that all student work needed to be teacher-managed in order for their instruction to be considered a success.

We [were] so in control . . . we found out that it was probably the best thing for us not to be back there so they could just talk and not have us interfering and going, no, get that adjective ending. (Natalie, focus group interview, January 23, 2009)

As Natalie and Sue began a letting go of an idealized notion of perfection in their own work, they began to adjust their view of their roles of teachers. Although they were clear that they had never taught in the role of “the sage on the stage” over the course of their careers, they had maintained strict control over their classroom activities (including both the “what” and the “for how long”), and found that the notion of the teacher as someone generating the perfect lesson plan and perfect activities was difficult for them to let go of. In one sense, the ideal was even a part of their thinking about critical collegiality, in that they mentioned ideal critical colleague relationships and that they were seeking a “deep understanding” of “true” critical collegiality. It became apparent in the interviews, however, that Natalie and Sue were willing to let go of imperfections in their own work as they were allowing for imperfection in their critical colleague relationship. Sue, in fact, indicated that the perfect or ideal critical colleague relationship may not even exist.
Part of this epiphany for Natalie and Sue came about through the liberation they experienced in accepting the idea that they did not have “to grade everything.” This had a strong connection in the changing perspective of Natalie and Sue in relation to their own students. “My biggest thing is, we honor their work. That’s what I have come to . . . it’s about them” (Sue, focus group interview, January 23, 2009). They saw that they wanted to provide greater figurative student space, allowing the students more choice in a wide range of classroom activities, including choice of reading selections and oral and written assignments. In some cases, Natalie and Sue saw students going on and reading unabridged novels in Spanish independently after they chose which reading selection they wanted to pursue in class.

A second feature of Natalie and Sue’s epiphany was that they enjoyed sharing discoveries with each other throughout their action research project as part of their everyday functioning as teachers in their school. They were adamant about how the critical colleague work was “reinvigorating” and helped them to be living and teaching outside of what they called “little ruts.” While both teachers experienced obstacles and frustrations in their implementation of the action research project, they found that the renewal of their teaching practice resulted in their planning their typical school days much differently than before, allowing for student voice to be a part of a typical class period. They went so far as to say that, for them, this was “a totally different philosophy now,” and that they were now persevering with an elevated understanding of each other as critical colleagues. Part of this perseverance was evident in “making their research public” (Arhar et al., 2001) in that they took their teacher learning from their action
research project and shared it among their colleagues in their building (both within and outside of their department), as well as in both state and regional foreign language teacher conferences. This endeavor is ongoing, in that the workshops have been well attended and well received by their peers. At the time of the interviews, there were plans to repeat at least some of their presentations at a future conference.

The online experience of Natalie and Sue throughout the action research course was very beneficial for them. They found it to be very challenging at times as they had to make their online work fit with their other teaching responsibilities and life circumstances, often multitasking to complete online course assignments. Natalie, by her own admission, was not fond of writing in any medium, and tended to be brief and to the point when doing writing in relation to her work. They had begun a personal blog between them at the beginning of the project, but abandoned it when they found it to be too cumbersome in light of everything else that they had to do.

However, both teachers found working online to be convenient for them, in that they could overcome time and space limitations and begin to engage in reflection together online in a way they did not when they were at school. This reflection took place primarily in the context of their required course assignments, and had to do with beginning to look at their action research not only from the viewpoint of the hitch in practice they were endeavoring to address, but also through the lenses of their respective philosophies of teaching. They cited the reflective online dialogue during the project as one of the most beneficial aspects of the action research course.
For Natalie and Sue, there were several other benefits to working online. These included the opportunity to be working with many different people in the online discussion forums, where they were able to be “spark” new conversations about teacher practice and gain insight from others. There were also moments when Natalie and Sue felt that they were “knowing” others online, even though they had only met the other online participants one time at a large gathering for the grant recipients at the beginning of the project.

Natalie and Sue also mentioned one main disadvantage to working online in collaborative action research. They found a distinct difference in communicating online via text versus face-to-face conversation. They found themselves being very careful about how they expressed themselves in the online discussion forums, so as not to discredit themselves personally or professionally. They referred to this phenomenon as “face saving.”

**Situational Narrative 2: Critical Colleague Group 2**

The second critical colleague group conducted their action research through a professional development course offered in the spring of 2007 as part of a master’s degree program in cultural foundations in education at a research-based, mid-sized, Midwestern university. The primary goal of the master’s program in cultural foundations at this university was to assist participating graduate students to develop a broader and more varied palette in thinking about their teaching practice, exercising informed and creative teacher voice in democratic contexts. The course was a capstone project for the program, and was taught online with a WebCT platform, with monthly face-to-face
meetings throughout the semester. Developing action research projects in this program as a capstone course was a way to put into practice this concept of articulating teacher voice as a means of participating in democratic decision-making processes in the graduate students’ own teaching settings. The format for this course was somewhat similar to that of the eTech Ohio project, and used the same required textbook (Arhar et al., 2001). This course also featured a series of online assignments with the goal of the participants’ planning and implementing an action research project of their own design. The course was not grant-driven as the eTech Ohio project had been. Rather, the students in the course could choose to develop action research projects that may have had nothing to do with integrating technology in their classrooms.

The three participants in this critical colleague group were Denise, Kate, and Valerie. All three were teaching on the elementary level in different school buildings at the time of the study. Denise has been teaching preschool and kindergarten for four years, and was in her second year of teaching during the project. Her teaching experience has been primarily in urban settings in both Cleveland, Ohio, and in another urban district in an adjacent county. She currently teaches in a charter school in the Cleveland area. Kate has also had four years of teaching experience, with one year working as an intervention tutor in a suburban elementary school and three years teaching first grade in an urban school located in a neighboring city east of Cleveland. She was working in this elementary school at the time of our interviews. Valerie has had six years of teaching experience, beginning with two years on the elementary level in California and working as a long-term substitute in various positions in an urban district after relocating to Ohio.
This district was the same as Kate’s, but Valerie was doing her long-term substitute work in a different elementary building.

The original impetus for this group’s action research project came out of the struggles that Denise and Kate were experiencing with their respective classes at the time of the project. These difficulties were rooted in classroom management and specifically with maintaining classroom control. The problems of the lack of student self-control, along with intense feelings of teacher isolation in the classroom, began to permeate their teaching practice, and this became a very stressful time for both of them.

You know, you student teach, and you do everything else, you get thrown out there and then you’re like, ok, I’m totally alone. And I have to figure out how to make it through the day, every day, and how the kids are going to learn something. There were many tears. (Kate, individual interview, February 12, 2009)

The critical colleague group was adamant about engaging in an action research project that would have a prolonged benefit for both themselves and for their students. They did not want to engage in an endeavor that they felt would be only “wasted work.” They expressed this value as an ongoing flow of learning in their teaching practice. Although they were framing this idea primarily as a flow of learning and benefit for their students, they also found a great deal of insight about themselves as teaching practitioners that they had not anticipated. (I discuss their teacher learning later in this narrative.)

One incident occurred during this action research project that was unique to this study, and deserves mention before discussing the details of this group’s action research.
Early in the semester, Valerie decided to branch off from the action research project that Denise and Kate were planning in order to pursue a project of her own choosing. None of the other groups had a circumstance in which any of the participants moved to a different research topic or quit the project altogether. Valerie had decided, since she was not experiencing the degree of difficulty with student self-control as Denise and Kate, that she would examine a somewhat different topic of personal interest: how a substitute teacher might establish a productive relationship with her students with a view to a classroom environment of student self-control and enhanced student learning. Whereas the three teachers continued to work together as critical colleagues to complete their projects and fulfill the requirements of the action research course, they produced two distinct action research projects reflecting two different paths of inquiry.

Denise and Kate found that they had a common challenge in their teaching practice: helping their students to cultivate self-control during lessons and the lessons’ transition times. This issue was contributing to a great deal of difficulty for both teachers at the time. They decided to try out two different strategies for assisting with student self-control. Denise and Kate used an incentive system in their classes (using paperclips and marbles, respectively), along with teacher modeling. During the first week of implementing their study, they also used paperclips as a counting system to determine the frequency of incidents in the classroom when they would have to redirect student behavior. They were also looking for whether there might be a noticeable difference in frequency between students with and without documented special needs, especially ADHD.
At the conclusion of the study, Denise and Kate had several major findings. First, they noticed the importance of consistency in carrying out their classroom management plans. However, these plans also needed flexibility and differentiation when needed for these to be successful. Second, they found that they needed to concentrate their classroom management techniques during both transition time and portions of the class where teaching was in the form of direct instruction. This finding was consistent with their working hypotheses as they began their study. Third, Denise and Kate found that they needed to be very well prepared to deal with minimizing down time with their students throughout the school day. In addition, both teachers saw a need to get additional training and/or coursework in professional development, specifically in understanding and working with ADHD students.

The topic of Valerie’s study was how a substitute teacher might establish a productive relationship with her students with a view to a classroom environment of student self-control and enhanced student learning. Valerie’s identification of her hitch in practice grew out of her own experiences as a substitute teacher, where she saw that student self-control (or the lack thereof) was having an important role to play in her ability to carry out her responsibility of implementing the regular teacher’s lesson plans. Valerie also felt that she had a role to play regarding student learning.

I am interested in this research because it has direct impact on what I do everyday! If the students lack self-control the classroom is out of order, and real learning cannot take place. The whole class suffers, even if it is only for a few students who continually are a distraction. Even as a substitute teacher, my goal
every day is to help every child reach their full potential. My goal is to follow the teacher’s lesson plans. If students are out of control, that goal is very difficult to reach. (Valerie, focus group interview, January 19, 2009)

Valerie decided that she might gain the most insight for her own substitute teaching practice by gathering survey data. She accomplished this through a variety of sources. These included separate surveys for both elementary and middle school students, both in the school where she was substituting and in other schools where she gained entry via her colleagues. She also led an informal group discussion and individual interviews with her own students she was working with in her long-term substitute assignment.

After gathering the above data, Valerie made note of student responses in a personal researcher journal and began to try out various teacher behaviors in her classroom according to her students’ perspectives. She arrived at three findings at the conclusion of her study. First, the substitute teacher needs to set an atmosphere of authority in the classroom at the very beginning of the day and work towards maintaining that atmosphere as the school day unfolds. Second, student personalization and validation occur as the substitute teacher calls a student by name. This is the case whether it occurs in a positive or negative interaction with the student. Third, it is a reasonable expectation that there may be challenges to the substitute’s authority when she begins working with a class she has never taught previously. Valerie referred to this as “the element of the unknown.”

The relationship among these three critical colleagues was a complementary one, in which they enjoyed learning from one another by gaining insights from the others’
perspectives and discussing various teaching techniques and issues in their own teaching practice. They found that they had a communality of experiences as teachers, and found that they could share these and empathize with one another, particularly at the end of difficult days in the classroom. They saw this as an effective means of relieving tension and providing mutual support. This reliance on one another as critical colleagues was apparent when they took a course the following semester on multiculturalism, in which they found the class atmosphere and instructor/student relationships becoming very sensitive and tenuous. The critical colleague group provided encouragement to one another during the most challenging moments in the course.

Although Denise, Kate, and Valerie experienced a complementary relationship in their critical colleague group, there was a parallel category of safety that allowed all three of them to participate in what they described as an ethos of “acceptance.” They were able to engage in “dropping the walls” while “seeking help” regarding their own challenges in their respective teacher practice. While they felt that they had a degree of support from the collaborative teams they were working with in their own buildings, they felt that the “collegial atmosphere” they had together not only helped them to build confidence in completing their action research projects, but also superseded difficulties they faced in what were new teaching settings.

The group recognized the potential of future use of teacher learning and demonstrated this through branching out as teacher leaders. In this situation, all three critical colleagues went beyond making their research public to living out, in very personalized and practical ways, what they had learned about the benefit of collaboration
as an integral part of everyday teaching life through their action research experience. For Kate, this meant beginning a more diligent endeavor to become a positive influence on her collaborative teacher team in her own building. For Valerie, she had found that she could approach collaborative settings in her building with a new “boldness” in communication without worrying about whether her ideas had merit and would (or would not) find acceptance among her peers.

Perhaps the most notable leap in collaborative teacher leadership with this group occurred in Denise’s practice. She had changed her teaching job shortly after this action research project ended, finding a position as a kindergarten teacher in a charter school. At the time of my interview with her, she had developed a multi-faceted role as a teacher leader, in which she was working as both a mentor and helper, including assisting other teachers with instructional strategies and mentoring new teachers within her building, in addition to her daily teaching responsibilities. As Denise had mentioned in her interview, she felt that she was able to be “bringing stuff to the table” in her role as an educator, based on an enhanced awareness or “knowing” of others and their needs, along with what she might be able to do to help both students and fellow teachers in her new job.

As for the aspects of Denise, Kate, and Valerie’s online work for their project, they found both advantages and disadvantages in working in a shared online environment. The first challenge for them was simply a matter of their being able to sit down at the computer regularly and put in the necessary time to complete the assignments after teaching all day. However, they also found that the notion of sitting down at the computer had certain qualities that made it difficult at times to complete the online tasks.
Every member of this group felt that drafting online responses was necessary, especially before posting these to a critical colleague chat or to an online group discussion with the others in their cohort. There were also times when the group preferred to communicate face-to-face or use the telephone or e-mail. This was often a matter of expediency for them to complete their assignments in a timely manner before submitting them online.

Another disadvantage for this group as they were working through their project was that they often found themselves with a very high number of posts to read in the online discussion forums. This was especially so if any of the participants had been away from their computers for an extended period, that is, two to three days, such as being away with family for a weekend. After returning to their computers and checking the discussion forums, they sometimes found well over 100 unread posts relating to one assignment. They found it very difficult to post original responses in these longer threads, thinking that everything of value had already been said. While they acknowledged their responsibility in checking discussion threads regularly, they did see this as a source of frustration at several points during the action research course.

This group also mentioned that they felt the online experience was lacking an emotional component that they enjoyed in the other means of communication I pointed out in the preceding paragraph. They had difficulty at times in evaluating the tone of others’ posts, which made them uncomfortable. The group had thought of the online environment as a very formal space, which was somewhat of a paradox in that the cohort shared very personal observations on a number of different topics relative to their lives as teachers.
However, Denise, Kate, and Valerie also found several advantages to working collaboratively online. In spite of the discomfort I mentioned above, they also saw the online environment as a “haven” where they recognized the depth of the various posts and how they could share and empathize with teachers having similar experiences. They thought of the online space as providing an alternative to what they referred to as the logic and “structure” of their school buildings. For this group, online communication often provided discourse that acted catalytically, “sparking interest” for new insights with a view to moving forward with their study.

**Situational Narrative 3: Critical Colleague Group 3**

The third critical colleague group consisted of two teachers: Marie and Bridget. They participated in the same action research course as critical colleague group two (Denise, Kate, and Valerie) with the same course materials, assignments, and timeline for completion of their chosen projects (January–May 2007). As was the case for critical colleague group two, this group was not subject to doing a project involving integration of technology, nor did the group receive any financial means to purchase materials or otherwise support their action research. Both Marie and Bridget were participating in the same master’s degree program in cultural foundations as critical colleague group two, with the same program goals and objectives.

Marie was in her sixth year of teaching at the time of the action research project. She was licensed in K-12 French. She had taught in two other school districts previously. During the 2006-2007 school year, she was teaching middle and high school French in a
suburban district in northeast Ohio. After completing the master’s program in cultural foundations in December 2007, she went on to pursue licensure in secondary English.

Bridget was a substitute teacher who had not yet found a permanent teaching position. At the time of the action research study, she had been working for two years as a substitute in two northeast Ohio school districts. Bridget had completed her master’s degree in the same cohort as Marie and the other teachers in critical colleague group two. When I interviewed her in early 2009, she had decided to cease from seeking employment in a pre-K-3 position and take the school year off to remain at home with her family.

Marie and Bridget chose an action research project that had profound personal meaning for them. They felt that the first priority and responsibility for a school community was that all activities throughout the school day (including substitute plans) be directed toward continual student learning. They decided to create a folder for substitutes that would address their daily tasks and routine in such a way that it might result in a smoother day for all stakeholders during the regular teacher’s absence. Marie and Bridget had identified this as a significant issue in their teaching practice in that they saw a disconnect among the various buildings in Marie’s district regarding substitute expectations and procedures. Part of this came from the fact that Marie was traveling to both the middle and high schools every day, and experienced the above disconnect when she had to write substitute plans for the two buildings. Bridget, on the other hand, recognized their research problem as she worked in a variety of teaching settings, often without knowing what to expect from individual teachers or what a particular building’s
approach for substitutes might be. The problem also extended to other stakeholders in the school community, including building secretaries and others working in school offices who were responsible for coordinating substitutes’ schedules.

