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Adapting to a Virtual Learning Environment

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ADAPTING TO A VIRTUAL LEARNING ENVIRONMENT

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Abstract

This participatory action research (PAR) dissertation examines the experiences of five experienced faculty transitioning from teaching in a traditional classroom to a virtual learning environment. The research participants used technology to deliver course material and reflected on the changes in their pedagogical practice. Data were collected using four phased sessions, including the completion of interview questions, individual interview video sessions, and group video sessions and the review of participant video validation postings. Research participants used journaling to reflect on their values, beliefs, assumptions, and experiences associated with teaching and learning. Research participants teaching in virtual learning environments were provided an avenue to develop an understanding of previous encounters with technology, attitudes toward technology, and the relationship they envisioned for the use of technology in their classrooms. The study concluded with the development of an "Introduction to Online Teaching for Experienced Faculty Workshop." The results of this dissertation substantiated that faculty experience various *disorienting dilemmas* that correlate with a progressive transformation, resulting in at least one case in a paradigm shift. The study also highlights the faculty participants' concerns, issues, and perspectives of positivist versus constructivist teaching styles as a function of their participation. This dissertation is accompanied by 22 MP4 videos of the participants in this study (see List of Supplemental Files). This dissertation is available in open access in AURA http:/aura.antioch.edu and OhioLink ETD Center, www.ohiolink.edu/etd

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Introduction

Higher education and technology have become inextricably intertwined. Even the most technologically resistant instructor has to use technology to report enrollment statistics and submit grades. Although there are those who resist and continue to use overheads and demand hard copies, it is becoming increasingly difficult to avoid the technology of computer-generated presentation slides and computer-submitted papers and projects. The English department at a local county community college, for example, has long been resistant to technology use, not seeing its applicability. But now, according to Professor Malcom Edwards, a young English professor who has always embraced technology, composition classes use the Purdue Online Writing Lab (OWL) rather than an MLA style guide as the primary resource for citing references in papers and provide classes on finding sources in online databases rather than in books and hard copy journals. “It would be impossible for anyone teaching a class that includes research to remain ignorant about online databases and Internet sources,” said Edwards. In addition to making it easier to do research, continues Edwards, “It’s the only way to reach a new generation of kids who’ve never been without computers and who learn that way by using computers” (M. Edwards, personal communication, 2011).

Background of the Problem

An even greater challenge, especially at the community college level, are new course delivery systems, for example, Virtual Campuses, which are becoming increasingly prevalent. From the fall of 2009 to the fall of 2011, the number of online versions of traditional classes in the technology department grew more than 680% (see Appendix A). Moreover, the average distance learner is more likely to be older, hold a full-time job, or have other challenges that make it difficult for the student to come to the campus (Makoe, Richardson, & Price, 2008). At

Mercer County Community College the average age of full-time matriculating students is 25; the average age of distance learners is 31 (Intuitional Research Office, Mercer County Community College, 2011).

These mature students are, paradoxically, less experienced at being students. The entire process of going back to being students is adjustment enough, but the process of learning in an unfamiliar way can be what Mezirow called a *disorienting dilemma* (1995). What this means is that some crisis in the student's life, combined with the crisis of learning in a new style, creates a transformative change in the student. For example, especially in the present recessionary economy, we might witness a mature worker without much formal higher education who is out of work. Through a government stimulus program this worker is given funds to retrain. This worker probably has less computer experience than the more traditional student. Learning in a distance learning environment creates an additional source of disorientation for this individual, making it more likely that the change that takes place as a result of adapting to a new style of learning will be a transformative one. However, there is a real danger that the disorientation leads the student to give up the pursuit of learning, rather than to transform. For the mature student, such a departure from the learning community is likely to be final. A younger student is more likely to try again. The positive and negative outcomes can be of a greater magnitude for the mature student than for the traditional student. Teaching perspectives comprise a critical success factor. Positivist and constructivist approaches to teaching create different learning environments.

Positivists view classrooms as teacher-centered environments where the instructor is the conduit through which information flows, from the reservoir of accepted truths to the students' minds (King, 1994, p. 4). In most classrooms, the instructor lectures and the students listen

(sometimes) and take notes. This *sage on the stage* transmittal method of instructor to the students, who memorize information and reproduce it for exams assumes the students' brains are empty vessels requiring teachers to input knowledge (King, 1994).

On the other hand constructivist learning is a student-centered method where instructors facilitate student interaction, using materials, interactive projects, and group learning in a knowledge-producing endeavor (King, 1994, p. 3). This model employs collaboration where the student functions as a sculptor, using information, prior knowledge, and experiences to develop new knowledge and reorganize existing knowledge.

Constructivist faculty see themselves more as a *guide on the side*. The sage on the stage is a positivist pedagogical approach. Constructivist knowledge is developed as a result of people working or studying together. Espinoza (2012) suggests yet another paradigm shift: "[We should] instead consider the need to adapt to the times for the sake of the student. I suggest we are already beyond *guide on the side* and our role today is that of co-learner—we are learning *with"* (p. 31). Espinoza's observation resonates with my research interest in that educators may have subject matter expertise yet find themselves learning from or learning with when it comes to the use of technology in pedagogy.

Chizmar and Williams (2001) firmly believe that pedagogy drives technology. However, they also note, "Nothing frustrates students, especially technophobes, more than instructional technology that doesn't work" (p. 18), supporting the concept of quality online teaching that includes a real paradigm shift by educators.

Teaching Online

All too often instructors have limited or no virtual experience as a student or a teacher; faculty experience considerable differences when they teach online. Several studies have found

that faculty are very aware of that which is unfamiliar, different, or absent. They note that roles seem to change when moving to the online environment (Conceicao, 2006; Conrad, 2004; Diekelmann, Schuster, & Nosek, 1998; Morris, Xu, & Finnegan, 2005). Another important point are the changes in face-to-face education. The reduction of face-to-face contact and interaction with students is a common concern shared by faculty teaching online (Conrad, 2004; Diekelmann et al., 1998). In addition, online teaching appears to place demands on faculty that are different from those encountered in a traditional classroom (Cowham & Duggleby, 2005). Experienced faculty comment on the extensive planning and attention to detail required to teach online (Hinson & LaPrairie, 2005). For example, some instructors believe all class handouts must be prepared in advance, taking away the spontaneity possible in the face-to-face classroom (Conceicao, 2006; Diekelmann et al., 1998). In these cases, the degree of advance preparation and organization equates to more course development time, which gives the online course the distinction of being labor-intensive (Conceicao, 2006).

New Perspective on Teaching

Barker (2003) noted that moving from a traditional classroom to a virtual environment requires a shift from teacher-centered instruction to learner-centered instruction. This change in the delivery of instruction and acquisition of knowledge modifies faculty's instructional roles, which places a greater responsibility for learning on the students (Barker, 2003; Gallant, 2003). Such a shift of responsibility can be attributed to the increased opportunity and responsibility for student participation in the online environment (Jaffee, 1997), often observed in student discussion boards. In traditional classrooms the introverted students can sit passively and choose not to participate, but receive credit. However, in the online classroom participation is a

requirement, and discussion boards require every student to contribute. The online environment provides ample opportunity for this to occur.