Bridget and Marie gathered data by visiting the various buildings in the district where Marie was teaching full-time, in order to obtain substitute lesson plan formats and expectations to determine how these plans may differ throughout the district. They also used questionnaires and conducted semi-structured interviews with substitutes working in the area. They followed the same questionnaire and interview process with three classroom teachers. Finally, Bridget and Marie acquired examples of substitute lesson folders and lesson plan formats from the classroom teachers and substitutes above.

Marie and Bridget used these data to determine how they might assemble a substitute folder that would be more comprehensive in meeting substitutes’ needs, with a view to student learning continuing throughout the day. The group produced a checklist that would address aspects of the substitute’s daily work, suitable for any grade level. At the end of the project, the checklist was included with the revamped substitute folder that the group had produced.

Both Marie and Bridget tried out the new substitute folder as they had opportunity. They made revisions and adjustments to their folder as they tried it out in substitute teacher situations in their respective teaching settings. The group was also able to show their work to the substitute and regular classroom teachers they had interviewed earlier for feedback. Marie found that the project was beneficial for her as a reflective exercise for her to identify priorities in her teaching practice vis-à-vis substitute teachers.
She stated that she also felt better prepared to prepare for a substitute in her own classroom(s). Bridget found that she was more comfortable in approaching her substitute responsibilities after completing this project.

Marie and Bridget emphasized that they planned to take what they learned through their action research and make it public, beginning with Marie’s own school district. They were very enthusiastic about sharing their findings with other teachers, school secretaries, and administrators. They also believed that their findings would have little practical benefit outside of Marie’s own teaching setting unless the findings were implemented with substitute teachers in actual practice.

For both Marie and Bridget, their critical colleague relationship (at least in the beginning) was based on two factors: friendship and complementary perspectives. Marie and Bridget had met through their master’s degree cohort, and found that they had much in common, especially as they were both expecting children during that time, and also lived very close to one another in the same community. For the purposes of working together on an action research project, they discovered that the problem of consistency throughout a substitute’s workday was common ground for both of them. However, Bridget had never been in a regular classroom teacher’s position, and Marie had never been a substitute. It came to their attention that they were seeing this problem of consistency for substitutes from differing, yet complementary, perspectives. They added insight to each other’s perspectives since they had really been developing their respective understandings of teaching while they were working in different areas of school culture (regular classroom teacher and substitute teacher), and the critical colleague experience
empowered them to study their chosen research problem through more than one lens. In fact, they found that they needed each other’s perspectives as critical colleagues in order to see the depth of their research problem for their project. “Being a critical colleague is beneficial. I enjoy working as a team, bouncing ideas, and having the support of somebody else. . . . using her experience versus my experience, and really putting together something” (Marie, focus group interview, February 3, 2008).

There was also an interesting tension in Marie and Bridget’s critical colleague relationship that gave it an unusual quality. Their view of themselves as a critical colleague group was that of being unique as compared to the other groups in their cohort. They believed they were traveling in a different “stream or line” than the other critical colleague groups during that semester as they worked through their action research projects. Marie and Bridget saw their concern about organizational inconsistency regarding substitute teacher practice in their district as being very different from the other groups’ choices for action research projects. The other groups in the cohort had a tendency to address matters of classroom instruction in their action research for this course, rather than research problems geared toward systemic issues in their schools. During the interviews, they looked back on their experience and saw themselves working as a self-contained critical colleague group.

This notion of uniqueness, as expressed in their view as being a self-contained group, was challenged on several fronts as they progressed with their action research project. First, while Marie and Bridget emphasized how they were unique and were able to work in a self-sufficient manner while completing the project tasks, they had
developed a strong concern regarding others’ perceptions of the rigor of their project, particularly among the others in the master’s cohort who were also engaging in their own action research. Marie and Bridget were worried that their choice of topic did not seem “real” enough to be justifiable as a research project. They expressed self-doubt about the absence of statistical data and wondered whether the required literature review included enough depth to be “credible” and acceptable to their peers. For both Bridget and Marie, they desired to make a good impression on their fellow members of the cohort via hard work. They believed very strongly in the practicality and potential benefit of their research topic, aligning these with their shared value of a teacher’s doing her utmost to provide for a school day of continual learning opportunities for students, where short and long-term instructional goals would flow together harmoniously. While they often doubted the legitimacy of their judgment in choosing the topic of improving preparedness for substitutes, this self-doubt was only apparent in one particular public arena, that of the larger critical colleague network in the master’s cohort.

Another development during Marie and Bridget’s project became a matter of concern. As was the case with the self-doubt regarding their research topic, this was also a matter of the group’s self-perception as seen through the eyes of others. Here, this had to do with the issue of possible accessibility of school district administrators to Marie and Bridget’s contributions in the online discussion forums and chat sessions. This resulted in a great deal of emotional upheaval for both Bridget and Marie, although Marie clearly experienced greater stress due to her full-time status in the district, and felt intimidated by administrative authority. Marie expressed this as a flashback to an emotional state akin to
being intimidated by others in authority while she was in high school. She stated that she had been contacted by district administration and was asked to cease from describing certain physical characteristics of her teaching setting in the online discussions, with the claim that she was casting the district in a bad light. Marie felt offended by this and characterized it as “a slap in the face.”

Much of this group’s discussion of uniqueness emerged during the focus group and individual interviews. Their understanding of uniqueness, while brought about in part through the distinctive quality of their action research project, may also be related to the challenge Marie and Bridget faced in dealing with their own view of legitimacy of their project in the eyes of others, along with the tensions involved in feeling that their professional reputations were being put at risk as district administrators were apparently acquiring knowledge of their online conversations. It was clear from the data that Marie and Bridget thought of these conversations as being somewhat private, in the sense that they did not expect anyone else to read these, other than their course facilitator and the members of their cohort. In order to complete the project, Marie and Bridget developed the “cell” as their working metaphor of professional survival, with a view to insulating themselves from the tensions they were experiencing as they worked through their project.

Working from the data they collected through their questionnaires, interviews, and documents, Bridget and Marie tried out their redesigned substitute folder in their own classes as they completed the tasks for the action research course, adding to it and refining it as they went along. They developed a deeper commitment to doing all they
could to improve the quality of student learning during a day when a substitute is present in the classroom. Seeing the depth of the problem of consistency and thoroughness in preparing for a substitute was an epiphany, an “eye-opener” for both critical colleagues. This came about through the reciprocity of their experiences and supporting each others’ ideas. As with the other critical colleague groups in my study, Marie and Bridget felt that the concept of “bouncing ideas off” one another was of paramount importance in their work together, to the extent that they saw themselves as “different people” by the end of their action research project. They saw that they had to depend on one another’s perspectives in order to understand their research problem and what they might try out to address it. This interdependence also helped them to share and balance the workload of the project within their group.

Bridget and Marie were very enthusiastic about the implications of their action research. They believed that their revamped substitute folder, along with their discoveries about the nature and depth of the problem of inconsistency in substitute preparation in Marie’s district, would have a potentially “huge impact” both in Marie’s district and possibly beyond. They believed that they were affecting and assisting other teachers in a very positive way as they shared their work with them, and mentioned that they were seeing a snowball effect of their findings, beginning with their critical colleague group and moving through other networks of teachers they knew personally. However, Marie and Bridget did indicate that they were looking at their research project through a local lens, admitting that they had not applied their findings in the sense of trying to fit them into larger contexts. And although they struggled at times with their choice of topic and
had challenges with district administration during the project, both Marie and Bridget stated during the interviews that they were enjoying their memories of the critical colleague/action research experience.

Marie and Bridget’s online experience for this project was, in their view, one which presented both advantages and disadvantages. Regarding advantages, they mentioned that working online provided convenience for them, even with their close proximity as friends and in their teaching settings. They found that working online was beneficial for managing their time, especially for completing their tasks for the action research project. They emphasized that they were not dependent on the online technology in use for the project; rather, they used a variety of means to communicate and carry out their project tasks, including face-to-face conversations and meetings both during and after the school day, along with phone conversations and e-mail. The discussion forums provided a platform for both Marie and Bridget’s expanding their point of view of teacher practice through the opportunity to meet other teaching professionals. They recalled one conversation in the online discussion forum regarding the cohort’s experiences with substitute teachers, in which many of the participants had passionate views about how substitutes had interacted with the participants and their students. They also made note of their enjoyment of engaging in reflection during their online conversations, stating how these had a different quality from their face-to-face dialogue. They characterized this as “sparking” conversations online.

However, this group also cited some disadvantages with their online work. In particular, they related the story of one of their fellow members of the cohort who seemed
to be a ubiquitous presence online, often responding first to the online assignments and providing such a great amount of detail and length in his posts that it became intimidating for Marie and Bridget to express their own views. This circumstance also led to a difficulty with responding to longer threads, especially after being away from the discussion forums for several days. Marie and Bridget sometimes felt that they had nothing noteworthy to contribute to these threads, fearing that their contributions would not be received favorably by the others in the cohort. At times, these aspects of the project were a deterrent for Marie and Bridget to participate more fully in the online work of the larger group.

Situational Narrative 4: Critical Colleague Group 4

The fourth critical colleague group consisted of four participants: Catherine, Barb, Deanna, and Tammy. They had also participated in the eTech Ohio action research project, as had critical colleague group one (Natalie and Sue). While the conditions for obtaining and fulfilling the grant, course assignments, and timelines were the same as those for Natalie and Sue, the school setting and working conditions were strikingly different. Catherine, Barb, Deanna, and Tammy taught in an elementary building in an urban district, in a community that was on a low socioeconomic level. The school district as a whole had been struggling both financially and academically for several years. At the time of the project, all four participants in this group were teaching in the same building; however, Barb had been teaching in the district’s junior high building at the time of our interviews. When I interviewed this group, they indicated that there was an ethos of uncertainty and tension in their building because the school was expected to be torn down
at the end of the school year. The staff in the building knew that they would be merged with the staff in a neighboring elementary building in the district after completion of construction of a new school. This event was anticipated to occur at the beginning of the next school year.

Catherine was a sixth grade teacher with 15 years of experience, all in the same district. Barb had been teaching in the district for 10 years at the time of our interviews, (fifth grade), and had been assigned that year to teach enrichment classes in seventh and eighth grade at the junior high. Deanna had taught in a neighboring district in the same county for the first three years of her career, and had spent the last four years teaching fourth grade in her present location. Tammy had a total of 12 years of teaching experience (all in this district). During her first six years of her career, she taught kindergarten, eventually moving into her present building to teach first grade. She had spent the last three years as a proficiency intervention specialist. All four teachers had completed master’s degrees in education. Catherine, Deanna, and Tammy had master’s degrees in education from area colleges, whereas Barb had finished hers through an online program.

For their action research project, this group chose to pursue the use of handheld computer technology (Palms) as a means to increase student motivation in their respective classes. After discussing areas in their teaching practice where they felt they needed improvement, they agreed that they wanted to see greater student motivation in their teaching, along with enhanced ability to engage in level-appropriate data analysis in what they called “real-world situations.” Some of their concern was based on a
recognition that math and science instruction were still seen as weaker areas of teaching in their building, in spite of overall gains on their most recent Ohio Achievement Test. They hoped that the student use of technology might help them to address these concerns in their teacher practice, especially since any type of digital or computer technology was often not readily available to these students outside of the classroom. The lack of availability was often due to the students’ family financial situations.

One value that was integral to all four of these teachers and their practice was equal opportunity for student learning. They believed that introducing Palm technology into their classes might help to level the playing field for their students. The group’s exploration of the research literature regarding the use of handheld instructional technology confirmed this belief. The fact that they could implement lessons outside of their classrooms with every student able to have a hands-on experience with the technology was of particular interest to the critical colleague group.

In order to implement the Palm technology across several grade levels, the teachers chose to use the Waterways program, a series of environmental science lessons, as their main instructional vehicle for their project. This program had been in use in the district with the fifth and sixth grades. The fourth, fifth, and sixth grade students worked together to gather data at a local beach within walking distance of the school. The data included measurements of water quality and several meteorological conditions. The teachers accompanied these students to the beach site on a monthly basis during the project. The students returned to their classrooms after each visit to the site, and engaged in exercises to analyze the data they had collected. A group of second grade students
were also involved with the project, but did not participate in the Waterways program with the others. Instead, they remained in their classrooms and collected data during a school food drive, analyzing data dealing with the quantity and weight of the cans of food they had collected.

The critical colleague group used several means to collect data for the purposes of carrying out their action research. These included checklists that were aligned with state criteria and based on grade levels. These were done on a monthly basis. The teachers also collected data through informal interviewing and a student attitude assessment, both of which were constructed by the teacher group.

According to the critical colleagues, outcomes and teacher satisfaction for this project were mixed. Although they saw an increase in student motivation as the students used the Palms, the teachers encountered several difficulties and frustrations with the implementation of the project. Their difficulties were rooted in the areas of completing required tasks as well as a lack of satisfaction with what they had accomplished.

Regarding implementation, this group struggled with what they called “the getting going.” Tammy, in particular, felt that she had been thrown into a leadership role in the group, perhaps due to her position as an intervention specialist and seeing students from the classes of all the other teachers in the group on a regular basis. She sometimes felt that she needed to function in a leadership role at points in the project where the group may have been stuck and uncertain about their next steps, or “picking up the slack” if particular tasks were being left undone. Barb also felt that she needed to step in and complete tasks from time to time, stating that her desire to do so went beyond the goal of
finishing the project. She stated that she was simply someone who disliked seeing uncompleted tasks in any area of her life.

The group as a whole stated that they had feelings of being unconfident and overwhelmed by the required tasks of documentation and revision of their work, which they found tedious and at times, unnecessary. The entire group believed that what they experienced in carrying out the assignments of the action research projects ran counter to what they felt that action research was supposed to be. Deanna, in particular, stated that she saw action research as a professional development activity that should have been “more fluid,” allowing for “tinkering . . . and moving it around” as this project progressed. This lined up with her value as a teacher in which she was never one to teach within the confines of a textbook, if working outside of that boundary might be more beneficial for her students. This view was shared by Tammy, who stated that, during the project, there was little opportunity to make adjustments, to “revamp, redo, and fix” according to need. In part, the group also connected these frustrations to the challenge of conducting their action research during the typical busy school day, while balancing the tasks of the project with their other teaching responsibilities.

The group also experienced frustration with using the new technology with their students. One of the greatest sources of frustrations for the teachers in this regard was a lack of what they called “professional development.” For them, professional development was based on a deficit/training model, a matter of bringing in someone with the needed expertise to assist with the new technology. The teachers’ training for using the Palms was provided by an online learning consultant who was compensated through the grant.
However, there was still a great deal of trepidation among members of the group. The opinion of the critical colleagues was that the training still did not provide enough background and/or practice for them to go to the data collection site with the students and use the Palms effectively. At times, the teachers felt unprepared to work with students at the beach who had questions about using the Palms, and they sometimes encountered problems themselves during their time at the site. It was also noteworthy that, in some groups, there were not enough Palms for every student. While every student wished to use the Palms every time they went to the beach, some students needed to be assigned to other roles for the data collection while they were there. In addition to their feelings of being unprepared, the teachers found they were growing more stressed, working in an unfamiliar class setting and dealing with these additional student needs.

Interestingly, this critical colleague group had developed a very close group relationship, along with the frustrations that were encountered during the project. While they did mention the notion of friendship during the interviews (Barb and Tammy had developed a close friendship before the project, much as Marie and Bridget had done in their critical colleague group), they thought that their group conducted their action research from the vantage point of a team rather than as a group of friends. The group also had developed working metaphors to describe themselves throughout the project, often referring to themselves in the online chat sessions as a “team,” “the secret society,” and “our own island.”

These metaphors actually became ongoing points of reference for them during their workdays together. The “team” metaphor was a rallying point for the group in the
online data as they continued with their action research work, particularly when they faced challenges in finishing various tasks during the project. The metaphor of “the secret society” was a means for the group to maintain a group identity (in the form of an “inside” joke) that was coexistent with yet separate from their other work in their school; the teachers remembered this fondly when the metaphor came up during the focus group interview. Finally, the “our own island” metaphor was an expression of the comfort, trust, and safety that these four teachers experienced as critical colleagues. All three of these metaphors were both positive and generative, in that they provided a way for the group to approach their action research with the hope of improving their practice while creating something new for them as well as for their students with the Palm technology.

The teachers found that working together as critical colleagues provided a factor of accountability that was helpful for them in completing assigned project tasks. As a group, they saw themselves involved in a common struggle to complete their research while counting on and relying on one another, and indicated that the “belonging and fitting in” as critical colleagues was a factor in their ability to work through circumstances in their project when, at times, they knew that every critical colleague had moments during the project when they were “weak links.” This group was adamant in stating that they saw common goals as one element which cemented them together as critical colleagues and empowered them to work through their struggles. A focus on one topic was what the group put forth as a defining characteristic of critical collegiality. This focus allowed them to work together in such a way that they were able to balance their individual voices during the writing of their action research paper. They also stated that
they were able to recognize what they felt was exemplary work within their group as it occurred.