Another New Role: Instructional Designer and Facilitator

Morris et al. (2005) and Von Holzen (2000) state that another change in faculty roles and responsibilities is the separation of curriculum development, content development, delivery, tutoring, student support services, administration, and assessment from the responsibility of individual faculty members to multiple individuals or departments (Dirr, 2003). Sometimes virtual faculty have a team or group of individuals helping them develop the materials required to teach an online course. This individual or team might provide suggestions of models for instructional design as well as technical support. Such collaboration often occurs in conjunction with faculty release time. This modification in faculty roles and responsibilities will often redefine a faculty position or result in the creation of a new one.

Barker (2003) suggests that altered roles are inevitable in this changing environment. According to Diekelmann et al. (1998) other teaching roles develop when moving from classroom teaching to virtual education. For example, in a virtual learning environment there exists the possibility to develop different teaching and learning roles with a less positivist structure (Jaffee, 1997). Faculty have the opportunity to begin to move away from their role as sage on the stage deliverers of content to constructivist-based facilitators of collaborative learning (Barker, 2003). This potential role change could result in experienced teachers finding themselves as beginning teachers in the online environment (Diekelmann et al., 1998; Gallant, 2000; King, 2002; Lawler, King, & Wilhite, 2004). The virtual class environment challenges experienced first time online instructors' self-concept as subject experts and sometimes results in their resistance to online teaching, due, in part, to their loss of identity. Faculty who have not yet

taught an online course may perceive their online teaching expertise at the novice and advanced beginner levels (Tallent-Runnels et al., 2005).

A shift to online instructional delivery provides an opportunity for faculty to reflect on, evaluate, and modify their current teaching practices. The potential opportunity to develop new ideas and embrace different concepts about teaching and learning (Tallent-Runnels et al., 2006) allows faculty to restructure traditional classroom roles and relationships (Jaffee, 2003). The virtual educational environment has been described as a new dimension within the field of education that prevents faculty from teaching in their most comfortable style and setting the stage for reflection and evaluation of their teaching practices (Diekelmann et al., 1998). Effective virtual teaching is not intuitive (Palloff & Pratt, 2001). Methods that may have worked in traditional classrooms may hinder students in the virtual environment. Faculty must develop a different perspective of teaching and the learning environment in order to prepare for online delivery of instruction (King, 2002), often resulting in a review and evaluation of their responsibilities and practices as teachers (West, Waddoups, &Graham, 2007).

According to Cranton (2006a) institutions need to evaluate comprehensive adult learning theories and develop a process that facilitates examining, questioning, validating, and revising transformative learning theory. For this process to succeed, faculty would need to examine their "problematic frames of reference to make them more inclusive, discriminating, open, reflective, and emotionally able to change" (Cranton, 2006b, p. 36). Institutions need to develop and implement reflective and supportive faculty development opportunities that foster paradigm shifts that allow this type of faculty change. There appears to be a void in this space.

Professional Development to Prepare Faculty to Teach Online

There is a need for faculty development in the virtual environment, and a variety of models are being implemented. Some institutions allow faculty to learn using the old fashioned on-the-job-training method. Other institutions provide structured courses providing online course development that allows experienced faculty to adapt traditional material to the virtual environment. The most successful development programs provide faculty realistic online experiences that provide a step-by-step training process (Diekelmannet al., 1998; Hinson & LaPrairie, 2005; King, 2002).

The successful development programs provide activities meant to develop various online teaching competencies. Many of the online competencies are applicable in traditional face-to-face classrooms. Some of the competencies include modeling tone, expecting high quality interactions among students, providing clear and concise grading criteria or grading rubrics, allowing and encouraging diverse perspectives discussions, providing clear assignment dates, and establishing a non-threatening classroom atmosphere (Mandernach, Donnelli, Dailey, & Schulte, 2005). Given the competency similarities, one might wonder what is so different about teaching in a virtual environment that faculty roles are so different that they are once again considered to be beginning teachers. Maybe it is not so much the virtual environment but the challenge of evaluating how information is shared that causes so much change in faculty teaching practices as they transition to the virtual environment online.

Considering the teaching competencies required of virtual instructors, the issue becomes how one develops these skills. Covington, Petherbridge, & Warren (2005) suggest structured peer group, self-paced tutorials, faculty guided practice sessions, and discussions. Their

perception is that faculty will choose to participate in the most appropriate area where the learning would apply directly to their course structure or method of delivery.

This kind of flexibility would provide faculty with the support similar to the experience of their actual needs, building in an affinity. Some two and four year institutions have already implemented a variety of development solutions. Some require mandatory training for all faculty who teach online, with programs ranging from a 6-week intensive program to a 6-month course (Abel, 2005). Some institutions offer an immersive one week program in which faculty are trained in the use of the technologies, procedures, and pedagogies required for teaching online courses (Covington et al., 2005). Another method uses an interactive Web site and CD-ROM that provides the elements needed to develop online courses. Some universities provide streamed videos as a way to share current projects with other faculty.

One of the most important considerations when changing from a traditional classroom to a virtual environment is to be cognizant of the changed environment (Tallent-Runnels et al., 2005; Barker, 2003; Diekelmann et al., 1998; Jaffee, 2003). Faculty can move away from their role as deliverers of content to constructivist facilitators (Barker, 2003; Conrad, 2004; Pedersen & Liu, 2003). The results of my own research suggest that (a) the best distance learning contains multi-sensory learning opportunities and (b) training professors to teach differently in a distance-learning environment is paramount.

The literature provides clear information on the changing roles, responsibilities, and challenges facing traditional classroom faculty moving to the virtual environment. The literature is however devoid of information between the thought of teaching online and the actual implementation of the online course.

Purpose of the Research

Professional development programs to prepare faculty to teach online are needed, not only to learn the technical aspects of teaching online, but, more importantly, to consider new and different ways of teaching. Too many faculty professional development programs have concentrated on instrumental knowledge, including the conversion of course material for the online environment, such as adding audio to slideshows or uploading syllabi to a course management system used for course delivery. These programs often overlook or only skim over the communicative knowledge needed to be successful in the online classroom. This might include how to establish an online teaching presence, foster a rapport with students, and create an environment where students develop relationships with each other. Preparing to teach online also presents an opportunity to rethink assumptions and beliefs about teaching, which may serve as a catalyst for change.

The facilitators designing these professional development programs need to recognize faculty as adult learners and their professional development courses as adult learning. This brings all of the theory, research, and literature from the field of adult education and its effective principles, practices, strategies, applications, and experience to the facilitator (Lawler, 2003). The purpose of this study is (a) to identify challenges experienced faculty face in the transition from teaching in traditional classrooms to virtual learning environments, and (b) to identify the psychological phenomena and the paradigm shift(s) required to teach in a different environment. A qualitative design, more specifically, Participative Action Research (PAR) is the most appropriate design for this research. The research question that will guide the course of this research is as follows: What kind of paradigm shifts must an experienced educator make in order to teach in an online learning environment?

Overview of the Theoretical Framework

Mezirow (1978) stated there are two types of transformation in meaning perspective. He calls them 'epochal' transformations and 'incremental' transformations (Mezirow, 1978, p. 1991a). Epochal transformation, the transformation of a meaning perspective, is directly experienced. Insight is a familiar concept, and an epochal transformation would be considered a very deep insight because it's a conscious experience of a transformation from a state of unawareness to a state of awareness.