Another aspect of this group’s critical colleague relationship was the activity of “bouncing ideas off.” While some of this mediated activity was expressed in terms of an approach they called “bouncing strategies” or brainstorming, it became apparent that the concept of “bouncing ideas” included processes of revealing their own strengths, shortcomings, and problems as teachers, where they may not have been willing to reveal these previously. This included openness in asking for help, identifying and empathizing with each other’s common struggles, being willing to “bring their guard down” and overcome feelings of teacher inadequacy, and pursuing a path of greater risk-taking by following their own “inklings” or “premonitions” about their teaching practice.

Categories of teacher learning with this group were interesting in that it was a mixture of both positive and negative elements. First, they saw that their experience as critical colleagues had a unique quality as compared with what the group called the “day-to-day life” in their school. While they recognized that there was collaborative team activity as part of the daily life in their building, they still felt isolated at times in their own teaching practice, in that they were reluctant to reveal areas of their teaching where they felt either unprepared or inadequate, or to unveil hopes and dreams they may have had for their own professional development. They felt that they were able to make judgments with a deeper level of reflection and confidence when doing so as critical colleagues rather than in isolation. Another subcategory of this unique quality was what the teachers called “closeness;” the group stated that this closeness with one another was
more distinct in the critical colleague group than in the other collaborative setting in place at that time in their school.

The teachers made a distinction between colleagues versus critical colleagues. This distinction had several noteworthy features. The first was that critical collegiality could be a generative experience. The group felt that they were able to move more readily into creating their own “meaningful” teacher professional development with one another. By “meaningful,” they referred to professional development that recognizes student-centeredness as a core value for their teaching, along with moving beyond a superficial version of professional development that they called just “something extra” to the teacher, making improved practice a deeper experience and what they called “second nature.” Every member of this group spoke of having “hopes” and “dreams” for what they hoped to accomplish through their action research project, involving wider access to technology and increased proficiency therein for all students.

Secondly, the critical colleague social space allowed Catherine, Barb, Deanna, and Tammy to operate in a place where they felt a degree of comfort, trust, and safety in an ethos of openness. They stated that they were able to develop an awareness of the action research reflective cycle at work in one another during the project, but that this awareness began to wane after the project ended. They also said that they preferred doing their action research in this manner as opposed to doing it individually. There was an expression of a sense of loss with the group during the interview phase of my data collection; the group stated that they missed the critical collegiality in their group, while
not missing the pressure of the work involved in completing their action research projects within the parameters of the eTech courses.

Third, this group appeared to have an overall sense of disappointment with their action research work for this project, feeling unfulfilled and out of reach of their objectives in this instance as teacher-researchers. Each participant stated that they had developed “hopes” for this project, envisioning their students having developed a high degree of proficiency with the technology in question and a school culture that featured various types of instructional technology readily available for student use. Catherine, in particular, attributed the feeling of disappointment to moving into working with the technology too quickly, before the critical colleague group had had the opportunity to gain sufficient background and expertise with the Palms to carry out the implementation phase of the project successfully. “It was just such a good idea and so interesting at first, that I jumped in . . . I didn’t put the time into really knowing it . . . so it was not as effective as it could have been” (Catherine, individual interview, March 2, 2009).

There was also the issue of what the group described as lack of “follow-through” after the project was completed. Although the group mentioned that fellow teachers in their building took notice of what they were doing with the project, along with the fact that they presented their findings at the eTech Ohio annual technology conference in February 2007 (approximately three months after the action research project ended), there was still a feeling of uncertainty about the significance of what they had accomplished in their action research. They stated that they felt noticeable exhaustion to the point of
burnout as the project was coming to a close, and they stated that they simply let the project “dwindle away.”

The online experience of this group in working collaboratively, as was the case with the other critical colleague groups in this study, had both advantages and disadvantages. The group enjoyed the wider range of perspective available to them in an online environment, stating that seeing others’ perspectives and “process” of problem-solving among the eTech Ohio participants as helpful to the completion of their own project. Even though they had met the other eTech Ohio teachers face-to-face once at the beginning of the project, they felt comfortable participating in the online discussion forums, stating that there was still a factor of anonymity there that provided a cushion for them as they discussed the various prompts and discussion questions for the assignments. In addition, the teachers mentioned the asynchronous chat sessions with one another as being “the most valuable” part of their online work, allowing them the flexibility of time and location outside of the school day to pull together as critical colleagues and to share their questions and concerns, both dealing with their action research project, as well as their own values and personal challenges as teachers.

There were two challenges for this group while working online. The teachers were not confident at the beginning of the project with the procedures doing the online assignments, which resulted in their sitting next to one another in the school’s computer lab and submitting their first chat session assignments as they sat together. They also found that they needed to engage in considerable thought before committing themselves to posting their ideas to either the discussion forums or chat sessions.
Primary Research Question

The primary research question for this study is, “What is the potential of critical colleague relationships to transform teacher action-researchers in a shared online learning environment?” Following my exploration of the four situations above via situational analysis, it became clear that the critical colleague relationships in each instance were a central feature of the collaborative action research experience of each critical colleague group. The data in this study suggest the critical colleague relationship as a phenomenon that extends far beyond the notion of casual “group work.” As my analysis progressed to axial coding, emergent categories and subcategories began to point to critical collegiality addressing not only procedures of problem-solving and completing the required tasks for the participants’ action research projects, but also to interpersonal dynamics and sensitive areas of teaching practice that I did not expect to see.

As one can see from the four “ordered” situational maps (A. E. Clarke, 2005), the critical colleague relationships in this study generated a large number of interrelated concepts. These concepts began to situate themselves according to the following main categories:

1. Mediated activity
2. Teacher learning outcomes
3. Online experience

I discuss each of these in turn.

There were also two other categories of note that deserve mention here. These are (a) the required action research courses/projects, and (b) the action research reflective
cycle (Arhar et al., 2001). As for the courses and projects completed by the participants, these were a constant presence throughout the participants’ action research work, and provided a backdrop to the emergence of theory relating to the critical colleague relationships that developed. Required tasks, especially the trying out of new technology in the eTech Ohio groups, often presented a challenge to the participants, resulting in teacher frustration. This was particularly the case during the early stages of implementing the technology with their students. This frustration also led to the critical colleagues finding it necessary to work even more closely together to complete their projects successfully.

The action research reflective cycle was evident throughout the work of all four groups. Both the action research projects themselves, along with the critical colleague relationships, involved the “think, reflect, act” character of this cycle (Arhar et al., 2001). Elliot’s (1991) view of the reflective cycle (although he presented it as having a spiral structure) suggests that, even though all four groups had a number of variations of the cycle, sometimes even characterized by a change in direction, there was still a progression towards transformative learning for all involved.

**Mediated Activity**

As seen in the four situational maps, mediated activity is a prominent category, or axial code, in each critical colleague situation. Each critical colleague group, when viewed from the perspectives of situational analysis and activity theory, may be conceptualized as systems or “networks” of mediated activity (Daniels, 2001; Engeström, 1999). Mediated activity, for the purposes of this study, is a process of mediating or
creating new meaning through interaction in a collaborative setting. This new meaning may include transformative processes (Engeström, 1999; Karpov, 2003). The critical colleagues were not operating solely as isolated mediated activity systems, but were connected to, and mediating with, additional activity systems, such as other critical colleague groups in the same online course, as well as other stakeholders in the school settings in question (parents, administration, local community). This notion of interrelated networks of mediated activity tracks with the most current or “third-generation” strand of the activity theory literature (Roth & Lee, 2007).

Within the four critical colleague situations, mediated activity demonstrated itself in a number of different ways, as indicated by the categories generated through the situational mapping phase of the data analysis. Many of these were social processes of working together and problem-solving, with a view to completing the tasks at hand for the critical colleagues’ action research projects. These included the balancing of respective voices with the critical colleague groups during the writing of papers, balancing critical colleague group work with other teaching responsibilities, sharing ideas, and allowing themselves to take risks in trying out activities, strategies, and/or new technologies in their teaching practice. This also involved developing mutual trust while recognizing and building upon both the strengths and weaknesses of individual members of the various groups.

“Bouncing ideas off.” The axial code of “mediated activity” included a subcategory that demonstrates the importance of language in the social process of mediated activity in the critical colleague groups. The subcategory of “bouncing ideas
off” appears to be an example of the process of ontogenesis (Wertsch, 1995), bringing about meaning-making and transformation among the teacher-researchers through mediated activity, much of it in the form of dialogue.

It is noteworthy that the “bouncing ideas off” category was mentioned specifically by each critical colleague group. “You’re able to help each other by bouncing strategies off each other” (Catherine, focus group interview, January 26, 2009). “It was good to bounce ideas off each other . . . it was good to have other people . . . to get some more support” (Kate, focus group interview, January 19, 2009). “I enjoy working as a team, bouncing ideas, and having the support of somebody else” (Bridget, focus group interview, February 3, 2009).

At first, it appeared that the phrase “bouncing ideas off” was an in-vivo code (Strauss & Corbin, 1998) that may refer to a process of brainstorming or thinking aloud for teachers in order to generate ideas that might be of practical benefit in completing the action research projects. However, as the analytical processes of both early and axial coding proceeded, it became clear that this category included many subcategories that not only deal with a brainstorming process, but extend much further, suggesting that there are deeper processes involved in critical colleague relationships, and what these might suggest in the development of a theory to explain the phenomenon of potential transformation among teachers working in this setting.

The first subcategories that captured my attention dealt with the concept of confidence (or the lack thereof), among the study participants. It was surprising to find that participants in each group suggested that they were unsure or doubtful at times about
the overall direction and quality of their action research projects. This uncertainty varied dimensionally among the groups, ranging from frustrations with the application of new technology (Sue and Natalie), to concerns about the “credibility” of the required literature review (Marie and Bridget), to a desire not to appear foolish in front of other critical colleagues. As seen in the quotes above, the teachers often phrased their understanding of “bouncing ideas off” in relation to providing aid to others and for gaining support.

Almost paradoxically, these expressions of teacher self-doubt and/or lack of confidence in their own projects led to the concepts of “bringing (our) guard down” and “dropping the walls.” This had to do with the participants beginning to unveil their authentic teacher selves in the course of working together as critical colleagues.

Even for those critical colleagues who had been teaching together very closely over a number of years, this was a process that pointed to an opportunity for professional growth and transformation. For Sue and Natalie, the “bouncing ideas off” process allowed them to engage in a mutual critique of their own practice. They mentioned the quality of critique several times during their interviews, in that they felt that being able to accept constructive criticism was a very valuable aspect of the critical colleague relationship. They went so far as to say that even the online dialogue in the discussion forums as part of the larger eTech Ohio project was often “too nice,” engaging in a level of encouragement that may have been too superficial, leading to little practical help for any participant who may have been seeking honest critique so as to improve the action research at hand.
Interestingly, it is this apparent fragility in this unveiling of the inner life of the teacher (Palmer, 1998), along with a recognition of the necessity of honest (and occasionally unpleasant) critique that point to opposite dimensions of “opaqueness” and “openness” (Figure 1).

![Diagram](image)

*Figure 1.* “Bouncing ideas off” as mediated activity.

“Bouncing ideas off,” then, is a category that revealed a complex dimensional network of mediated activity. None of the critical colleague groups were purely in an “opaque” or “open” orientation as they conducted their action research. For example, Natalie and Sue found themselves engaging in “face-saving” behaviors while online, and had a definite lack of confidence while they were beginning to implement their technology. But they also engaged in honest and direct critique of one another’s teaching
practice and found support for each other’s ideas and efforts within their group. The other
teacher-researchers in each group experienced periods during their projects when they
found themselves working in either dimensional orientation.

**Teacher Learning Outcomes**

The second main category is that of teacher learning outcomes (Figure 2). As is
evident on the situational maps, these outcomes grew out of the teachers’ work in what
they tried out for their respective action research projects. These outcomes were also
informed by the student learning outcomes or findings for each critical colleague group
(see the situational narratives for each group above).

These teacher learning outcomes enabled each group to connect their action
research from their own teaching settings (including their student learning outcomes and
findings) to an understanding of their own practice as teaching professionals. The lens of
long-term effect on teaching practice, particularly the effect of the teacher as public
intellectual, is one means of viewing this connection. (This lens is the subject of research
subquestion two, which I discuss in more detail in a later section.) The long-term effects
include (a) classroom practice vis-à-vis teaching procedures, (b) view of oneself in terms
of teacher role, (c) view of oneself in terms of critical collegiality, and (d) emergence of
the participants as public intellectuals. These four categories of long-term effect suggest a
development of a more holistic understanding of teacher practice, in that they encompass
a dimensional range from the interior of a teacher’s life (Palmer, 1998) to life in
collaboration with others via critical collegiality, to classroom procedures with students,
to the spaces of the public arena beyond the classroom.
In each critical colleague group, the idea of making their (action) research public was carried out to a degree, and appeared to be a means by which each group could exhibit their teacher learning, taking it out of the range of private, or even hidden, practice. This gave them the opportunity to function as public intellectuals in addition to enjoying any benefits they may have gleaned from their projects. These opportunities included (a) presentations at conferences on teaching (Natalie and Sue; Catherine, Barb, Deanna, and Tammy); (b) endeavoring to be a positive influence on a building teacher team with an enhanced awareness or “knowing” of others and their needs (Kate); (c) branching out as a teacher leader (Denise; Natalie and Sue); and (d) required sharing with colleagues within one’s own district (Marie and Bridget; Catherine, Barb, Deanna, and Tammy). Denise, in particular, developed a role as a multi-faceted teacher leader in her new teaching position, assuming simultaneous roles as a teacher mentor and assisting in
instruction as needed. She felt that she was able to bring more to her teaching setting in terms of leadership, and had developed the willingness to be more extroverted and assume more risk-taking in these areas of her teaching practice.

Just as Denise had developed this willingness to be more outgoing in teacher leadership, Valerie (also in critical colleague group three) had developed what she called a “boldness” in communication with both students and colleagues. For her, this was a profound experience in her professional development, in that she found that “dropping the walls” in her critical colleague group and allowing herself to “choose vulnerability” began to change her outlook on how teachers might function both within their own classrooms as well as in the larger contexts of school community and beyond.

**Online Experience**

The online experience of the participants was a central part of this study, and the data indicate that online learning played a strong role regarding how the participants developed their action research and reached their respective versions of transformative learning. Some of the literature on online learning paints an optimistic picture of social spaces that may have a potential for a new and different quality of collaboration (Figueiredo & Afonso, 2006; Fletcher, 2004). The critical colleagues did reach levels of mediated activity and collaboration that D. R. Garrison and Anderson (2003) called a “transactional perspective.” One category that appeared in the data of each group regarding working online was that of “sparking” conversations. This served as a catalytic factor in the work of the four critical colleague groups. This phenomenon was very helpful to the critical colleagues in terms of framing their understandings as a co-creation
with others’ perspectives. Each group found that they were “thinking differently” when they were engaged in online conversation, engaging in slower reflection before sending their posts to the others in the forums and chat sessions. They were aware that they were “keeping a record” and creating an online artifact of their inquiry, and found it useful to be able to go back and reference these if needed as their research continued.

As the teachers worked through the online assignments and participated in online discussions and chat sessions, there were other subcategories of participant activity that I call “adaptive” behavior. In other words, the participants engaged in a number of other activities than working online to complete their required tasks, and sometimes chose to work offline when they had an online option to approach the work of their respective projects. These activities included speaking on the telephone and meeting face-to-face both during and outside of the school day. In addition, as an alternate online activity, the participants were prone to using e-mail rather than conversing through the discussion forums or chat sessions, if it moved them along more quickly toward their action research goals.

There were also a number of other interesting subcategories of the online experience that one may view as “adaptive.” Several of the participants were not comfortable with talking about their teacher selves and/or their practice in an online situation, in that they spent a great deal of time drafting their posts before sending them out to a discussion forum or chat session. They felt that pressing the “send” button with a message was a commitment that would result in a loss of anonymity they sometimes enjoyed online. A similar incident occurred with critical colleague group four, when they
sent their first online chat assignments only after sitting side by side to compose these in their school computer lab.

Although these benefits for the participants certainly appear to have played a role in their professional growth as teachers via mediated activity and with a view to transformative learning, there were subcategories in the data that indicated drawbacks to working in an online environment. One of these was the practice of engaging in lengthy thought while preparing drafts of online communication before sending them out in the discussion forums or chat rooms. Another subcategory was online anonymity, which seemed to become a non-factor after the courses began to develop. While this allowed the participants to get to know one another better, the perceived danger for all of the critical colleague groups was that they thought that they had be very cautious and non-confrontational about their online posts. Natalie and Sue referred to this phenomenon as “face-saving.”

The participants’ online experience was a ubiquitous presence (D. R. Garrison & Anderson, 2003) for all four critical colleague groups throughout their action research projects, meeting the criteria for Garrison and Anderson’s view of a framework of online community, including cognitive presence, social presence, and teaching presence. All three of these views of “presence” are integral and balanced parts of Garrison and Anderson’s model of online “communities of inquiry” (p. 30). The critical colleagues engaged in mediated activity and constructing generative theories through ongoing dialogue (cognitive presence), lived through their action research together rather than in isolation (social presence), and taught one another through sharing discoveries and
depending on one another’s perspectives (teaching presence). These notions of presence are a useful framework for understanding how online experience may have contributed to the transformative learning of the critical colleagues, in that these areas of “presence” contributed to a context of conditions favorable to both the transactional “sparking” of new conversations as well as a co-creation of generative theories through the perspectives of others (Figure 3). According to King et al. (2006), change processes in online situations are not predictable, and include “tensions between sustainability and change” (p. 3). Each critical colleague group had to work with the challenges of sustaining themselves in critical colleague relationships while being active participants in an online environment, working toward enhanced teacher practice through their action research projects.

In summary, the data indicate that there is potential indeed for critical colleague relationships to transform teacher action-researchers in a shared online learning environment. The richness and complexity of these critical colleague relationships, as I have described them in both the situational narratives and on the situational maps, point to a complex system of mediated activity for these teacher/researchers. In particular, the properties and dimensions of the category “bouncing ideas off” proved to be very revealing when it came to how the social processes of unveiling of teacher self and entering into spaces of collaborative openness enriched the teachers’ critical colleague relationships. In addition, teacher learning outcomes from the action research projects provided an enhanced awareness and “knowing” of others’ needs, an openness in communication, and a connectedness between the categories of student learning
outcomes, project findings, and teacher understanding of professional practice as educators, leading to a variety of dimensions of teacher public intellectualism. The critical colleagues’ transactional online experience (D. R. Garrison & Anderson, 2003) was invaluable for providing conditions conducive to the “sparking” of new conversations and co-creation of generative theories through the perspectives of others, with more deliberate teacher reflection and professional judgment. My analysis of these emergent categories suggested that the action research projects were transformative learning experiences, whether in the areas of transformation of meaning scheme, of meaning perspective, or of both (Mezirow, 1994).

Figure 3. Transactional online experience.
Subquestion 1

My first sub question for this study is: How does critical collegiality in a shared online learning environment provide a context for generative theorizing and making explicit “living theory” for teacher action-researchers as it relates to their understanding of teaching and learning? This sub question has a great deal of importance in relation to the overarching research problem at hand, that is, the dilemma of teachers being expected to be providers of a degree of change in school settings, with the expectation that these teachers would not engage in any type of transformative experience themselves. By extension, this also points to the notion that professional development for teachers may serve purposes other than that of creating anything new, whether in the domains of theory or practice. These other purposes may include the role of teachers’ being conduits for the transmission of knowledge, overseers or supervisors of the path to students’ improved performance on standardized tests, and the like. The idea that teachers might engage in generative theorizing is foreign to a great deal of teacher professional development that is occurring in today’s schools.

Contexts for Generative Theorizing

My understanding of the term “generative theorizing” is that it is a process of seeing and connecting ideas or concepts in such a way that these connections lead to new insights and realizations about one’s teaching practice and/or the inner life of the teacher herself. This lends itself very well to transformative learning (Mezirow, 1994), in that it allows for changes in meaning schemes (everyday decision-making and professional judgment in the moment) as well as meaning perspectives (reflecting on underlying
motives, values, and beliefs that undergird our practice). The data indicate that the entire situation for each of the critical colleague groups provided them a context for generative theorizing, in that they were given an opportunity to participate in mediated dialogue in their online learning spaces, work together in various face-to-face situations as critical colleagues, and work with their own students or teacher participants as necessary. This was a multi-faceted and holistic space for the teacher-researchers to work. A. E. Clarke (2005) insisted that a “situation” is a social space that is best viewed holistically, rather than endeavoring to divide it into discrete categories that give an illusion of disconnectedness. These are all interconnected in a “web of relationships” (McNiff, 2001). (This will be important when I discuss the phenomenon of inclusionality and its integral role in my emergent theory in the next chapter.)

The shared online environment is a central element in this research subquestion, and also holds a central place in how the teacher action-researchers were able to engage in a slower and deliberate form of reflective dialogue that encouraged a generative context as they theorized collaboratively about their work. The “sparking” of conversations, not only among the critical colleagues but also among the others who were taking the same respective action research courses, gave the participants an opportunity to see that their colleagues, in the wider context of the courses, were going through similar circumstances and challenges in their teaching. The “spark” seemed to be a catalytic factor, bringing about a realization that their common struggles could serve as a platform for being more flexible in relating their problems and shortcomings as teachers. This process of unveiling appeared to be a prerequisite condition for the consequence of
generating new ideas and theorizing about their teaching practice. However, there was a parallel strand of categories that indicate that the teacher-researchers had to face challenges in the online environment while they endeavored to participate in theorizing together as critical colleagues. I found that several of the subcategories of online experience were really dimensions of the category of professional survival, where participants engaged in “face-saving” to maintain their self-image as professionals, had difficulty with the occasional high volume of posts on the discussion boards, and found themselves being fearful of administrators having access to participants’ online conversations.

This “sparking” of both conversations and interest among the critical colleagues may have played a role in a number of the other subcategories of online experience, contributing to a generative context for the participants. As the critical colleagues were able to engage in seeing and depending on others’ perspectives and their processes of solving problems, they began to look at their online social space that they expressed as the metaphor of a “haven” and as an alternative to what was called the “logic” and structure of the physical school building. It is noteworthy here that their online activity was looked upon as occurring in an alternative space with an accompanying alternative logic. This view of online experience is indicative of one end of a dimensional spectrum of working online. Dimensions on the opposite end of the spectrum included those that were oriented to fear, such as saving face, writing many drafts of posts before sending them so as not to appear inadequate, and being intimidated by the online presence of others.
Making Explicit “Living Theory”

A second aspect of this subquestion is how critical collegiality in a shared online learning environment provides a context for making explicit “living theory” for teacher action-researchers as it relates to their understanding of teaching and learning. The concept of “living theory” was originally developed by Jack Whitehead (1989) to explain how action-researchers might develop theories about their particular areas of endeavor without a theory versus practice dichotomy and which might be consistent with the action-researcher’s evolving beliefs and values. Whereas Whitehead did acknowledge the presence of both theory and practice in the life of the practitioner, he suggested that living theory emerges from practice, rather than being set off as a separate entity. One of the advantages of this approach to action research is that the tensions that often exist when examining an area of endeavor from the standpoint of theory versus practice are resolved, empowering the action-researcher to make professional judgments that become more meaningful to the practitioner herself. In other words, “living theory” is theorizing that comes from the inner life and values of the practitioner; although she may, and often will, seek an awareness of “what others know” as one step in the action research reflective cycle (Arhar et al., 2001).

“Living theory” is, or can be, a generative phenomenon in that it brings the action-researcher to a recognition of her “I’ contradictions” (Whitehead, 1989). For a teacher, this makes reference to areas of her teaching practice that may be impeded by factors that prevent her from making professional judgments inconsistent with what she knows to be her imbedded professional beliefs and values. It is important to note that the
“living theory” approach to action research need not be a self-serving or egocentric view of teaching, with the notion that the teacher’s own wishes must be satisfied on all counts for her to have a satisfactory professional teaching experience. It is the self-awareness of these contradictions in the teacher’s own life that serves to avoid an egocentric orientation as she endeavors to assist her students and provide for them through “present experiences that live fruitfully and creatively in subsequent experiences“ (Dewey, 1938, p. 28).

The data in this study indicate that the participants approached their action research projects from a firm standpoint of student-centeredness, holding student learning as a priority. It was actually very helpful that there was a framework within the course assignments to assist the teacher-researcher groups in identifying their values as teachers and providing them with a parallel orientation that would help them to engage in practices that would point toward teacher transformation along with changed or revamped instructional procedures for their students.

As for the living theory of the teacher action-researchers in this study, there were certainly suggestions in the data that indicate an enhanced understanding of teaching and learning. The category of “student learning outcomes/findings” in the data make up what the critical colleague groups found in their action research studies that were related most directly to their research questions and to their teaching concerns or challenges in practice. I have explained these findings in detail in the situational narratives for each critical colleague group. However, beyond advantages of the findings as descriptive information, they also had dimensional variations that are worthy of consideration here.
Critical colleague groups two and three actually found little demonstrable student learning in terms of student performance on assessments. In group two, the classroom management strategies tried out by Denise and Kate had a limited positive effect with their students, and Valerie’s techniques did help to build more positive relationships with her students, helping her to make several adjustments in her practice as a substitute. This group represents the middle range of the dimensions for student learning outcomes.

Interestingly, critical colleague group three (Marie and Bridget) had an even more limited amount of student learning included in their project, in that there was little opportunity for them to go beyond the design of their substitute folder and to try it out in daily teaching practice.

Perhaps the most extreme dimensions of the student outcomes/findings are in critical colleague groups one and four. In group one (Natalie and Sue), they found an increase in student motivation and confidence in speaking Spanish that appears to be the highest dimension of student learning in the study. They also found that there was only a slight improvement in their students’ CAAP scores, based on the pre- and posttests they administered for their action research project. In critical colleague group four, they found an increase in student motivation to work in the data analysis project while using the Palms, but they found that there was little continuity to their findings, since the Palms have been used only sparingly since their action research project, and the Palm technology is no longer being used for the Waterways environmental project.

In the analysis of the above as student consequences in the critical colleagues’ respective action research, and while examining the conditions of the critical colleague
groups’ working relationships, the dimensional working conditions of the critical colleague relationships do not suggest a correspondence between these conditions and the consequences of student learning noted here. Each teacher group had both positive and negative conditions present in their action research. In other words, more positive student outcomes were not guaranteed by the presence of either negative or positive working conditions in the critical colleague groups.

It is noteworthy that both positive and negative subcategories emerged for every group as conditions as they worked through their action research projects. One example of a mixture of both positive and negative subcategories represented a “common struggle” for group four. In relation to making explicit “living theory,” it seems that adverse conditions played an important role in how the teacher groups worked together to overcome the “‘I’ contradictions” (Whitehead, 1989) in their teaching practice, where these teachers identified issues in their work that did not coincide with their own teacher values. For example, Natalie and Sue maintained that student learning was a central value in their teaching of Spanish (especially in the area of speaking proficiency), and that this value was being denied to them (and ultimately, to their students) in their practice, as their students struggled with developing their speaking skills as well as their motivation and willingness to improve. This was certainly a matter of concern and frustration for Natalie and Sue as they worked to address these “‘I’ contradictions” as critical colleagues. Conditions such as stress, frustration, accepting/offering honest critique, fear, and self-doubt coexisted with mutual acceptance, safety, reinvigoration, and the letting go of perfectionism, and so forth, throughout the action research courses for all four critical
colleague groups. Perhaps it is the case that what we may conceptualize as an “ideal” critical colleague relationship, having only positive characteristics or conditions, may be misleading if critical colleagues are to have transformative experiences in their professional development.

In conclusion, critical collegiality in shared online learning environments appeared to provide a rich context for both generative theorizing and making explicit “living theory” for these teacher/researchers in terms of their understanding of teaching and learning. As critical colleagues, they were able to participate in processes of seeing and connecting concepts which led to new insights about their teacher practice in the classroom as well as deeper aspects of their teacher lives. These categories pointed to transformative learning experiences for the critical colleague groups in transformation of meaning schemes and of meaning perspectives.

The critical colleagues also found that they were able to identify areas of their lives as teachers that were “‘I’ contradictions” (Whitehead, 1989), where issues were present in their teacher practice that were obstacles to the critical colleagues’ teaching in harmony with their own professional values. In every group, these “‘I’ contradictions” were student-centered, with a keen interest in student success in learning experiences. Although not every critical colleague group was successful in achieving their action research goals, they saw that the process of approaching action research from a “living theory” perspective did not guarantee that conditions in their respective situations would be without negative aspects. Both favorable and adverse conditions appeared to play a
role in how the critical colleagues endeavored to integrate their evolving professional values with new approaches to teacher practice.

**Subquestion 2**

The second subquestion is, “From the perspective of the participants, what is the long-term effect on teaching practice of participation in an action research online course with critical colleagues?” This question actually arose from two sources: (a) the problem of little in the research literature regarding longer-term effects of teacher professional development on teaching practice, particularly using online learning technology, and (b) the fact that the research proposal took longer than anticipated to complete. Instead of a study on short-term experiences in teacher professional development, this work began to take on a longer-term focus. As I was writing my proposal, I realized that I would be interviewing the participants between one to two years after their action research projects were completed. Although this did cause some concern as to whether I would be able to collect rich data during the interviews, the participants had little difficulty discussing their experiences with their action research projects once the interviews were underway. I had also provided copies of their final papers for their projects that I had downloaded as part of the online transcript data.

The online transcript data and the interview data (focus group and individual) revealed four main categories for the participants in terms of long-term effect on teaching practice. These are: (a) classroom practice in terms of teaching procedures, (b) view of oneself in terms of teacher role(s), (c) view of oneself in terms of critical collegiality, and (d) emergence of the participants as public intellectuals (Figure 4).
**Long-Term Effect: Classroom Practice/Teaching Procedures**

When I speak of the category “classroom practice in terms of teaching procedures,” I am referring to the “how” of classroom practice that has changed for the participants since the completion of their action research projects. For critical colleague group one, this meant examining their own teaching procedures as a follow-up to “bouncing ideas off” within their group over the course of the project. As of the time when I collected interview data with this group, they were still operating in the classroom (almost two years later) with a liberation in their work gained from leaving perfectionist tendencies in how they planned and implemented their lessons in their upper-level Spanish classes. Both Natalie and Sue indicated that they were “planning differently now” after doing their action research project. While this certainly does not suggest a loose or sloppy approach to their work, Natalie and Sue found that their liberation as teachers came from feeling freed from a perfectionist compulsion to “grade everything.”
Another longer-term effect for Sue and Natalie in their teaching procedures was the subcategory of “honoring student work” by creating greater opportunity for student space and voice in their classrooms through a wider range of student choice regarding activities to be done at any given time during lessons. This necessitated a degree of giving up of control on the part of Sue and Natalie. For both of them, these categories were new for them in their teaching practice; they had not been working like this previously, whether individually or collaboratively as critical colleagues.

For critical colleague group two, the longer-term effects for teaching procedures were such that both Denise and Kate were able to be much more specific as to critical times in their teaching day when they needed to concentrate most on strategies to encourage student self-control. Although they stated that they were not using the strategies they tried out in their action research studies on a regular basis with their students, they had obtained additional strategies for their everyday teaching practice that had proven to have a degree of success for them in the classroom, and that they would be willing to draw upon in the future as needed. Valerie had acquired several strategies for seeking more positive relationships with her students (particularly as a substitute), in order to help her day proceed more smoothly and encourage student learning.

Marie and Bridget had found that their revamped substitute teacher folder was having a longer-term effect on how they could approach their day(s) when a substitute teacher was required. For Marie, who was still teaching full-time when I interviewed her, this was a very practical change for her teaching practice, in that it also lowered stress in dealing with unpredictability in the classroom with a substitute, and provided a certain
degree of uniformity for her with a teaching assignment split between the high school and middle school. For Bridget, she had a similar reaction as Marie in using the substitute folder as a means of dealing with unpredictability and stress, but from the perspective of being a substitute teacher herself. Longer-term effect on teacher practice for Bridget was limited in that she was not able to implement the substitute folder herself as a teacher and hadn’t had the opportunity to try it out even as a substitute. Temporarily, she was not teaching at the time of our interviews.

Finally, critical colleague group four had limited longer-term effects in relation to teaching procedures. They found that they were able to confirm their hunch that student motivation would increase with the use of hand-held technology (Palms) in activities featuring data collection and analysis. Beyond this, Catherine, Barb, Deanna, and Tammy felt frustrated at the time of interviewing with me, in that their teaching procedures, especially in connection with the Palm technology, had changed very little, with the technology itself being underutilized in their elementary building.