An incremental transformation, on the other hand, is the result of small shifts in meaning schema that, over time, perhaps over months or years, lead a learner to slowly recognize that a meaning perspective has shifted or changed. With incremental transformation there is a growing awareness that a meaning perspective has changed, rather than a direct experience of change. This is a type of retrospective remembering, for example, individuals remembering a belief that they could never complete a significant project successfully, yet finding they have completed a university degree. Both incremental and epochal transformations assume there is a conscious appreciation of a shift in meaning perspective in order to be called transformative.

Key Elements of Transformative Learning

According to Mezirow (1978, 1991a), the elements of "disorienting dilemmas," "critical reflection," and "rational discourse" are key to bringing about transformative learning. Mezirow asserted that experiencing one or a combination of these elements may lead to transformative learning. It is important to note that a person can utilize all of these elements and not necessarily have a transformative learning experience. Transformative learning may occur as a wholly linear process, or it may be stepwise or disjointed (Coffman as cited in Taylor, 1997). The path to a transformative learning experience is "individualistic, fluid and recursive" (Taylor, 2000,

p. 292). It is clear that Mezirow's *transformation* in transformation theory is in many ways a description of a number of elements that show a recognizable pattern which has led to a consciously understood, permanent, and integrated positive directional shift in a person's meaning perspective.

Disorienting dilemma. Mezirow (1978, 1991a) referred to a disorienting dilemma as a type of significant stimulus that leads many people to undergo a meaning perspective transformation. A disorienting dilemma is a dilemma that causes a significant level of disruption or disturbance in a person. A disorienting dilemma could be as extreme as the death of a significant other or a close friend, a life-threatening illness, a divorce, or a job loss. It could be a modest dilemma such as engaging in a professional development program, attending a university, beginning a new career, or reading a particularly disturbing book. One possible result of this disorienting dilemma is that the disoriented individuals are led to examine and reflect on why they are doing what they are doing at this particular time in their lives.

The disoriented individuals may also examine the beliefs and implicit or tacit assumptions underlying their own beliefs and subsequent actions, a process that Mezirow (1978, 1991a) calls critical reflection. When the disoriented individuals do this with others, it brings in the third element of rational discourse. Mezirow suggests that self-examination through critical reflection and rational discourse might not occur without the disorienting dilemma taking place (Mezirow, 1991a).

Critical reflection. Mezirow (1978, 1991a) considers critical reflection an important aspect of his theory. It is the process whereby a person intentionally construes new meanings through critically examining one's beliefs or a set of beliefs. Mezirow presents critical reflection as a process that can occur in many ways and through many avenues. Critical reflection includes

identifying embedded assumptions as well as considering these assumptions in an objective and rational manner through conscious reflection. Mezirow (1991, 2000) describes three main frames for critical reflection: content reflection, sociolinguistic habits of mind, and epistemic habit of mind.

Content reflection is the initial aspect of critical reflection, which is reflection based on what happens, how it happens, and a review of the data available about an area of concern. For instance, in assessing someone's leadership, we would reflect on the data available on the types of leadership they have exhibited.

"Sociolinguist habits of the mind are content reflection questions that take a generic form" (Cranton, 2006b, p. 239). One might ask questions about social norms or political or social issues. Epistemic habits of the mind are content reflection issues that relate to obtaining knowledge about moral, ethical, and philosophical concepts (Mezirow, 2000).

This conceptual framework—disorienting dilemmas, critical reflection, and paradigm shifts—will be the foundation of my participatory action research project. Disorienting dilemmas are handled in one of three ways: ignore the dilemma, manage the dilemma as transactional, or see the dilemma as leading to needed transformation (Raskin, Berstein, & Buck-Morss, 1987). Ignoring the dilemma allows the experience to take its natural course, accepting the inevitable outcome. The transactional approach to a disorienting dilemma uses a standard problem solving method, with little if any significant change, while the transformative approach requires an examination of every aspect of the dilemma, looking for opportunities to change one's complete approach to the situation. "A transformation can occur from a disorienting dilemma or from a gradual accumulation of experiences that challenge our previously established perspectives" (McQuiggan, 2011, p. 12). A transformation of habits of

mind can promote reflective learning and a transformation of frames of reference can promote transformative learning. With critical situational reflection and critical self-reflection, experiences open new perspectives or challenges to existing frames of reference. Both types of reflection are integral to the process of transformation (Cranton, 2006b; Cranton & Wright, 2008; Mezirow, 2000).

This will result in a significant change, a paradigm shift. A paradigm shift occurs when a disorienting dilemma causes a transformative experience, resulting in a significant change to specific aspects of one's pedagogy. A paradigm shift in pedagogy occurs when teachers have a significantly different perception of their "teaching selves." Strengthening the long term relevance of teacher education to teacher change and development in the new era must be a key issue in the quest for a new paradigm for teacher education (Smylie, Bay, & Tozer, 1999). Paradigm shifts may also occur when a faculty member implements virtual teaching methods in a creative manner.

Overview of the Research Methodology

The objective of this study was to examine how faculty handle disorienting dilemmas and the process that may (or may not) lead to paradigm shifts. This Participatory Action Research project examined five experienced educators to determine what they will do in order to teach in an online environment. It included individual prior and post interviews with face-to-face and video group conferences; in addition, participants were required to maintain a journal and share in online discussions.

Participatory Action Research is a research technique that empowers the research subjects. Action research, unlike typical academic research, uses the input of the study members to shape the next phase of the project at each step. This creates a progressive problem-solving

model that consists of 3 cycles of research, each to include the following steps: 1) study and plan, 2) take action, 3) collect and analyze the evidence, and 4) reflect on the data collected (Center for Collaborative Action Research).

Participatory Action Research requires a reciprocal relationship between asking the questions and taking action as one receives the answers to these questions (Anderson & Herr, 2009). In this study, the five participants formed a group for the purpose of evaluating the way in which online instructors are trained and the strategies and techniques that work for online courses. As Altrichter and Posch (2009) pointed out, the action research style is a "powerful strategy for professional development of teachers and other professional practitioners" (p. 213), precisely because the pedagogical mindset lends itself to the repeated experiment/evaluate model.

The following chapters include: a literature review, to include a discussion of Participatory Action Research; a description of the research methodology and its associated processes; a reporting of the results of this study; and a summary and discussion of the findings of the study.

Review of Literature

Introduction

Over the past decade, online education, distance education, or virtual education, as some prefer to call it, has become a permanent fixture within our society and has experienced tremendous growth within higher education. According to the National Center for Education Statistics (National Center for Education [NCES], 2010), the number of degree-granting colleges and universities offering virtual education courses increased from 44% between 1997 and 1998 to 65% in 2010. Examples include for-profit educational institutions like Western Governors University (WGU) and the University of Phoenix, which now has 224,000 students enrolled at their virtual college, making it the largest institution of higher education in the nation.

Given its popularity among a wide range of students, both in the two-year and four-year college setting, one can reasonably conclude that online degree granting programs will continue to grow. These programs and courses provide students with the flexibility to learn at their own pace under the guidance of an instructor. Even though the demand for online education has dramatically increased, faculty at community and four-year colleges have been slow in fending off their fears and anxieties about embracing this relatively new technology. Understanding why faculty members remain ambivalent to online education is critical since this form of educational instruction is not likely to fade away anytime soon.