**Long-Term Effect: Teacher Role**

Several categories regarding longer-term effect in teacher role(s) emerged from the data. Natalie and Sue found themselves examining their teaching assumptions and philosophies during the action research project, and they began to see that they were able to develop in their teaching practice as ongoing, rather than temporary, critical colleagues. The mediated processes of mutual critique of practice, sharing discoveries, unveiling their inner teaching selves, and seeking a “true” critical colleague relationship served to change their “living standards of judgment” (Whitehead 1989), contributing to
their changed view of themselves as teachers. Natalie had stated during the interviews that she had never really seen herself as the “sage on the stage” in her teaching practice. However, both did say that they had maintained a strong sense of control in their work over the course of their careers, and that this began to change as they continued with their projects. They began to see that they could depend on their own students to provide a voice in the student learning process. In addition, they also began to develop an understanding of their role as teacher to include the characteristic of “critical colleague.” The role of the teacher now included the attribute of critical collegiality as a part of their everyday professional lives.

For Denise, Kate, and Valerie, they did not experience a profound shift in how they viewed their teacher roles. Instead, they found that they were able to overcome obstacles in their own teaching practice, giving them a greater efficacy in what they were already doing. So it was with Denise and Kate, in that their action research served to confirm their hunches about what they might do to improve their practice in the area of student self-control. Valerie had a similar experience in that she confirmed that she needed to find ways to enhance the substitute teacher/student relationship. She maintained that her core role as a teacher was to ensure that the students have a day of successful learning, regardless of content area, and she believed that her students would be best served if there were personalized relationships with her students that still recognized her responsibility and authority in the classroom as the teaching professional in that situation.
Marie and Bridget also did not experience a noticeable shift through their action research in their understanding of the role of the teacher. As was the case for Denise, Kate, and Valerie, they developed a deeper commitment to the value of student learning, but there was nothing in the data that suggested that they were adjusting their view of themselves as teachers. Their substitute teacher folder was a useful tool for them, but not to the extent that they examined their inner lives as teachers to determine if their roles should be different.

Catherine, Barb, Deanna, and Tammy also did not see change in their roles as teachers through their action project. If anything, the emergent categories in the data suggest that there was more of an emphasis on missed opportunity for them after the project was done. The interview data suggest that they would have liked to see longer-term change in how they worked with their students, but they categorized their longer-term effect with this project as one of lack of follow-through and fulfillment, rather than an opportunity for improvement in their own practice. For them, their focus after the fact was more of a reinforcement of their “‘I’ contradictions” (Whitehead, 1989) in their own practice rather than their being able to address these directly through their action research.

In this group, there was also apparent confusion of teacher role between the notion of teacher empowerment to “create meaningful professional development” and the idea of professional development being brought in by others, as was the case with the technology consultant who worked with them in learning how to implement the Palms. Although this group began their action research with a strong sense of their roles as
teachers, it appears that when they began to face confusion regarding their roles in their own professional development, that this became a source of frustration regarding the implementation and the long-term follow-through for their action research projects.

**Long-Term Effect: View of Oneself as a Critical Colleague**

The participants’ views of themselves as teaching practitioners in connection with critical collegiality was a noteworthy long-term effect on teaching practice in this study. Every group had a great deal to say about their experience of working together as critical colleagues, particularly in reference to their teaching practice at the time of my interviews with them. The category of “critical colleague connection” had a wide dimensional spectrum for the participants. This spectrum ranged from an acute awareness of critical collegiality in one’s daily life as a teacher, to a fuzzy notion of the role of the critical colleague in teaching practice, albeit a notion with pleasant memories of working together during the action research project.

Due to their respective teaching settings and group configurations, the participants grouped themselves in the data into three conditional categories after the completion of the action research courses and projects: (a) continuing in the same critical colleague relationship in the same teaching settings; (b) not continuing in the same critical colleague relationships, yet remaining in the same teaching settings; and (c) not continuing in the same critical colleague relationships, and moving on to new teaching settings.

Two subcategories here are common to all three categories. The first, “bouncing ideas off,” remained active among the participants in every group at the time of the
interviews. The same applies to the subcategory of “teacher self unveiled.” The participants were all aware (sometimes painfully so) that their perceived weaknesses as teaching professionals had been uncovered and were now out in the open, at least among the members of their respective critical colleague groups. Part of the safety that they had experienced as critical colleagues was an assurance among themselves that they could depend on one another and help each other through difficult circumstances, as was the case with the course on multiculturalism that Denise, Kate, and Valerie took after the action research course was over, and the difficulties Marie and Bridget faced in dealing with their own view of the legitimacy of their action research project and the presence of district administrators in their online chat and discussion spaces. As for subcategories that were not common to each category, these ranged from entering a “new way of teaching” and a “21st century mindset of teaching” to an acknowledgment that she had not been seeing her action research experience in terms of “seeing the big picture.” Interestingly, this dimension of newness is found in both the first and third categories. In fact, one of the strongest statements of longer-term effect on teaching practice was made by Valerie, who had not continued in a critical colleague relationship with Denise and Kate. During the interviews, Valerie was adamant about her new outlook on teaching practice. In this study, remaining in a critical colleague relationship was certainly advantageous for Natalie and Sue in their situation, but Valerie had neither been teaching nor working with Denise or Kate since the action research project had ended, and was in a new long-term sub assignment at the time we met for the interviews.
Participants who had not continued their critical colleague relationships and who remained in their same teaching positions found themselves faced with the challenge of how to approach their teaching practice after having had a taste of what a deeper experience as critical colleagues was like and how this experience enriched their lives as teaching professionals. The social processes of mediated activity, trust, and support were not necessarily present in the same school settings. While Kate took a proactive approach to this problem by trying to introduce her new awareness of the importance of collaboration/critical collegiality into her current teaching conditions, the teachers from group four (Catherine, Barb, Deanna, and Tammy) found that they were actually rather lonely in the same school district in which they had taught for many years. The conditions of critical collegiality they had enjoyed so much during the early phases of their action research experience were no longer there, and they did not take an active stance to try to recreate a “true” critical colleague group in their own school after the project. Again, the category of stress appeared to play an important role, because of the impending tearing down of their building and upcoming shuffling of teaching assignments for the following year.

Relative to the participants’ lives after the completion of the action research project, that there was a definite advantage to participants remaining in formal critical colleague relationships over the longer-term. Natalie and Sue, for example, were able to continue their “deeper conversations” on a daily basis in their school, using the “taking some of hers and taking some of mine” yin-yang relationship they had developed. The close physical proximity of their critical colleague relationship allowed them to develop
their findings from their action research and take these into the public sphere of foreign language teaching conferences, in addition to the required presentation they made at the eTech Ohio technology conference. Critical colleague group four (Catherine, Barb, Deanna, and Tammy) were the other group that had a face-to-face presence every day as they continued their teaching after their project. In their case, they missed the closeness, safety, and empathetic atmosphere they enjoyed in their group, and made a distinction during their interviews that what they experienced on continuing basis in their building was collegiality, yet not the critical collegiality they had come to know during the action research course.

One element that was conspicuously missing in examining the longer-term effects of all four groups was any type of ongoing online dialogue or form of social networking that might have provided the groups an opportunity to maintain or further develop their critically collegial relationships. Both the interview data and online transcripts suggest that, while the online dialogue had a number of benefits for each group, the online relationships were not sustained without a formal framework of definite assignments and deadlines to carry these along. During the interviews, participants did state that they would not have completed the online assignments if they had not been forced to do them by virtue of the course syllabi and the fact that they were aware of the other members of their respective groups depending on them to complete the assigned tasks. In these four situations, sustainability of an online learning community was not established. This is one example of the openness of the critically collegial activity system becoming limited, if not closed altogether.
**Long-Term Effect: Emergence as Public Intellectuals**

The fourth subcategory of long-term effect is the critical colleagues’ emergence as public intellectuals. They were doing so in such a way that they were taking ownership of their research findings and teacher learning, and putting these into open social spaces, not only for peer critique, but with a view to providing teacher leadership as well. Given that these teachers could have chosen to retreat into the isolation many of them had experienced in their classrooms at the beginning of their action research projects, it was noteworthy that there were many examples in the data of how they were functioning in the public arena. Among these were: (a) Natalie and Sue’s presentations of their action research findings at conferences; (b) Denise’s teacher leadership, introducing collaborative settings and developing critical colleague relationships in her new teaching position; and (c) Valerie’s willingness to communicate publicly with students, administrators, and fellow teachers with a renewed confidence.

In summary, several long-term effects emerged from the data regarding teacher practice after participating in an online action research course with critical colleagues. The four main categories in the data in this regard were (a) classroom practice in terms of teaching procedures, (b) view of oneself in terms of teacher role, (c) view of oneself as a critical colleague, and (d) emergence as public intellectuals. As long-term consequences of participation in the online action research courses, each of these categories revealed a wide range of dimensions and conditions. It was apparent that the critical colleagues had experienced long-term effects of their practice that extended far beyond matters of
classroom procedures, lesson planning, and implementation, as important as these are in a
teacher’s everyday work.

**Subquestion 3**

The third sub question is: To what extent do categories of transformative learning
(transformation of meaning schemes and meaning perspectives) play a role in critical
colleague relationships?

According to Mezirow (1994), transformative learning occurs in two primary
spheres: transformation of meaning schemes and transformation of meaning perspectives.
The data indicate that the critical colleague relationships included learning experiences
that were consistent with both of these spheres in Mezirow’s transformative learning
framework.

However, there was variation among the four critical colleague groups in this
regard that was revealing as to how transformative learning played a role among critical
colleagues in their action research studies. Not every group experienced transformation of
meaning schemes and/or learning perspectives; nor did they experience these to the same
extent or according to the same patterns. The situational maps for each critical colleague
group revealed that each group did experience some form of transformative learning
through their action research projects. These included the following: (a) transformation of
meaning schemes and meaning perspectives, (b) transformation of meaning schemes
only, and (c) transformation of meaning perspectives only.

Participant groups one (Natalie and Sue) and two (Denise, Kate, and Valerie)
experienced transformation of both meaning scheme and meaning perspective as critical
colleagues. They were able to improve and refine their respective teaching practices in practical ways. For Natalie and Sue, they accomplished this by loosening their teaching spaces to allow for greater student voice in choices of classroom activities and seeing increase in student motivation to speak Spanish through emergent technologies. For Denise and Kate, this occurred through their developing additional strategies for increasing student self-control in their classes, along with recognizing the most critical times during the school day to implement the strategies. And for Valerie, she found that she could relate to her students using new approaches that were helpful in building positive relationships as a substitute teacher.

As for transformation of meaning perspectives, most of these teachers found themselves examining their underlying assumptions as to why they teach the way they do. Natalie and Sue found themselves adjusting their philosophy of teaching by letting go of tendencies toward perfectionism, and found that they were making curriculum judgments according to a recognition of the deeper understanding they had acquired through their critical colleague relationship. This deeper understanding was such that, while they were able to function effectively as individual teachers in their own classrooms, they found that their professional conversations has taken on a quality that depended on one another for teaching according to a depth of critical collegiality that could withstand honest and direct critique and leave the individual teacher self exposed for scrutiny within the critical colleague relationship. Denise, Kate, and Valerie found that they had reached similar conclusions regarding their transformative learning in terms of changes in meaning perspective. Kate felt that she had experienced what she called a
“collaboration effect” in her own thinking as a teacher. She expressed this as an affirmation of her value of collaboration as a part of the daily life of the teacher, and understood that professional growth for her was dependent on an atmosphere in her teaching setting that included critical colleagues, where the critical colleague would have an enhanced awareness and sensitivity to others and their needs as professionals.

Denise framed her transformative learning in terms of her example as a public intellectual. She did state that she did not believe that teachers could experience as high a quality of teacher practice by endeavoring to do everything independently or in isolation. This conclusion was similar to Kate’s in that she had grown to appreciate the interdependence involved in a critical colleague relationship as the group worked through their action research. She backed up her belief by providing strong support to her critical colleagues throughout the action research project. After she obtained a teaching position in a different school the following year, she took the initiative to endeavor to establish critical colleague relationships in her new teaching setting. This occurred on several different levels, as she worked with new and veteran teachers, along with graduate students. The data are unclear as to how far Denise’s new collaborative relationships had developed, but she was very confident that she was helping to bring leadership to her new school community.

Valerie had been very demonstrative in describing her experience of transformation of meaning perspectives. While she acknowledged benefit of Kate’s “collaboration effect” and the “boldness” in communication as exemplified by Denise’s leadership development, Valerie had seen the critical colleague relationship as a means of
“dropping the walls” and moving into a zone of openness and transparency in critical colleague relationships that she characterized as the “21st-century mindset of teaching.” This openness was similar to Natalie and Sue’s experience of “letting go.”

Marie and Bridget (critical colleague group three) appeared to experience transformative learning in meaning schemes, but not in meaning perspectives. The data did not suggest that either teacher had come to examine their underlying assumptions or values during the action research project, nor was there any indication that they were changing these. Although Marie did state that she was “a different person” after the action research project, this was in reference to the change in daily teaching practice that came about as a result of using the new substitute folder that she and Bridget had designed.

Several categories in the data point to a possible explanation as to why transformative learning among these critical colleagues was limited to transformation of meaning scheme. While Marie and Bridget did characterize themselves as a group that was unique and traveling along a “different stream or line” than the other groups in their master’s cohort, they actually found the richness of their critical colleague relationship somewhat compromised by an emphasis on professional survival as they were working through their research project. While they gained great benefit as critical colleagues from support of each other’s ideas, their reservoir of experiences as a regular classroom teacher (Marie) and as a substitute (Bridget), and their insight they gained from others through the “spark” of conversations online, they found themselves dealing with several issues in their situation that brought them to the place where they began to emphasize professional
survival to deal with self-doubt, intimidating communication from school administration about their online work (along with its resultant emotional stress for both critical colleagues), and difficulty in dealing with the dominating online presence of another member of their master’s cohort. These categories appear to be distractions for this group that prevented them from reaching the point in the development of their critical colleague relationship where they might begin to reevaluate their assumptions and philosophies of teaching with a view to transformation.

Another limiting factor for group three may have been their choice of research topic for their action research project. While their epiphany was laudable regarding the systemic problem of lack of consistency for substitute teacher practice in their district, it is possible that Marie and Bridget may have chosen a topic that was really out of their control and not within their authority to fix. Although Marie and Bridget showed a great deal of concern and empathy for anyone in the district who had to deal with the substitute teacher problem, their frustrations may have been rooted in attempting to deal with an issue via action research that was outside of their teacher practice.

Critical colleague group four (Catherine, Barb, Deanna, and Tammy) experienced transformation in meaning perspective, yet did not appear to experience transformation of meaning scheme. There was little in their online and interview data that indicated that they were handling everyday or habitual teaching tasks or judgments differently than they had been previously. They did, however, reach conclusions as to how they conceptualized teacher professional development, in effect engaging in the kind of teacher thinking that would suggest transformation of teacher perspective. This
transformation had to do with an uncertainty among the members of the group regarding the benefit of the professional development activity they had done through the action research project. While they found great benefit in the categories of common struggles, common goals, comfort, trust, belonging, and openness, they still found themselves at somewhat of a loss as to how they may have changed as teachers after they had completed their project. Struggling together to complete the required tasks of the project was extremely beneficial for this group, but they had become so frustrated and stressed with the implementation of their new technology that they also found themselves at odds with their view of the roles action research should play in their teaching practice and/or life together as critical colleagues. Although they recognized what they thought was “true” critical collegiality in their work together (based on their awareness of such categories as closeness, openness, and belonging), they felt professionally unfulfilled at the end, and were wistful during their interviews, missing the closeness they had experienced together during the project. They were very clear as to what they felt action research as professional development ought to be, and when their group did not attain the ideal of action research that they had envisioned during the early stages of their project, they felt disconnected as to where and how they might proceed in their own professional development and growth as teachers.

In conclusion, categories of transformative learning (transformation of meaning schemes and of meaning perspectives) played a very important role in the critical colleague relationships in this study. Each critical colleague group experienced transformative learning in different ways. While each group did experience at least one of
the two aforementioned categories of transformative learning, the critical colleagues did not necessarily develop transformation of both meaning scheme and meaning perspectives. Although there were communalities among the critical colleague groups with categories such as “openness” and “letting go,” there was also a great deal of variability of conditions, dimensions, and consequences. This suggests that an element of unpredictability existed during the action research process, with paths of transformative learning varying widely among different critical colleague situations.

**Central Category of Interest**

Through this process of grounded theory data analysis, a central category (Strauss & Corbin, 1998) emerged from the data. This emergent central category is inclusional flow. It came to my attention as I considered what category could serve to address my primary research question and subquestions, particularly in relation to what might make critical colleague relationships transformative for the teacher action-researcher. The category of inclusional flow also satisfies Strauss and Corbin’s (1998) criteria for arriving at a central category, in that it has a strong connection to my primary categories, appears regularly throughout the study, came about without “forcing” the data, and has a level of abstractness that indicates a potential for further research elsewhere (p. 147). The data revealed three subcategories of inclusional flow that are certainly relevant to this study (Figure 5).
**Inclusionality.** Inclusionality is a phenomenon espoused by biologist Alan Rayner as a way to approach our lives based on interconnectedness, interrelationship and “flow-form” (Rayner, 2008). His premise was that people are not disjointed entities that can expect to live on their own, taking the notion of self-reliance to an extreme that depends on no one else in order to live a rich and fulfilling life. Rather, he suggested that we have done ourselves great harm by buying into and practicing a point of view that is “the deeply fallacious idea that life is a competition, a Darwinian ‘struggle for existence’ . . . you and me, them and us, there and here” (Rayner, 2009a, p. 1).

For Rayner (2009a), learning is a process that moves along a continuum encompassing our entire life cycle. He called inclusionality a “‘transfigural’ way of thinking and feeling . . . ‘transfigural’ means ‘through the figure’ as the dynamic locality (the place somewhere through which energy flows . . . Consequently, ‘living’ means ‘being a dynamic embodiment of energy flow’” (p. 2). He also stated that adopting
Inclusionality is a shift in perspective that replaces “stasis, fixture, time-framing . . ., and prescription” with “fluidity, openness, circulation, [and] improvisation” (Rayner, 2009b, p. 27).

Ted Lumley (2008), another proponent of the inclusional view, used the nautical metaphor of “powerboating understandings” versus “sailboating understandings” to illustrate application of this flow of inclusionality. The phenomenon of “powerboating” refers to the self as a “‘local, independently-existing object’ that is locally animated by the internal dynamics of its parts” (p. 8). “Sailboating,” on the other hand, is a matter of the self being rejuvenated through connectedness and flow. The sailboating orientation is an apt illustration of the essence of the inclusional view.

Another of the main metaphors Rayner (2009a) used to explain an inclusional point of view is “natural learning neighborhood.” His use of the term was a very broad one, in that he was not setting parameters on how human beings work or limits on their connectedness. Rather, he recognized that there is a local element to our learning and transformation throughout life, but with a difference: An inclusional point of view will not only recognize that there are localities in our daily lives (home, school, family, teaching practice), but that these localities may be understood in the sense of “complex self-identities as loving neighborhoods in dynamic relationship, simultaneously both somewhere particular (local) and everywhere around (non-local)” (Rayner, 2005, p. 1).

**Inclusional flow.** The brief discussion of Rayner’s inclusionality became a clue as to how my central category might emerge from the data. As grounded theory analysis is about understanding social process (Strauss & Corbin, 1998), the situational maps
obviously indicated that there was a social process taking place. While looking more closely at the category “bouncing ideas off,” it became clear that the subcategories began to suggest a flowing, catalytic process that had the effect of the teacher-researchers in the four groups beginning to work as critical colleagues rather than simply fellow group members or project partners. Part of this had to do with brainstorming strategies and ideas to address the problem-solving procedures that were necessary for the groups to complete assigned project tasks and fulfill course requirements. However, categories such as “openness,” “letting go,” and “transparency” began to reveal that working together as critical colleagues involved a process of flow that involved deeper phenomena of interaction among the teachers in each group. This additional aspect of working collaboratively meant that the teacher groups began to function in such a way that they could function in an atmosphere of openness, or, as was the case in critical colleague group two, of “acceptance.” What the teachers accepted were their respective inner lives, which included such categories as teacher strengths, a perceived lack of teacher self-efficacy, stress, survival, isolation, and so forth. These categories were not only unveiled to one another, but were also interactive due to the mediated dialogue and mutual critique of practice that were occurring among them. Valerie cited this mutual critique as necessary communication for critical collegiality as a transformative experience:

I think a lot of us feel inadequate, and we’re really not, because the next teacher may be feeling the same inadequacy. And I feel the more we get together and talk, that collaboration really changed my world, leads you to other peoples’ ideas, and takes you down other roads . . . learning something completely new, and that’s
stretching your world, opening things up. That communication does that. (Valerie, individual interview, February 19, 2009)

**Inclusional survival.** Many subcategories in the data support the concept of survival in an inclusional situation. First, the idea of survival being somehow “inclusional” is not a contradiction in terms. One might think that survival would have to do with isolation or withdrawal from (or even within) a social situation. As I understand this, each critical colleague group faced a number of issues throughout their action research that were certainly not ideal for them. Teacher stress, for example, was a common problem for each group. Having to learn to work inclusionally when there were competitive issues with other teachers within their respective schools was another challenge. These stressful conditions occurred in both the online and offline environments. Common struggles, positive belief in the benefit of what the groups were doing as action research, and teacher self-doubt are other examples of what brought these groups to work and live together with a view to preservation.

The participants’ use of metaphor as a means of defining their critical colleague relationships served as a framework for helping to organize their situations with a view to inclusional survival. It seemed odd that their choices of metaphor for their groups appear more exclusional than inclusional. However, these metaphors actually helped to provide a group identity that led them to a place of safety and trust wherein they could begin to connect with each other’s perspectives, as well as those of others outside of their groups. Metaphoric categories in this regard were “the secret society,” “our own island,” “team,” “yin and yang,” a “support system,” and “the cell.” The first three of these also seem to
point to generative context, as the critical colleague group in question (Catherine, Barb, Deanna, and Tammy) who used those metaphors employed these as a means of generating confidence in their own abilities as a critical colleague group as they continued with their collaborative work (at least in its early stages). The metaphor of a “cell,” on the other hand, was used as a means of survival as the action research project progressed and complications arose for Marie and Bridget. In spite of the negative tone to this group’s use of “cell” as a metaphor, it still enabled them to move through their action research project, and as we shall see, enabled them to move beyond preservation and to experience a transformation of meaning scheme that was beneficial for them in their daily teaching practice.

Interestingly, the metaphors of “yin and yang” and “support system” were used by the critical colleague groups that experienced both transformation of meaning scheme and of meaning perspective. Natalie and Sue worked together in such a way that they were able to complement one another by recognizing one another’s faults, shortcomings, and weaker areas of practice in such a way that they were able to co-exist and thrive as critical colleagues. This ability to balance the “yin” and the “yang” in various areas of their teaching practice gave them the ability to trust one another and to engage in theorizing that would indeed be generative and lead to transformative learning in their professional work.

Denise, Kate, and Valerie used the organizing metaphor of “support system” to describe how they were able to glean insight from each other’s perspectives as they worked together as critical colleagues. The notion of support revealed itself in a number
of categories in their data. These included helping each other with the required tasks of finishing the action research projects and required coursework, supporting each other in a collective time of stress during a subsequent course, and allowing each other the opportunity to “choose openness and transparency” in their dialogue together, even if it meant exposing their perceived areas of frustration and weakness in their respective teaching settings.

**Inclusional vision.** Another subcategory of inclusional flow is inclusional vision. Here, the critical colleagues found that they were able to see differently, both after their action research was completed, and as a long-term effect in their lives as teachers. As the critical colleagues worked together online, they were able to be exposed to many different perspectives from others in their respective cohorts. They were also able to look at their own teaching practice and values together in doing the online assignments for their courses. Here, inclusional vision involved a reciprocity of perspective, where their viewpoints began to be constructed collaboratively rather than in isolation. This change of vision was seen most readily in their transformative learning. Although we might be prone to single out transformation of meaning perspective as a new way of seeing (which it is), the transformation in meaning scheme was also another way of seeing, that is, seeing different ways to carry out instructional strategies in the classroom.

**Inclusional liberation.** Inclusional liberation became a core category of interest after a consideration of the long-term effects that the teachers experienced after they completed their action research projects. This was particularly evident in the data for groups one, two, and three. As it is for inclusional preservation, the term “inclusional
“liberation” may seem to be a paradox. However, this is only the case if one is considering the life of each critical colleague group (and the teachers within them) as four disconnected entities, attempting to navigate their way through their action research under their own power and according to a “survival of the fittest” approach (Rayner, 2009a).

Inclusional flow was present for all four critical colleague groups. However, for critical colleague groups one, two, and three, their members were able to move into a dimension of freedom that allowed them to develop further as teaching professionals than if the inclusional aspects of critical collegiality had not been present during the course of their action research. In group one, both Natalie and Sue were able to work with far greater freedom with their own students in the classroom, allowing them to make choices during class and to provide them with voice and dignity in their respective Spanish classes. Natalie and Sue were also liberated to make their research public in a variety of professional settings. In group two, Valerie was far more confident to take her ideas and communicate these to her building colleagues with a “boldness” she had not experienced previously. Kate had a renewed commitment and insight that she called “the collaboration effect,” in which she felt an enhanced awareness and knowledge of the dynamics of others’ teaching practice and her building colleagues’ needs. Denise was liberated to take her professional knowledge and share it in a variety of leadership situations in her new teaching assignment. And in group three, Marie and Bridget shared their professional knowledge with a variety of stakeholders in their district, even after going through a very stressful time together during their action research project. As seen
in these examples, these three groups had also developed the confidence to enter the public arena as to function as public intellectuals and make their research public.

Summary

The preceding analysis of my collected data, as seen in emergent categories and subcategories, along with their relationships, conditions, dimensions, and consequences, has shown that the potential for transformative learning in critical colleague groups involves complex networks of mediated activity. The transformative learning that appears to have taken place in the lives of the participants did not necessarily include both transformation in meaning scheme and in meaning perspective. Although much of this mediated activity occurred in the online environments required for the participants’ action research courses, the activity was not confined to online spaces, but took place in a variety of settings.

The category “bouncing ideas off” was a seminal one in the data, in that it indicated a multi-dimensional mediated activity that revealed how the unveiling of the teacher self is an integral part of critical colleague relationships. “Bouncing ideas off” was also a central category as it pointed to dimensions of openness, transparency, and connectedness that brought me to a consideration of inclusionality as one means of understanding the relationships of the teacher-researchers’ social processes. These categories suggested a central category of interest, inclusional flow, which is a social process whereby teacher action-researchers may work together as critical colleagues with a view to transformative learning.
CHAPTER V
CONCLUSIONS AND IMPLICATIONS

Introduction

Dan C. Lortie (1975), in his classic sociological study of teaching, stated that “throughout the long, formative decades of the modern school system, schools were organized around teacher separation rather than teacher interdependence” (p. 14). He also suggested that the “cellular organization of schools constrains the amount of interchange possible,” and saw this isolation as having a “cost” to the teacher (pp. 72, 98). Part of the cost of this isolation involves what Waller (1932) called a “need of insight into the social realities of school life . . . they perish, as teachers, for lack of it” (p. v).

These observations are no less timely today than when they were written during the last century. Research on teaching and teacher professional development has been, among other things, an effort to examine and understand the dynamics of tremendously complex social networks operating in school cultures, and the implications these dynamics may have for teaching and learning. Waller (1932) also stated that “the insight . . . is fragmentary, needing to be fitted into a larger picture and pieced out with completer knowledge. And this insight is often crude, requiring to be sifted and sorted and refined” (p. 1). In a sense, this insight is still fragmentary. While great strides have been made in acquiring an understanding of the work of the teacher and the culture where this work takes place, we still have much to understand as to how teachers may work together in situations that are not steeped in isolation, with a view to a teacher practice
that is both transformative and generative. It is my hope that this study will make a contribution to the scholarship of understanding transformative learning both as social process and as a part of the teachers’ longer-term professional experience.

This chapter is a discussion of the substantive, integrative theory as it emerged through the course of this research, along with implications and conclusions of the study. It includes a presentation of (a) the integrative theory, (b) implications for teacher practice and professional development, (c) suggestions for further research, and (d) lessons learned.

**The Integrative Theory**

The preceding chapter ended with a presentation of “inclusional flow” as the central category as I completed my data analysis. This category includes the subcategories of inclusional survival, inclusional vision, and inclusional liberation. It is my view that an inclusional orientation to teacher education, teacher practice, and professional development (rather than other professional development orientations working from training or deficit models) may provide a means of reconceptualizing how we might “do teacher community,” that is, living and working together in critical collegiality as professional educators.

My theory is that living in a mode of inclusional “neighborhood” (Rayner, 2008) in critical colleague relationships (with inclusional flow as an ongoing catalytic condition) enriches situations of deeper collaboration needed for transformative teacher learning. Figure 6 shows a scheme of the interactive elements of the theory.
To begin, I believe inclusional flow is an active social condition that is difficult to portray in terms of a prepackaged, professional development product with study materials, software, and so forth. Inclusional flow may be understood in terms of the mediated activity that may be occurring in a situation (A. E. Clarke, 2005). Through this study, my present understanding of inclusionality in practice emerged from the interactive and mediated activity of the critical colleagues as they pursued their respective action research inquiries. In my data analysis, inclusional flow was revealed via three primary categories: (a) “bouncing ideas off,” (b) “letting go,” and (c) the “sparking” of mediated dialogue, especially within the context of online conversation. These categories,
with their many subcategories and dimensions, revealed that there was a dynamic condition in each critical colleague situation pointing toward their ability to enter a “sailboating” understanding of their collaborative work (Lumley, 2008).

“Sailboating”

The nautical metaphor of “sailboating” is powerful in that it seems to capture some of the essence of what it means to be living in a condition of inclusion flow. In fact, during the coursework phase of my experience as a doctoral student, there were several occasions where nautical metaphors were used by students in my classes to conceptualize their journeys as teachers and as emergent scholars. Most of these had to do with a description of a process of navigation and/or reaching a desired destination. Much of the conceptual work involved with the teacher’s or scholar’s work as a journey was set out in Pinar’s (2004) concept of currere, a term used in the curriculum research literature to describe “an educational path” (Henderson & Hawthorne, 2000, p. 3). Interestingly, I never heard students using such concepts such as “bouncing ideas off” or “letting go” to describe their currere experiences as teachers.

The concept of “letting go” has a strong connection to the central category in that it suggests, in many ways, the notions of relinquishment, release, or relaxation. For the teachers in this study, this was an important part of entering into a state of inclusional flow. This was not necessarily a physical relinquishment or relaxation (at least, the data did not suggest as much). Rather, it was a matter of relinquishing control over one’s professional circumstances and trusting the others in the critical colleague groups to provide support and safety with a view to experiencing a buoyancy in the entire critical
colleague group as they continued with their action research. It seems to me that this figurative “floating” sensation, with the freedom to sail along as they moved through the action research reflective cycle, was missed by the groups when they were no longer working in their critical colleague relationships. Even more pertinent to teacher practice, this sensation of floating in critical collegiality was something that the critical colleagues pointed out as conspicuously missing as they continued to work in teaching in either former or new situations in schools. Even the participants who had experienced a perceived failure with their action research projects (group four) or who had dealt with stressors in their own situations (groups two and three), looked back fondly on the experience of living together in critical collegiality. (The lone exception was group one, where Natalie and Sue continued to work together as critical colleagues in the same teaching assignments after the end of their action research project.)

Just as Lumley (2008) described inclusionality as a matter of “sail boating,” he also suggested its metaphorical opposite, “powerboating.” This is an important distinction, particularly with group four (Catherine, Barb, Deanna, and Tammy) who experienced disappointment and a collective feeling of a lack of fulfillment at the end of their project. For them, the problem was not that they had high aspirations or “big hopes and dreams” for what might occur in their teaching practice after trying out the Palm technology. Instead, they let the pressures of course assignment deadlines, paper revisions, and the difficulties they encountered with the application of the technology move them into a collective “powerboating” mode, compromising the space of
“openness” they had enjoyed while in inclusion flow. This led to group burnout and dissatisfaction with what they had accomplished with their project.

There was no indication in this group’s data that someone might have thought about this state of affairs as being only temporary, with the notion that they could return to the “sailboating” orientation, in spite of the problems they encountered with their project. Unfortunately, while they felt they had had a taste of what they called “true” critical collegiality, it seems that they saw this as only a temporary condition and did not see how they might be able to return to it. They seemed to accept that the team settings they were accustomed to elsewhere in their building would be the prevailing, ongoing condition for the future.

In terms of temporary conditions, there is another aspect of the “sail boating” metaphor that is illustrative here. As the critical colleagues worked through their action research, there were periods, however brief, when the groups simply had to complete their research tasks, write up their papers, meet deadlines, and juxtapose their collaborative work with pressures that arose from elsewhere in their cohorts or in their personal and school lives. In nautical terms, a sailor may have to “motor” her way into or out of a port, marina, and so forth, in order to enter or exit these areas successfully. The sailor is providing her own power in the situation, if only temporarily. In all four cases, the critical colleagues had to do this in order to finish their research while functioning in the high-pressure, everyday conditions of the working teacher. It appears that critical colleagues can still “motor” their way collectively through particular circumstances when necessary, and still maintain inclusional flow. This is not a contradiction of Rayner’s
(2009a) notion of inclusionality as an anti-Darwinian concept, an antithesis of “survival of the fittest.” As a matter of inclusional survival (and as noted in chapter four), each critical colleague group functioned as a support group via letting each other into their lives. They approached survival as being able to do the work that they had hoped to do as teachers, complete their action research, and live according to their embedded values. The data do not suggest that survival among the critical colleagues amounted to engaging in behavior that would somehow be hurtful to others or displace them on a teacher’s figurative food chain.