Literature Reviewed

According to the literature, faculty participation in teaching online courses is manifold, and studies elicit a wide range of concerns, including the rigors of the curriculum standards for online courses (National Education Association [NEA], 2000). In addition, faculty at two and four-year colleges often complain about the lack of time, institutional support, scholarly respect

in the areas of promotion and tenure, and overall training as primary reasons they tend to opt out of teaching in virtual education programs, leaving a majority of the distance education courses to adjunct faculty members (Bonk, 2001; Curry, Baldwin, & Sharpe, 1998; Lee, 2001; Northrup, 1997; O'Quinn & Corry, 2002; Parisot, 1997).

It should be noted that many instructors, particularly at the community college level, cite the high rate of failures and withdrawals from online courses as reason to be alarmed about the rise in online programs, particularly those granting full degrees online versus a hybrid teaching model. Aragon and Johnson (2008) noted that the withdrawal rates of students enrolled in online classes at the community college level is about 20% higher than students enrolled in traditionally based courses. To address this disparity and to lure full time faculty into the process, Nishikant (2009) forcefully argued that there is a need for a paradigm shift in the way that institutions introduce distance education to faculty. In other words, a new vocabulary is needed to talk about the importance of distance education for students who think that they know everything about technology and an older, aging faculty who tend to dismiss the belief that online education can ever be an effective teaching tool for the mastery of content material. Unless these issues are resolved, many faculty members will likely remain unwilling players in the distance education movement, and student achievement in these courses will continue to wane.

While 50% of faculty in a National Education Association survey noted negative or uncertain feelings about distance learning (NEA, 2000), there is a need to devote more time to researching faculty attitudes toward online and web-based teaching in a holistic manner (Dillon & Walsh, 1992; Williams, 2002). Much of the existing literature argues that intrinsic motivators are often used to entice faculty to become online teachers (Betts, 1998; Bonk, 2001; Lee, 2001; Rockwell et al., 1999; Schifter, 2000). For those instructors who do teach online, the experience

has been rewarding, with some stating that teaching via distance learning actually added to their overall job satisfaction and enhanced their pedagogical skills (Betts, 1998; Schifter, 2000). They note that teaching online provided optimal working conditions, as they were able to teach at any time and from any place (Rockwell et al., 1999). Avid online instructors have also expressed an interest in developing online collaboration opportunities with faculty from other institutions in the areas of online education (Murphrey & Dooley, 2000).

The degree of satisfaction among students in an online environment seems to be mixed. A 2009 survey conducted by the Instructional Technology Council noted that community college students are particularly attracted to online education for its flexible nature, noting that a community college student is more likely to take a distance education course than a traditional 4-year student (Horn & Nevill, 2006). "When compared to students attending 4-year colleges, community college students are more likely to be older, female, Black or Hispanic, and from low-income families" (Horn & Nevill, 2006, p. iv). Although these students find online learning desirable, course completion rates continue to remain low. Ironically, the very reason that community college students prefer online learning (flexibility to balance outside commitments) may stand as an impediment to their success. In an effort to explain why community college students drop online courses with greater frequency, Aragon and Johnson (2008) surveyed 305 students from a rural community college. They found that most students indicated a lack of time due to personal commitments as a main reason for course withdrawal or failure. Moreover, grade point average (GPA) was noted as a strong predictor of success (Aragon & Johnson, 2008). These findings are particularly troublesome because they pose real obstacles for graduate completion rates.

There is a plethora of research about community college students and academic achievement in online education. The research in this dissertation is a participatory action research (PAR) study designed to add to our knowledge about the experience of teaching and learning in an online community college environment. There are multiple pieces to the puzzle and thus the literature discussed here is divided into four categories: PAR, teaching styles, online learning environments, and finally an examination of transformation in teacher education. The second and third categories overlap a great deal, of course. One cannot discuss approaches to online learning without first dealing with how different pedagogical approaches affect learning in traditional environments.

Participatory Action Research

Participatory action research (PAR) is action research for the purpose of professional or organization development. What makes PAR unique is its participatory nature. In PAR, the study subjects participate in framing the questions asked as they see where the research is taking them. All action research adapts as the answers to study questions are found; in PAR, the subjects, themselves, get to change the shape of the study. Unlike normal academic research, action research is dynamic. As information is gathered, the shape of the project changes, based on that information. As Altrichter and Posch pointed out, the action research style is a "powerful strategy for professional development of teachers and other professional practitioners" (2009, p. 213) because the pedagogical mindset lends itself to the cycle of experiment/evaluate/ implement. Indeed, according to Ferrance (2000), PAR refers specifically to that undertaken by a teacher "with the intent that the research will inform and change his or her practices in the future" (p. 12). Because of the nature of the teaching profession, this cycle of gathering data,

reflecting, and deciding on a course of action mirrors the everyday practices of good teachers, who are constantly updating their teaching methods in response to student reaction.

A good first primer on action research is Reason and Bradbury's book *Handbook of Action Research* (2001). In the earlier edition, Pasmore (pp. 38–48) attributed the origins of participatory action research to Dewey's (1933) drive to democratize education. Collier (1945, p. 39) and Lewin (1951, p. 39) used Dewey's ideas, and Lewin coined the term *action research*. Collier used the idea of collaborative research in his work, attempting to improve race relations between whites and Native Americans. He found that far greater results could be achieved in an environment in which the researchers and participants act together to find solutions. Lewin, although he conducted much of the same research at the same time, is much more widely credited with using action research as a tool. He worked in manufacturing environments to create collaborative learning organizations in which workers were encouraged to participate in improving work processes. Lewin discovered that participation in the process led to a reduction in resistance to change. Workers bought into the process of changing if they felt they had a voice. This is a very important concept, on two levels, in education. If Lewin is accurate, instructors who have a say in the way technology is used in a learning environment are more likely to be enthusiastic about the technology; if faculty and students within those classrooms are encouraged to participate in their own learning environments, they, too, will be more likely to be successful in carrying out a shift in curriculum. This change from the inside out, when faculty and students actually embrace the constructivist way of teaching and learning, is much more likely to be transformative rather than transactional.

In *The SAGE Handbook of Educational Action Research* (2009), a number of action researchers discuss using action research in educational rather than business environments.

Orland-Barak and Leshem (2009), Israeli researchers, described a number of participatory action research projects that were carried out in Israel. One of the important findings for stage 2 described above—allowing students to participate in the research—is particularly relevant in community college attempts at action research. The researchers found that there may be dangers when a researcher/educator pushes students from various cultural backgrounds to be too self-reflective/autobiographical. This is an insight that I have not seen elsewhere in the literature, but Orland-Barak and Lesham found that if these differences were not managed sensitively, conflict and a sense of alienation could result. She concluded that it was important to maintain a balance between divergent (conflict-oriented) and convergent (coming together) reflective processes. But her experience showed that success could be achieved if the students were helped "to move from a positivistic paradigm of representing research, to a qualitative, interpretive one" (2009, p. 169). In other words, the students were helped to create a transformative learning environment for themselves. Keiny, in her field testing, concluded that the more a "community of learners" can be created, with the personal relationships that imply the more participatory action research will be undertaken with positive results. Both researchers stress the ability of educational action research to be a "paradigm of change" (p. 174).

Goodnough (2008) presented a recent perspective on the nature of participatory action research. She looked at a group of K-12 teachers who were engaged in a PAR project very similar in its scope to the one I am undertaking. The teachers were meeting to try to improve science education across the curriculum. Goodnough concluded that "messiness and uncertainty" are inherent in PAR. Because many educators are uneasy with this uncertainty, this element must be discussed before starting a PAR project. The research questions that guided Goodnough's study were as follows: "What types of challenges do teachers experience as they engage in PAR?

And, what are the teachers' perceptions of PAR as a strategy for fostering teacher development?" (2008, p. 432). Goodnough (2008) defined participatory action research as the "systematic inquiry into practice through cycles of planning, acting, observing, and reflecting" (p. 432). She views action research as a transformative activity—as a vehicle to improve teaching practices, curriculum, and student learning.

Figure 2.1 is an information technology (IT) systems representation of action research. The five-phase model provides another approach. At each step, or phase, participants identify a critical issue, develop an action plan, implement the plan, review the plan, and provide a critical analysis and once again identify the next critical issue as a result of the cycle.

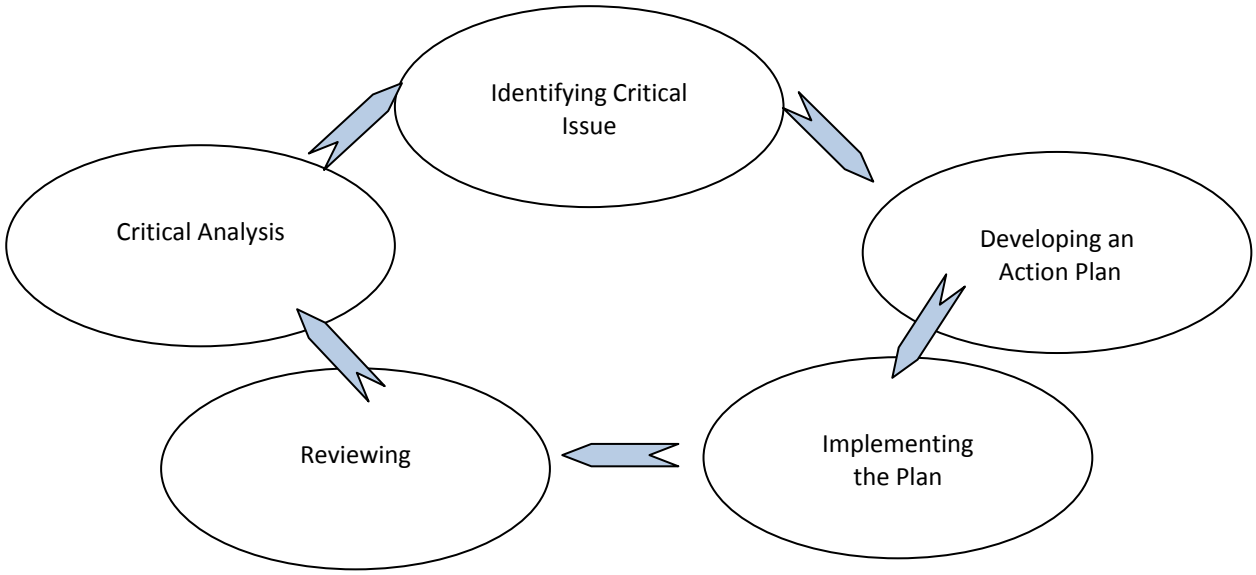

Figure 2.1. Action research diagram.

The important feature is the continuous nature of the process, which is particularly well-suited to the subject of using (ever-changing) technology in the teaching process. It is the democratic nature of this cyclical approach that Fine (2010) referred to in her description of the

Institute for Participatory Action Research and Design at the City University of New York. Fine is particularly interested in high-conflict issues, like Brown v. Board of Educat*ion* (1954), but her discussion of PAR as a tool for social change is just as pertinent to a huge pedagogical shift, like distance education, as it is to the social unrest of the 1960s.

What struck me again and again upon conducting this literature review were the numerous discussions of teaching styles and the important role they have in fostering successful learning environments. What is missing from the discussion is an integrated approach to faculty paradigm shifts in course design that acknowledges and addresses all of the well-known research in teaching styles, acknowledges the preferences of students for different learning approaches, and also allows faculty to learn how to create a successful distance-learning curriculum. The PAR project described in this dissertation is an attempt to develop a method of class development that can be replicated throughout the institution. This PAR also attempts to determine if a paradigm shift occurs when experienced faculty begin teaching in a virtual environment. While used at Mercer County Community College, I believe this methodology is applicable to colleges and universities increasing their number of distance-learning programs.

Riley and Moltzen (2011) attempted to use action research in a similar way in evaluating gifted and talented programs in New Zealand. Their stated purpose was to

- develop innovative approaches to gifted and talented education that would result in improved outcomes for students;
- research the impact of innovative approaches on teaching and learning; and
- disseminate knowledge, understanding, and models of effective practice. (Riley & Moltzen, 2011, pp. 26, 2011)

Given that these goals are quite similar to my own goals, I was interested in how PAR worked and what the authors' conclusions were. The authors framed each stage of their action research on three simple questions:

1. What is going on?
2. Is it working?
3. How do we know?

The process entailed "planning, implementation, evaluation, and then the creation of a plan of action for improvement." While they found the process useful, the authors say that "it was not always smooth sailing" (Riley & Moltzen, 2011, p. 26).

What were the advantages and problems? The most important of the advantages seems to be that "the use of a collaborative approach gave key stakeholders, including students and parents, opportunities to have a voice; and to influence program development and implementation" (Riley & Moltzen, 2011, p. 26).

The most important stakeholders in the current study are the educators, who must feel they have a voice while they are being pushed to use a new model of teaching.

Difficulties identified by Riley and Moltzen (2011) included tension between the researchers and stakeholders—in our situation, this would be administration versus faculty, and, to a lesser degree, faculty versus students. This is one area where it is very important for the PAR researcher to take the concerns and suggestions of the faculty seriously in order to reduce these tensions.

A second, related difficulty was defining the roles of the participants. This is particularly important as we expand our distance-learning programs, because the faculty are the content

specialists, and the facilitators are the distance-learning specialists. The more each can understand the others' roles, the better.

New Culture of Learning

Thomas and Brown (2011) pointed out that, to most people, learning and schools are synonymous. However, with the advent of online learning "a new culture of learning is taking place in the academy" (p. 17). This has major implications, because it presents a challenge to the whole traditional student-teacher relationship. Older faculty have resisted the new tools, creating a disconnect with the current student population. Thomas and Brown liken this to pre-World War II-era teachers being confronted with overhead projectors and being forced to incorporate them into their teaching arsenal.

Thomas and Brown (2011) stress the necessity for expanding our definitions. For example, gaming software can be a collaborative teaching tool (p. 34). To teach game development, one must embrace the whole game environment. This means completely redefining the traditional hierarchical teacher-student relationship and expanding it. In the gaming model, students form communities on their own and learn without a hierarchical presence. Young people, with their experience with social media, gaming, and other forms of interacting, are more at home in this non-traditional environment. Professors who can embrace this new world have discovered that the type of collaborative learning found in gaming is very powerful and can provide students with a reason to stay engaged.