It is noteworthy that each critical colleague group did not begin in this place of working collaboratively with inclusional flow. For example, Natalie and Sue did begin their action research with the advantage of having worked closely together for several years in the same building, but they still needed to see their critical colleague relationship blossom to where they entered inclusional flow and moved on to transformative learning. The online course transcript data indicate that, although the teachers in all four groups entered the action research courses with a great deal of dedication to student learning and the professional development of their own teaching practice, they needed to walk through the reflective exercises used during the early portions of the courses to clarify their values as well as their “‘I’ contradictions” (Whitehead, 1989). Although these contradictions did become explicit in terms of obstacles and/or priorities in teacher practice, many of these “‘I’ contradictions” also surfaced in the category of uncertainty as to whether the teachers in the study were actually measuring up to teach according to the values they held.
This duality of the external and the internal vis-à-vis “I” contradictions” became a distinctive aspect of this study. The situational maps reveal pathways of addressing external challenges in teacher practice, embedded in a network of mediated activity that was a matter of unveiling, of “letting one’s guard down” and “dropping the walls,” of learning to function in a collaborative atmosphere of acceptance, transparency, and openness. It also begs the question as to whether living in critical collegiality as an expression of inclusional flow is even possible if action research inquiry is pursued only as a means of dealing with external problems, issues, or obstacles in teacher practice.

Interchanging Perspectives and “Sparking”

It appears that inclusionality, in a practical sense, needs tangible “connectors” for us to enter into this flowing mode of critical colleague relationships as a transformative experience. As revealing as the categories of “bouncing ideas off” and “letting go” have been in beginning to come to an understanding of critical colleague relationships and their transformative potential, two additional categories are significant in social process of inclusional flow in critical colleague groups. These are the interchanging of perspectives and “sparking” new conversations.

Interchanging perspectives. The importance of the category of interchanged perspectives became apparent in that each critical colleague group referenced the importance of being exposed to a variety of perspectives while they were conducting their action research. This included others in their cohorts, participants in their own projects, online facilitators, and the authors of any literature that was under review. It was after the release or the “letting go” of the notion that teacher values were something that
could be revealed for others to see, and that problem areas of teacher practice could be critiqued in an atmosphere of mutual support, edification, and lack of ridicule or shame, that the critical colleagues could interchange any perspectives that had been made explicit in their dialogue together. This interchange involved the critical colleagues’ accepting the value of the others’ perspectives, along with an identification of others’ problems with their own. By engaging in this mutual identification, the sharing of these perspectives gave a validation to everyone’s points of view, thereby supporting the integrity of each individual teacher’s voice. Transformative inclusional flow, then, not only includes an awareness of the interconnectedness that these critical colleagues experienced, but also that their perspectives and voices mattered.

“Sparking.” However, it was in the online participation of the critical colleague groups where the practical benefit and transformative quality of these interchanged perspectives came into play. Every critical colleague group made specific mention of the metaphor of “sparking” conversations in their critical colleague relationships, especially in the online context of chat sessions and discussion forums. This phenomenon of sparking was the catalytic process that brought the critical colleague groups into mediated dialogue conducive to co-creation of new insights with and through the perspectives of others (see Figure 3). The consequences of this catalytic process became more deliberate reflection and teacher judgment in online communication and in a consideration of one’s own teaching, constructing generative theories with a view to bringing practice into line with one’s evolving values (Farren, 2006; Whitehead & McNiff, 2006).
The consequence of a more deliberate approach to reflection and judgment is of great importance here. The notion of slowing down during the online conversations came about through an attitude of fear and caution from the participants, thinking that they might make mistakes in their online posts if they contributed posts too hastily. This is one example of a reluctance of teachers to reveal any areas of their practice that they may feel are weaknesses.

What happened, however, is that the critical colleagues found that the slowing down was actually supportive of their elevated teacher judgment. By taking extended time to be in mediated dialogue together, both on and offline, they were able to engage in an examination of their teaching philosophies, values, and habits of practice. This examination, when done according to a transactional approach with a shared online environment, was helpful in the participants’ constructing generative theory that developed into several varieties of transformative learning, both in changes of meaning schemes and changes of meaning perspective.

As I noted in the previous chapter, the online learning space was thought of as a “haven” with an alternative “logic” to their everyday school settings. This idea of an alternative space, coexisting with their work together in face-to-face settings, was critical in this study as a platform for the critical colleagues to engage in a manner of reflection that allowed them to slow down their own thinking, take the time to explore and take in the perspectives of others, and enter the “sailboating” mode (Lumley, 2008). At least in terms of their own critical collegiality, it is questionable as to whether the work of the
Implications of the Research

There are several important implications for this research. This is particularly so in relation to how the findings of this study might compare to current approaches to teacher professional development in American schools. The findings and emergent theory of the study also point to how we might reconsider aspects of the teacher’s life and culture with a view to reconceptualizing them in terms of action research and transformative learning. This includes the use of online technology as a central feature for teachers’ everyday reflective practice and professional growth.

Implications for Teacher Professional Development

Collaborative action research with a view toward transformative learning may be a practical alternative to models and approaches of teacher professional development that have been tried in the past. This study demonstrates that transformative learning (Mezirow, 1994) occurred for the teachers in every critical colleague group. While the categories of transformative learning (change in meaning scheme and/or meaning perspective) varied considerably among the four teacher/researcher groups, there was nonetheless an ongoing social process of transformation in each situation of teacher inquiry.

That this social process continued to the extent that there were definite long-term effects for these teachers (see Figure 4) suggests that action research in situations of critical collegiality may also be helpful in addressing the issue of the lack of
sustainability and long-term benefit which has been the bane of teacher professional
development over many years. The four long-term effects that emerged in this study point
to a wider and more holistic context of professional development than the matter of
seeking discrete “best practices” in terms of adjusting or refining procedures of teaching
in the classroom. As important as improvement of classroom practice and teaching
procedures may be for the teacher at any given point throughout her career cycle, the
teacher also needs to take time to reflect on her role as a teacher in addition to what she
may do.

Likewise, the teacher’s view of critical collegiality itself comes into play in this
connection as well. Just as the critical colleague groups came to understand aspects of
their collaborative work that enabled them to see it in terms of new ways of teaching and
an expansion of their own outlook of collaboration, so teachers need social spaces that
may provide them with the opportunity to engage in mediated dialogue and other activity
that will encourage the generative and transformative, rather than a reproduction of how
teachers have been living previously.

It is also interesting to consider what occurred with the teacher/researchers who
participated in this study and consider how these situations compare with models of
teacher professional development that exist in the research literature. As a collection of
action research projects, it seems that this study probably fits most closely with models of
professional development that encourage and promote teacher inquiry and the concept of
the study group (Guskey, 2000; Sparks & Loucks-Horsley, 1990). The study, as an
exploration of transformative teacher learning, also tracks with approaches to teacher
professional development that are looking at the teacher as a center for school reform (Lieberman & Miller, 2001), as well as including both teacher and student learning as pedagogical concerns (Shulman, 2004).

A model of teacher professional development that has been very popular in recent years is the professional learning community (PLC). This model, especially the version developed by DuFour and Eaker (1998), has been in use in many school districts nationwide, and has become a popular choice in a number of school districts in northeast Ohio. In fact, the PLC was mentioned as being in use in Natalie and Sue’s district, and has been in use over several years in my district as well.

Comparing these two approaches is very interesting due to the current popularity of the PLC and its widening influence in school districts. Much of the impetus behind the model is student achievement documented through assessments (DuFour & Eaker, 1998). Certainly, this notion is not something that a dedicated teacher would typically resist, in that successful student learning, in whatever form, has been the heart of the mission of schools throughout the history of education. However, from my own experiences with PLCs in my district over the past seven years, I saw that there was a need for a qualitative and reflective aspect in the model for the benefit of teacher practice. An earlier case study on including teacher reflection as a weekly practice during collaborative teacher team planning meetings indicated that teacher reflection in a wider sense not necessarily connected directly to assessments, would be a welcome addition to the PLC model (Loe, 2005).
I also came to understand from my own interactions with teachers involved in PLCs that there was an assumption that the PLC model was a form of action research. While I do agree that this approach was a means of addressing the question of improved practice action research is also a value-driven endeavor (Whitehead & McNiff, 2006). The teacher value of student learning and the practical benefit of documenting this through assessment were not in question here. However, what I found troubling was the assumption that student learning and assessment appeared to be the sole teacher value as imposed by others outside of the collaborative teacher groups. This suggests a form of “contrived collegiality” (Hargreaves, 1993a) that may point to elevated student performance on assessments, yet may not address areas of teacher practice that may be necessary for the collaborative teams to improve their instruction in their respective teaching settings.

As seen in this study, many of these areas may be of a nature that have to do with dealing with the teacher’s inner life (Palmer, 1998) and may not have an obvious connection to student assessment. However, the categories that emerged throughout the study regarding the critical colleagues and their relationships were an interconnected part of each critical colleague situation, and student learning outcomes were also an integral part of this. What the PLC model does not seem to take into account is how valuable transformative critical colleague relationships may be to student achievement in the long run.

Another way of comparing approaches to teacher development in this study is to consider the two online action research courses as different ways to address teacher
practice through action research with an online component. Critical colleague groups one and four were involved in the eTech Ohio grant project, while groups two and three took part in their online action research through the professional development course offered through the university master’s program degree program in cultural foundations of education. The course materials were very similar and were both based on the same required textbook (Arhar et al., 2001).

Two noteworthy points regarding these two courses/approaches suggest implications for teacher professional development. First, whereas the overall objectives of both programs were very different, I do not see them as mutually exclusive. The eTech Ohio critical colleague groups had learning goals (integrating emergent instructional technologies into their teaching practice) that were delineated very clearly through the conditions of the grant and the responsibilities in using the grant monies that eTech awarded to the grant recipients. It was apparent throughout the study that the critical colleagues involved in the eTech project were aware of this responsibility (along with the required public presentations that would follow in their own districts and at the eTech Ohio annual conference). The cultural foundations program, on the other hand, was much more open-ended in that the action research participants appeared to have a greater degree of latitude in their choices of possible teacher research issues and action research projects. While the overall goals of the cultural foundations program included cultivating a broader outlook regarding teacher practice that included multidisciplinary perspectives, it is unclear from the available data whether the critical colleague groups participating in this course were indeed making those types of connections through their action research
projects. In my view, the cultural foundations action research course might have been designed with a more overt slant in the direction of how teachers’ learning by doing their action research in localized classroom contexts might connect with the wider philosophical and historical landscape that this program in cultural foundations espoused. It seems to me that action research as teacher professional development benefits from a means of looking at teacher practice through a wider lens such as cultural foundations in education, in conjunction with a closer look through examining one’s own teaching with a view to self-study. This suggests that, with either of the approaches above, “structure alone will not ensure benefit or an environment for teacher learning” (Little, 1999, p. 239). Both approaches point to a view of professional development that includes both the outer and inner spaces in a teacher’s life (Little, 1993; Palmer, 1998). An inclusional point of view conceptualizes this as an interconnectedness of “local” and “non-local” spaces (Rayner, 2005, 2008, 2009a).

Second, a significant challenge for all four critical colleague groups was the pressure of meeting assignment deadlines and doing the amount of writing and revision necessary per the required textbook. This involved a great deal of stress for the participants in this study, regardless of which action research course was in view. The implication here is that many of the critical colleagues were not accustomed to working in professional development coursework in this manner, and found it very difficult to balance the demands of the action research courses with their other teaching responsibilities. Teacher professional development that demands a commitment of self that brings them into inclusional flow needs to be integrated and cultivated into the
teacher’s regular school day in such a way that opportunity to live in deep critical
colleague relationships is not simply an add-on, a top-down directive with little personal
meaning for the teacher, or something to “endure and get out of the way” (Guskey, 2000,
p. 15).

One of the strengths of the study is that living in critical colleague relationships
did not begin from positions of teacher weakness, a deficit model of professional
development, or a supposed need for teachers to be repaired. The action research courses
worked through a series of online reflective exercises as a starting point that discussed
teacher values and calling. The online environment was a crucial place for each group to
begin their action research inquiries, in that this was actually the beginning of the
establishment of online “presence” (D. R. Garrison & Anderson, 2003) that would
eventually bring each group to a place of co-creation with one another’s perspectives and
the “sparking” phenomenon that served as a catalytic process for their own
transformative and generative theorizing. As was evident in the interview data, the
teacher/researchers were quite aware of any shortcomings in their own teaching practice.
It was also apparent that these areas of concern had been so personalized and internalized
that it was very challenging for them to begin to provide and receive honest, direct
critique with their critical colleagues. However, as their action research projects began to
progress, their critical colleague relationships began to open up and develop into the open
collaborative quality of inclusional flow.

I believe that this approach may be a unique means to approaching professional
development in localized contexts such as individual school buildings or school districts.
The data from the four critical colleague groups indicate that they were able to enter a co-creation of perspectives with fellow teachers who were either working in their own districts or were from other schools in northeast Ohio. This suggests that online technology may be very useful in teacher professional development across national and international boundaries, but on local or regional levels as well. Each critical colleague group found the use of online technology to be very helpful in a practical sense, as a way to expedite their practical problem-solving and complete required tasks for their courses. But they also found the online environment to be very powerful when it came to developing critical collegiality and transformative learning that developed while they worked together.

One of the most cited ideas in the online learning literature is that online learning overcomes barriers of space and time (Jones, 1997). While this was certainly the case in this study, it is important to note that the transformative learning of these teacher/researchers was localized relative to their own students and teaching practice. Establishing critical colleague relationships on national or international levels through online technology was not necessary for transformative teacher professional development.

**Implications for Teacher Culture**

This study also has implications for the cultures in which teachers work. Waller (1932) understood that the social world of school is extremely complex, and that the teacher eventually needs to come to a place of “insight into the social realities of school life” (p. v). The situational maps in this study provide portrayals of four “social arenas”
(Strauss & Corbin, 1998) of school in terms of the action research, mediated activity, and critical colleague relationships of the participants.

While any social insight gained from the projects was beneficial for the critical colleagues, their transformative learning still occurred in a cultural context. One key implication in this study is how this approach to transformative action research with an online component works or fits into prevailing school culture over time. A continual challenge for teachers completing any kind of professional development activity, in whatever form, is to return to the “native culture,” so to speak, and take any new learning and apply it when returning to work after a workshop or other professional development experience.

This application can be difficult if the teacher is continually swimming upstream in the school culture where she is working at that time. Hargreaves (1993a) has elucidated several varieties of teacher culture that are at odds with the kind of collaborative work that developed in this study. His concept of “contrived collegiality” as a form of collaboration that is more manufactured than emergent, results from others outside of the collaborative group instituting top-down initiatives and in effect dictating to any teacher group what the parameters of their collaboration will be. Hargreaves also stated that this type of collegiality may result in “securing effective implementation of externally introduced change” (p. 186). Even when district administrators may be involved in an action research project (even if that involvement is minimal), there is still a possibility that the agenda or curriculum of stakeholders outside of a budding critical colleague group is the primary driving force in any attempt at school reform, with the
teaching practitioner looking in from the periphery and assuming a role based more on
delivery of knowledge than on knowledge creation.

In concert with the complexities of the school culture, it may be that teachers who
are following transformative lines of action research inquiry will face having to balance
their findings and discoveries in a balance with the other stakeholders in the culture of the
school. With the many pressures that are often involved in the ongoing activities of a
school district, particularly if it is a “fishbowl” district as in Natalie and Sue’s case, the
values of the teachers themselves may become lost in the cultural shuffle. However, the
implication here is that room needs to be provided for teachers to engage in action
research that is relevant to them as well as to others in the school community. It was
curious to see that inclusional flow, survival, vision, and liberation did take place in
authentic school settings where an inclusional mindset and orientation were nurtured
among the challenges that present themselves every day in schools. An important point
here is that this did not occur by happenstance, since there was a great deal of careful
planning for the design and implementation of the action research courses.