According to Thomas and Brown (2011), the Internet has provided many examples that share more with the gaming model than the traditional classroom model of learning. As a matter of fact, some of the newer learning environments, like Khan Academy, do away with the model of classroom teacher entirely (p. 36). Other knowledge-sharing environments set up chat rooms

for issues people wish to learn about (e.g., health issues). If individuals wish to find alternatives or learn more about a medical condition, they can join a group discussion, contact doctors, or conduct additional research, all without having the guidance of an expert. Familiarity with the virtual learning environment changes classroom control; students feel less inhibited, and off-site computers provide students a different level of comfort. This makes it more likely that a student will challenge a professor. Thomas and Brown (2011) suggested that when we think of culture, we "think of existing ones. Individuals can choose to join a culture, but no individual(s) can create one. What becomes important in this traditional sense of culture is the process through which people join a culture and the transformation that occurs as a result" (p. 36).

As one becomes immersed in a culture, one undergoes a process of transformation in which one adapts to the customs of the new culture—or cannot integrate and elects instead to leave. Students, particularly those who want to learn at their own pace (for example, gifted students or academically challenged students), groups that in the past decided to leave at a higher rate than average, are most likely to embrace this new egalitarian learning environment.

This new culture of learning "thrives on change" (Thomas & Brown, 2011, p. 36) and is a thriving participatory learning environment. Virtual learning is really a PAR, because it's always learning from its environment. As the learners improve, the teachers are forced to change (or leave). Note that this is the reverse of the non-PAR, non-virtual learning model of the traditional classroom. PAR tells us that the researcher starts at point A, but after some preliminary work, finds that the direction needs to be modified to A plus B, resulting in a new, modified AB direction.

It is relatively easy to teach educators the tools necessary to teach in a virtual environment. It is not so easy, however, to use the tools appropriately in a new, collaborative

learning environment. Although some aspects of virtual learning have the potential to solve many of the problems plaguing higher education, such as access issues due to finances, if the model is used the wrong way, it will add to the problem. For example, new content available for free has the potential to even the playing field and give greater access to people who could not afford an advanced education, but if the hardware, like computers, tablets, and smartphones, is not readily available, there is the danger that it will actually widen the digital divide and create more inequity.

A good primer on the dissertation question **"**What kind of paradigm shifts must an experienced educator make in order to teach in an online learning environment?" is McQuiggan's (2007) *Preparing to Teach Online as Transformative Faculty Development*. McQuiggan's research study was conducted on the Harrisburg campus of Pennsylvania State University. The Penn State study used a qualitative action research method to determine how faculty learned to teach online and how that influenced face-to-face teaching.

McQuiggan examined the changes faculty made in face-to-face teaching practices as a result of a professional development experience. The Penn State study examined faculty who were participants in an online professional development course to explore transformative learning among higher education faculty as a result of participating in a blended program to prepare them to teach online. The transformation or translation occurred as a result of a desire to move toward online teaching by preparing a course for hybrid delivery during the fall semester of 2009 with a particular focus on the transformation. McQuiggan's study used a qualitative action research methodology. The study explored the methods faculty used to learn to teach in a virtual environment and examined if that may have impacted a faculty member's face-to-face teaching. The researcher examined three questions: (1) "Which aspects of the professional

development activities do faculty perceive as being most effective in helping them to reflect on and question their previously held assumptions and beliefs about teaching? (2) Do faculty experience changes in their previously held assumptions and beliefs about teaching as a result of learning to teach online and, if so, how does transformative learning explain the changes? (3) What impact does learning to teach online have on face-to-face teaching practices?" (McQuiggan 2007)

This study is similar to the one I am proposing in the use of transformational learning among faculty teaching undergraduate courses. However, McQuiggan's (2007) participants were required to participate in a formal online teaching development program, while this project's participants were not in a formal online course for teaching teachers to teach online.

According to Meyer (2013) this research project was a professional development program that achieved the following changes in the following areas: connections, preparation through reflection and discourse, reflections on assumptions, face-to-face teaching practices, time and level of engagement in professional development and reflection, changes to professional development and reflection and design of faculty professional development programs.

A Connections session focused on a faculty professional development program that provided opportunities for faculty to discuss their concerns with virtual teaching with experienced online associates, review and examine preexisting online courses, and discuss preparations to teach online in a supportive environment.

Preparation through Reflection and Discourse was a reflective writing and discussions session concerning teacher preparation for virtual teaching online that provided the opportunity to discuss previously held assumptions and beliefs about teaching in a virtual environment.

Reflections on Assumptions was part of the professional development program which focused on reflective writing and discussions about classroom changes that might result from virtual teaching and modifications in previously held assumptions and beliefs regarding teaching in this environment.

Other areas were impacted as well. The potential for a change to face-to-face teaching practices resulted because faculty learning to teach online potentially would modify their face-to-face teaching practices. Faculty who spent a significant amount of time in the professional development program that included focused reflection may have made some movement toward transformative learning and modifying teaching practices.

According to McQuiggan (2007) the final result was support for the Design of Faculty Professional Development Programs, which the researcher believes supports that "programs for online teaching should be designed to intentionally inform and change faculty's face-to-face teaching practices" (p. 11).

However, McQuiggan's (2007) study stops short of examining how a faculty member's prior experiences or lack of experience with multimedia and its virtual classroom application, one's attitude(s) toward the use of technology as a teaching tool or method, and one's vision of the use of technology within a traditional versus a virtual environment will determine willingness to make a paradigm shift for teaching in the virtual environment and transformation. The current study also examined how different disciplines approached and implemented virtual methods and the paradigm shifts older faculty had to make in order to teach in the virtual environment.

Unlike McQuiggan's research, this PAR unpacked that critical moment between the disorienting experience where the paradigm shift is about to occur and, in one case, determined the critical aspect(s) of this phenomenon before the transformation started. Experienced faculty

participated in this PAR because it provided each a significant amount of control over most aspects of their participation including the installation of the software, research interview location, and limited control of the technology. I believe this was a critical factor in the success of this PAR. This was a very important concept, on multiple levels, in an education environment. If Lewin et al. (2006) are correct, instructors who have a say in the way technology is used in a learning environment are more likely to be enthusiastic about the technology; and if faculty are encouraged to participate in their own learning environments, they, too, will be more likely to be successful in carrying out a change in curriculum. This change from the inside out, where instructors actually embrace the new way of teaching and learning, is much more likely to be transformative rather than just transactional.

Summary

This PAR examined: What kind of paradigm shifts must an experienced educator make in order to teach in an online learning environment? I sought to determine if faculty experience a unique paradigm shift between the disorienting experience and the initial phase of transformation. Mezirow's theory of transformative learning and pedagogical concepts of positivist and constructivist teaching styles provide a foundation for examining paradigm shifts.

The literature review has shown that educators are facing many challenges not only in the way students have traditionally learned, but also in the way education is being delivered. As online educational programs continue to grow nationally (and globally), educational institutions must adapt their pedagogical practices to meet these changes if they want to meaningfully engage and teach students. What strategies should be implemented to effectively address the changes being brought about by the influx of technology and online learning? What is the best way to enhance faculty performance in an online environment? What traits and characteristics

do instructors need to flourish in the new online learning community? These are a few questions that must be addressed if higher education institutions wish to remain relevant in educating the next generation of learners. More importantly, do instructors make paradigm shifts when moving from teaching in a traditional classroom to an online environment?