A second aspect of teacher culture that is noteworthy here is balkanization
(Hargreaves, 1993a). Hargreaves defined this phenomenon as a setting where there are
“subgroups whose existence and membership are clearly delineated in space with clear
boundaries between them” (p. 214). He also delineated several consequences that may
arise from a balkanized school culture. Among these are differences in teacher
knowledge and belief from one subgroup to another, centers of competition, and a
fossilization in the teacher socialization process.
Balkanized subgroups in a school appear to be an antithesis of groups that are working in critical colleague relationships with an inclusional flow orientation. While the critical colleague groups were not working as subgroups of one school in relation to one another for the purposes of the study, they could have been susceptible to a balkanized culture among the groups in their respective cohorts. It seems that the online environment was very helpful with breaking down teacher isolation in this regard. Interestingly, Hargreaves (1993a) expressed his view of balkanization in terms of space and time, and it was the overcoming of barriers of space and time in the online discussion forums and chat sessions that helped the critical colleagues avoid becoming victims of the balkanization process. The deliberate structure of communication in the online courses helped to keep the various critical colleague groups in each course from entering into a sphere of online balkanization. This was especially important in that the critical colleague groups did not have a great deal of supervision from neither their online facilitators nor others in the school community.

Throughout the action research projects, there was also a danger of the critical colleague groups becoming isolated or balkanized within their own schools. This was particularly so in the sense that the action research topics of all four groups were very personal to the group members, and could have led to the groups’ isolating themselves in a balkanized atmosphere within their respective teaching settings. However, there was little indication in the data that group isolation within their schools that this did indeed occur. Critical colleague groups two and three, for example, did not include members who taught in the same respective schools; members of these groups had noted problems...
of isolation in their individual classrooms, but these issues were present before the action research projects and were not related to their critical colleague group experience. Groups one and four, however, included members who were teaching in the same respective schools, and might seem more susceptible to self-isolation and/or balkanization. But both groups seemed to maintain their connections with other colleagues and stakeholders in their school buildings and school communities. The circumstances involved in the awarding of the eTech Ohio grants were known throughout both buildings, in that other colleagues in both buildings had submitted applications for the eTech grant opportunities.

I suggest that one factor of paramount importance for all four groups in limiting group isolation and balkanization was the expectation that they would be functioning as public intellectuals during their action research experience. This occurred on two levels. The first was that they would be presenting their findings in a public venue at the end of the course, whether at an eTech Ohio conference or at a class session at the end of the university course. The second was that the critical colleagues’ online communication, whether in chat sessions or in discussion forums, provided a means of “trying out” public intellectualism, especially for any participant who might have been timid about putting her opinions about teaching practice into the public arena.

In addition to contrived collegiality and balkanization, Hargreaves’ (1993a) treatment of aspects of school culture includes two other categories. These are (a) individualism, and (b) collaboration. Henderson and Hawthorne (2000) suggested that both of these categories in teachers’ lives and practice are vital for introducing a transformative school culture. Interestingly, Henderson and Hawthorne also pointed out
that individualism includes individuality as “solitude, in which teachers think and work alone with full confidence in their judgments and actions” (p. 160). The time that the critical colleagues spent alone in reflection before submitting online posts is one example of how they were able to balance individualism and collaboration during their projects. It is possible that the online environment as part of the teacher’s everyday school culture could assist them in overcoming some of the isolation that is built into many school settings.

Transformative and generative practices in critical colleague relationships need to become a matter of public intellectualism for any celebration of student and teacher learning to be of consequence in a school culture. While part of this involves presenting findings at conferences on any level, it is also important that teachers involved in these practices begin to establish an ongoing, permanent, and accessible record of their inquiries. The teachers in this study made a good beginning in establishing themselves as public intellectuals through their conference presentations and establishing collaborative relationships as teacher leaders with their colleagues. However, none of the groups had reached a stage where critical collegiality was becoming part of the cultural fabric in their respective teaching settings. This was so even for Natalie and Sue, who had been able to continue their critical colleague relationship in their building and extend their teacher learning into the public arena. While contrived collegiality and balkanization are two examples among many of the challenges that may present themselves to teachers who are seeking transformative practices in action research, continuing to bury these transformations and living theory deep within school culture will only serve to snuff out
the benefits of teacher learning to be found in critical colleague relationships that develop into inclusional flow.

**Suggestions for Further Research**

Over the course of this study, several possibilities came to light as avenues for further research. The following topics or issues merit consideration as continuing lines of inquiry.

1. Further research is needed in comparing this approach to teacher professional development and the varieties of professional learning communities. Perhaps case studies might be done in school districts to determine how critical colleague groups doing action research over longer periods (one or two full academic years) could have transformative effects in teacher practice, student learning, and school culture.

2. From the beginning of the study, the online facilitator was a presence in the ongoing experience of the critical colleague groups. Additional exploration is necessary to explore the role of the online facilitator in developing teacher/researcher critical colleague relationships and teachers’ professional growth.

3. Additional research could be done in the area of how online learning environments, especially social networking technology such as wikis, nings, and so forth, might benefit teacher professional development on building, district, or regional levels.

4. Much of the teacher education literature addresses the challenges and experiences of teachers who are in either the induction or novice phases of their careers. The participants in this study had moved beyond these portions of the teacher’s professional life cycle, with several of them being mid-career or expert teachers. More
study of the mid- to late-career teacher is needed as a means of understanding teacher professional development as a process intended to last over the entire spectrum of a teacher’s career. How might action research rooted in transformative learning provide support for teachers who have moved beyond an early threshold of professional experience?

5. While a variety of district/school contexts were represented in this study, more research is needed to explore the role of urban, suburban, and rural contexts in teacher transformation.

**Lessons Learned**

I have learned a great deal from the experience of carrying out this study. I was amazed at times by the dedication of the teachers who participated in the action research projects and who consented later to be a part of my own dissertation research. This was apparent even from the very early stages of reading the online transcripts of their coursework while I was conducting my earlier studies. I came to see that an approach to improving teacher practice through action research (with a view to transformative learning) need not be an endeavor that has to be self-centered or based on one’s own values in isolation. Instead, it can be a matter of a teacher’s development of her own living theories working in harmony with a strong sense of student-centeredness in her professional work. This student-centered orientation is often very personal, so much so that it manifests itself in teachers being very reluctant to relax the boundaries in teacher dialogue for fear of being found out as teaching below personal standards that are often rooted in perfectionism.
I have also seen that it is indeed possible for teachers to work in situations
wherein they may experience transformative learning to the extent that they might enter
paradigm shifts and be functioning according to changes in meaning perspectives along
with changes in meaning scheme (Mezirow, 1994). The longer-term effects on teacher
practice from my research have renewed my faith in the potential for teacher professional
development as an endeavor that may exist in forms beyond the shorter varieties of
professional development found in many teacher workshops, or even beyond models that
function over more lengthy time period, such as professional learning communities.

In addition, I have come to an awareness of the importance of action research as a
means of studying one’s own practice with a view to improving it (Whitehead, 1989).
While a chosen area of teacher action research may have a number of interconnections
with the wider school community, action research is at its most empowering when the
teacher/researcher approaches a problem in practice that is truly her own, rather than
attempting to engage systemic issues that may, at least for the moment, be outside of the
teacher/researcher’s immediate control. Marie and Bridget might have had a more
satisfying experience with their action research project if they had chosen an area of
teacher practice to study which was a matter of common teacher ownership, rather than a
systemic school problem.

Finally, it became apparent that online technology can be applied in ways that can
help to introduce teachers to transformative learning and practice through action research.
This application is not a matter of viewing online learning as an add-on or a luxury.
Rather, it may point toward new avenues for exploring reflective practice in teaching,
influencing teacher culture positively, and nurturing richer experiences in the nurture of living theories of teaching and learning in a “sailboating” mode of inclusional flow.
APPENDICES
APPENDIX A

SEMI-STRUCTURED INTERVIEW PROTOCOL (FOCUS GROUP)
Semi-Structured Interview Protocol (Focus Group)

1. Please tell me about your experiences working together as critical colleagues in the online action research class.

2. In the online data, the statement “I don’t feel alone any more” was made several times. How might this statement apply to your critical colleague group?

3. What might be any advantages or disadvantages of working collaboratively online?

4. Fill in the blank: Being a critical colleague is ________________.

5. We know from our readings for the course that action research is a process of theorizing together about our work. Describe a point in your theorizing as critical colleagues when you saw that things might not be the same from that point forward.

6. Think back to the most challenging moment(s) while working together as critical colleagues. What happened?

7. Have we missed anything? Is there anything you would like to add?
APPENDIX B

SEMI-STRUCTURED INTERVIEW PROTOCOL (INDIVIDUAL)
Semi-Structured Interview Protocol (Individual)

1. What did you think about your participation in the online action research course?

2. What did you like best about the course?

3. After working with your critical colleagues through the course assignments and implementing the action research project, what effects, if any, did you notice in your own understanding of teaching and learning?

4. In the focus group interviews, we discussed how several participants mentioned how they “don’t feel alone any more.” Since it has been some time since the completion of the online action research course, how does that phrase apply to you now as an individual teacher?

5. How might what you learned from your experience in the action research course play a role in your current teaching practice?

6. Of all the things we’ve discussed in both interviews, what do you believe is most important?

7. Have we missed anything? Is there anything you’d like to add?
Situational Map 1

- eTech Ohio grant project
- Integrating technology: Avidacy and podcasting
- AR reflective cycle
- Frustration "early stages"
- Common teaching priorities
- "Fishbowl" district
- "Risk-takers"
- "Reinvigorating"
- "Bouncing ideas off"
- "Knowing" others online
- "Face-saving"
- Gaining insight from others outside of CC group
- Critical colleague: Sue
- Critical colleague: Natalie
- Friendship
- Engagement
- Maximizing student performance
- Teacher competition
- Insulation/status as "experts"
- Professional survival
- Ethos of stress
- Online experience
- Online dialogue
- Multitasking
- Abandoning blog
- "Sparkling" new conversations
- Convenience
- Working with others outside of CC group
- Examining teaching procedures
- "Letting go"
- Leaving perfectionism
- Not grading everything
- "Liberation"
- "Honoring student work"
- Creating greater student space through student choices
- Change: meaning scheme
- Transformative learning
- Affirmation: personal quality of critical colleague relationship
- Curriculum judgments changing through deeper understanding as critical colleagues
- Change: meaning perspectives
Situational Map 3
APPENDIX F

SITUATIONAL MAP 4
Situational Map 4
APPENDIX G

CONSENT FORM
I want to do research on teacher transformation and critical collegiality in online learning environments. The goal of the present project is to develop a theoretical understanding of teacher development that leads to transformative learning while satisfying the myriad of demands placed upon them from a variety of external sources, including a school culture of frequent isolation. I want to do this because I am seeking a greater understanding of teacher professional development in online, collaborative action research. I would like you to take part in this project. If you decide to do this, you will be asked to participate in a focus group interview with your critical colleague groups from your online action research course, along with an individual interview. All interviews will take approximately one hour each over the fall of 2008.

Confidentiality will be maintained to the limits of the law. Confidentiality may not be maintained if you indicate that you do harm to yourself or may do/have done harm to others.

Anonymity and confidentiality will be maintained by using a pseudonym in any written reference to you throughout the study. Other names, places, etc. will be masked to assure confidentiality. Signed consent forms and data will be kept in a secure location at Kent State University.

If you decide to take part in this project, benefits for the participants include a greater understanding of action research, professional development, and teacher practice. Compensation at the end of each interview will be provided in the form of gasoline gift cards. Taking part in this project is entirely up to you, and no one will hold it against you if you decide not to do it. If you do take part, you may stop at any time.

If you want to know more about this research project, please call me at (440)-313-5980. This project has been approved by Kent State University. If you have questions about Kent State University’s rules for research, please call Dr. John West, Vice President of Research, Division of Research and Graduate Studies (Tel. (330)-672-2704).

You will get a copy of this consent form.

Sincerely,

David R. Loe
Doctoral Candidate

CONSENT STATEMENT. I agree to take part in this project. I know what I will have to do and that I can stop at any time.

_____________________________  __________________________
Signature                                      Date
AUDIOTAPE CONSENT FORM
TEACHER TRANSFORMATION AND CRITICAL COLLEGIALITY
IN ONLINE LEARNING ENVIRONMENTS

I agree to be audiotaped at ______________________________________

on ________________________________.

_____________________________________________________________
Signature                                      Date

I have been told that I have the right to hear the audiotapes before they are used.
I have decided that I:

_____ want to hear the tapes       _____ do not want to hear the tapes

Sign now below if you do not want to hear the tapes. If you want to hear the tapes, you
will be asked to sign after hearing them.

David R. Loe and other researchers approved by Kent State University may / may not use
the tapes made of me. The original tapes or copies may be used for:

_____ this research project
_____ teacher education
_____ presentation at professional meetings

_____________________________________________________________
Signature                                      Date

Address:
December 10, 2008

David R. Loy
TUCS

Re: # 08-752: “Teacher Transformation and Critical Collegiality in Online Learning Environments”

Dear Mr. Loy,

I am pleased to inform you that the Kent State University Institutional Review Board has reviewed and approved your Application for Approval to Use Human Research Participants as Level II research through the expedited review process. This was approved on December 10, 2008. Approval is effective for a twelve-month period, December 10, 2008 through December 9, 2009.

Federal regulations and Kent State University IRB policy require that research be reviewed at intervals appropriate to the degree of risk, but not less than once per year. The IRB has determined that this protocol requires an annual review and progress report. The IRB will forward an annual review reminder notice to you by email as a courtesy. Please note that it is the responsibility of the principal investigator to be aware of the study expiration date and submit the required materials. Please submit review materials (annual review form and copy of current consent form) one month prior to the expiration date.

IRB regulations and Kent State University Institutional Review Board guidelines require that any changes in research methodology, protocol design, or principal investigator have the prior approval of the IRB before implementation and continuation of the protocol. The IRB must also be informed of any adverse events associated with the study. The IRB further requests a final report at the conclusion of the study.

Kent State University has a Federal Wide Assurance on file with the Office for Human Research Protections (OHRP); FWA Number 0001853.

If you have any questions or concerns, please contact me at 330-672-2704 or fryder5@kent.edu.

Sincerely,

Tonya Frederick, R.N., B.S.N.
Research Compliance Administrator

Co: Dr. Joanne Arthur
APPENDIX I

PERMISSION LETTER 1: EARLIER STUDY DATA
Dear Ms. Paxton:

My name is David Loe, and I am a doctoral student in Curriculum and Instruction in the College and Graduate School of Education, Health, and Human Services at Kent State University. As I am sure you recall, I conducted a pilot study of teacher professional development through action research in an online research community, and I presented findings from the pilot study at the eTech Ohio Annual Conference in February of 2008. The participants in the study were students in an online course provided by eTech Ohio during the summer and fall of 2006, entitled Action Research through Emerging Technologies. At present, there are researchers both in the United States and abroad who are studying this topic, and I believe my continued study in this area may lead to making a contribution within the field.

One reason I undertook the study was to determine feasibility for my dissertation research as a requirement for completing my doctoral degree. I am requesting your permission to use the existing data from the pilot study in my dissertation project. These data consist of discussion boards, chat sessions, and group papers recorded on Blackboard for the online course. Further data collection will include both focus group and individual interviews. Participants will be included in this dissertation project only with their written consent and with approval from the Institutional Review Board at Kent State University. The identities of the participants will be protected and identifying information will remain strictly confidential. Participants may withdraw from the study at any time without penalty.

If you grant approval for my use of these data in my dissertation research, please sign below and return to me via e-mail at dloe@kent.edu. Thank you very much for your support and cooperation.

Sincerely,
David Loe

I give my permission for David Loe to use the existing data as described above for his dissertation research.

Signature: ____________________________ Date: 9/2/08

Teaching, Leadership and Curriculum Studies
P.O. Box 5190 • Kent, Ohio 44242-0001
Phone: (330) 672-2580 • Fax: (330) 672-3244 • http://www.educ.kent.edu/TLCS
APPENDIX J

PERMISSION LETTER 2: EARLIER STUDY DATA
Dear Dr.________________:

My name is David Loe, and I am a doctoral student in Curriculum and Instruction in the College and Graduate School of Education, Health, and Human Services at Kent State University. As I am sure you recall, I conducted a pilot study of teacher professional development through an online graduate action research course you taught during spring semester of 2007. At present, there are researchers both in the United States and abroad who are studying this topic, and I believe my continued study in this area may lead to making a contribution within the field.

One reason I undertook the study was to determine feasibility for my dissertation research as a requirement for completing my doctoral degree. I am requesting your permission to use the existing data from the pilot study in my dissertation project. These data consist of discussion boards, chat sessions, and group papers recorded on WebCT for the online course. Further data collection will include both focus group and individual interviews. Participants will be included in this dissertation project only with their written consent and with approval from the Institutional Review Board at Kent State University. The identities of the participants will be protected and identifying information will remain strictly confidential. Participants may withdraw from the study at any time without penalty.

If you grant approval for my use of these data in my dissertation research, please sign below and return to me via e-mail at dloe@kent.edu. Thank you very much for your support and cooperation.

Sincerely,

David Loe

I give my permission for David Loe to use the existing data as described above for his dissertation research.

Signature                                      Date
REFERENCES


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