Finding an answer to the last question is at the center of this research project. Of the many research tools available, PAR provides a useful approach to addressing this question. The PAR methodology enables subjects to participate in framing the question being asked as they see where research is taking them. This interchange between researcher and participants creates the opportunity for deeper and more meaningful results.

As we move into the methodology section, it is important to have grounding in this educational research, and to know what has come before. However, the very nature of PAR allows us to take a more practical, hands-on approach. Our stakeholders were not by and large experts in educational research. They were experts in their academic fields. We had to balance the precepts of educational research with the realities of the classroom as well as online, and a collaborative approach was necessary to successfully convince the stakeholders to participate. There has been a great deal of research done on teaching styles, disorienting dilemmas, paradigm shifts, and transformative learning, but most academic research has been a conversation among academics without immediate practical application. While this research informed much of my study, I could not have come up with the study question or, indeed, questioned the approach of much online teaching without learning about the current state of teacher online training and development and learning research presented here. Still, my intent here is far more practical. My aim was to determine if there is a critical moment between the disorienting experience where the paradigm shift is about to occur and, if so, determine the critical aspect(s) of a physiological

phenomenon before the transformation starts. At Mercer County Community College, where much of my research is centered, the online teaching staff helps individual professors to create an online version of their courses. This staff ultimately reports to the Dean of Institutional Research and Virtual Instruction. So far, their mission has been merely to translate classroom syllabi into the online version. If my concept is correct, the goal is to create a unified approach to helping experienced faculty understand and make the transition to creating online course content, using the experiences of the participants in my study as well as the literature to structure this content. Ultimately, this approach could be used beyond Mercer County College in any college dealing with the ever-increasing demand for online courses. If successful, it could create a new and exciting learning environment geared to experienced professors in the 21st century.

Research Methodology

The purpose of this study was (a) to identify challenges that experienced faculty face in the transition from teaching in traditional classrooms to virtual learning environments and (b) to identify the psychological phenomena and the paradigm shift(s) required to transition to a virtual teaching environment. I believed this study required a collaborative research method. I felt a better fit was a qualitative design, more specifically PAR.

Introduction

PAR is action research implemented for the purpose of professional, organizational, or community development. As noted in earlier chapters, there is a reciprocal relationship between asking the questions and taking action as one receives the answers to these questions (Anderson & Herr, 2009). PAR is also designed to develop and create partnerships with community members to identify issues of importance to them, develop a means for studying matters of importance, gather and analyze data, and take action on the knowledge that is produced (Rodriguez & Brown, 2009; Smith, Rosenzweig, & Schmidt, 2010). In the pilot study preceding the current research, three participants formed a group for the purpose of evaluating how online instructors are trained and what works and does not work when developing online courses.

Pilot Study

Advances in technology have significantly impacted academia. Ten or 15 years ago, it was still acceptable for, say, an English professor to wear his or her computer illiteracy as a badge of honor. Today, that professor will need to, at the very least, keep track of the class roster and enter grades online. In many schools, including Mercer County Community College, virtual campuses are becoming more prevalent, and there is a real need for professors to develop self-efficacy with respect to the use of technology and to be able to conduct their classes using

distance-learning software. The pilot project was an attempt to use action research to come to some conclusions about technology use, particularly in the virtual classroom. Three of my academic colleagues helped me design a model for virtual classroom design. These colleagues had all expressed an interest in learning how to teach an online course but had very different degrees of experience with technology and its use in a classroom. There was, at one end of the spectrum, a technology professor who thought she merely needed to learn how to structure an online course and, at the other end, an English teacher who had never used the computer in his classroom.

Our goal at this stage was mostly to determine what steps we needed to take before we were ready to train large numbers of instructors in online instructing. The expert participant was more concerned with what parts of her course would translate easily into an online environment, while our novice participant wanted to become familiar with the basics of the system itself. The intermediate participant was most concerned with system application configuration issues. We ended up with a lot more technical problems/areas of concern than we ever anticipated.

The pilot study put teachers in a very structured environment and forced those with little or no online teaching knowledge to apply their expertise in a non-traditional setting. The three instructors taught the same material; they were charged with teaching a specific task with a real target and a projected completion date. According to Zhang, Ke, Wu, and Liu (2010),

> a centralized teaching approach is different from general lecture course and laboratory course, as it requires students to complete a project task within a period of time and to achieve real targets. This will allow students to focus all time and efforts for a specific goal. (p. 3)

Although the class, IST 101, is billed as a laboratory class, it contains discrete modules for teaching specific tasks, and so it was ideal for our research. Specifically, the instructors were

teaching an Excel lab in which students had to learn how to produce and manipulate a graph from data in an Excel chart.

It can be argued that when managing the classroom in a traditional manner the instructor is the central focus of the instructional environment. One of the lessons we learned from the pilot was that in the online environment the material is not the central factor. What this experience also taught me was that the critical variable was not the students or the setting, but the teachers' ability to use and implement the technology. The data gathered for the pilot project demonstrated that student expectations were the same as in a traditional classroom. The students had the same demographic characteristics as all other classrooms. The teachers attempted to use the same materials with minor modifications for virtual classrooms.

At least two discrete levels of learning/research took place during the course of the pilot study. First, my colleagues and I were researching how to structure teacher training for an online environment. Second, we were researching and trying to learn how to conduct action research. When I first came to this project, my belief was that large sample sizes were necessary in any research. I also thought that smaller sample sizes would render the research invalid— making it anecdotal rather than evidential. However, the collaborative nature of PAR not only allows for a broader conversation but also utilizes the participants' voices and allows space for explicit theories of change that otherwise may have gone unnoticed or unexamined (Tuck, 2009). Smith et al. (2010) argue that in PAR, professional researchers do not enter communities to conduct studies on community members but collaborate with them to identify issues of importance and potential solutions with which they can take action. The pilot study proved to me that far more can be learned when the experiment participants are also the experiment designers and when the group is small and comfortable enough that each person can contribute. The group assembled for

the pilot study included, as noted above, participant one as an expert, participant two as a novice, and participant three as an intermediate user of online course design. The expert had taken training in Angel, the online course software that Mercer County College uses. The novice had never worked within the Angel system but was enthusiastic about learning about online courses. The intermediate user had some experience with the system, but had not gone through the training. We met face to face for our first session but then decided to make it a true distance-learning study by meeting via Skype, and eventually, Adobe Connect. As the manager of this project, I secured accounts for each participant and set up each of our conferences.

This research provided some evidence that experienced and non-experienced teachers bring similar teaching characteristics to virtual learning environments. Each was very reluctant to attempt teaching online. Experienced faculty members were uncomfortable adapting their material for virtual classrooms. One of the surprises was that the expert, who was quite adept at using the computer in her traditional classes, was even more uncomfortable than the moderate user in a completely online environment. When asked about this, her rationale was that she knew how difficult it was going to be to communicate in an asynchronous environment. When she used computers as an adjunct teaching tool, it actually added communication options. If, for example, she got an email asking about something difficult, she could say, “See me before the next class,” and deal with the issue face to face. The faculty member with moderate online experience was somewhat more willing to make changes to his curriculum and did not demonstrate the degree of resistance of the experienced teacher. Counterintuitively, the faculty member with little or no online experience was wide open to significant changes to his traditional course material. The three faculty in general were skeptical of the academic rigor of the students and the ability to verify that the academic skills were being met. They were also

concerned that students would not participate in online activities. All these concerns turned out to be invalid, as illustrated by the following themes that emerged from the analysis of interviews, observations, and students' tests.

How Experienced Educators Approach Virtual Learning Environments

The faculty taught students from different institutions, yet their students had similar demographic characteristics. Faculty reported students had strong predispositions to one type of learning. This was not always the best learning strategy for them; rather it was the one with which they were most comfortable. For example, if students have been told that they are visual learners, they tend to answer questions that way regardless of study results. The biggest surprise of the entire project was the degree of disconnect between learning preferences and teaching preferences. Teachers, by and large, are people who pre-date the computer age, tend to prefer the same sorts of strategies they've always used which are largely read and learn strategies. Students of the digital age tend to prefer to be shown. This creates a minor disconnect in classroom teaching and a major disconnect in online teaching. In classrooms, students can stop teachers and ask them to explain something in a different way, correcting for ineffective teaching methods as they go along. Online, this disconnect will widen week after week until the student is so out of his or her depth, and no learning takes place.

Though this pilot PAR was invaluable, what I expected to study as the principal research problem turned out not to be the issue. I had expected to research two questions. The first question was How should an online-learning curriculum be structured so as to maximize positive results for learners? The second question was What steps should a community college take to fit a distance-learning curriculum into the overall course offerings?

However, the PAR provided new insight. It's not the distance-learning curriculum that required modification but how experienced educators approach virtual learning environments. Each PAR participant and I believed that we were going to focus on student responses to our teaching and assignments; however, as we moved through each activity, we discovered that, regardless of whether it was the teaching assignment given out by the expert, moderate, or novice instructor, the students' responses were very similar. An example is students' requesting clarification about required projects. While clarification of instructor expectation may have been different, a request for clarification as it relates to subject matter itself may be similar. The questions students asked might have been different, but the substance was similar after they had been provided an initial assignment. Instructions that appeared to be clear to the entire teaching faculty generated repeated, but not identical, questions. If each student had asked the same question, it would have been the fault of a particular part of the instructions. Instead, it seemed that instructions that were understood easily in a classroom environment were suddenly confusing, in a general way, to students. In the middle of the semester, when students were preparing for mid-terms, the volume of student questions rose again, as it did at the end of the semester. This is similar to what goes on in a classroom: when students suddenly realize they are going to have to take a test, the types of questions are different. The most important factor in responding to these queries was the instructors' ability to manipulate the online software and online teaching technology. Even though all faculty, whether expert or novice, had similar difficulties in getting the software to work correctly, the expert was able to move through the course material more effectively and provide students with quicker directions than the moderate or novice instructors. The same experiences occurred at the middle and end of semester assignments.

This provided strong evidence that what is most important is not the interactions with the students or the assignments but the instructors' ability to manage the online software. As Altrichter and Posch (2009) pointed out, the action research style is a "powerful strategy for professional development of teachers and other professional practitioners" (p. 213), precisely because the pedagogical mindset lends itself to the repeated evaluation model. In this case, my original design for the dissertation had to be re-evaluated after completion of the pilot study. Thus, I used the participatory action research method the way it was intended, by changing the focus of my research question from a student-focused one to a faculty-focused one: How must faculty change in order to teach online?

Focus of the Study

Arguably, even experienced educators must make a paradigm shift in order to teach in a distance learning environment. I discovered experienced faculty have disorienting experiences or dilemmas when moving from a traditional classroom to an online/virtual teaching environment. Disorienting experiences or dilemmas occur, according to Brookfield (1995), when we encounter unexpected or contradictory situations, events, or points of view.

Disorienting dilemmas are handled one of three ways: ignore the dilemma, manage the dilemma as transactional or see the dilemma as leading to needed transformation (Raskin et al., 1987). Ignoring the dilemma lets the experience take its natural course, accepting the inevitable outcome. The transactional approach to a disorienting dilemma uses a standard problem solving method, with little if any significant change, while the transformative approach requires an examination of every aspect of the dilemma, looking for opportunities to change one's complete approach to the situation. "A transformation can occur from a disorienting dilemma or from a gradual accumulation of experiences that challenge our previously established perspectives"

(Cranton, 2006b). A transformation of habits of mind can promote reflective learning and a transformation of frames of reference can promote transformative learning. With critical situational reflection and critical self-reflection, experiences open new perspectives or challenges to existing frames of reference. Both types of reflection are integral to the process of transformation (Cranton, 2006b; Cranton & Wright, 2008; Mezirow 2000).

This will result in a significant change, a "paradigm shift." A paradigm shift occurs when a disorienting dilemma causes a transformative experience, resulting in a significant change to aspects of one's pedagogy. A paradigm shift in pedagogy occurs when a teacher has a significantly different perception of their "teaching self." Therefore the pilot study caused me to contemplate the following question: What kind of paradigm shifts must an experienced educator make in order to teach in an online learning environment?

My research project examined five experienced educators to determine what they did in order to teach in an online environment. This participatory action research included: a website-based interactive research connection where individuals were provided a learning hyperlink "Virtual Learning" with a participant invitation information, participant consent form, participant instructions with online directions for software set-up for the computers, phased 1-4 interviews, video interview session connections and PAR Video Validation hyperlink for prior- and post-interviews sessions with face-to-face and video group conferences; in addition, participants were required to maintain a journal and share in online discussions. The objective of this study was to examine how faculty handle disorienting dilemmas and the transformational process that led (or not) to paradigm shifts.

In the study, faculty modified their unique teaching styles, techniques, and approaches using online tools in their virtual classroom. Previously, faculty may have approached the

learning objectives expecting students to go through a set of exercises and ask certain questions. However, when students approach the question from a totally different perspective, the answers faculty received required a pedagogical adaptation.

During the study evidence of faculty paradigm shifts were collected using a four phased interview, in-depth individual and group interviews, review of each participant's journal, participatory action research validation, a follow up video analysis of the coded data verifying that change occurred, and suggestions for an action. The questions below were designed using Mezirow's (2000) concepts of perspective transformation and critical reflection.

a. How did you think about your teaching before this experience?

b. How do you think about your teaching *after* this experience?

c. Has this experience caused you to develop a different sense of who you are as a faculty member? If so, in what way?

d. Describe a specific teaching style or technique you considered changing or modifying as a result of this experience? Why did it change, or not?

e. Does the course look different now? If so, how?

PAR Partnership

The approach used to select participants is referred to as criterion sampling: "Criterion sampling is an excellent method when all individuals in the PAR represent people who have experienced the phenomenon" (Creswell, 2007, p. 128). Criterion sampling was most appropriate because I wanted to learn from people who were experiencing what it was like to go from teaching in a traditional classroom to teaching in a virtual environment.

The five faculty chosen for this study all expressed an interest in online teaching but had various degrees of comfort with online systems. All of the research participants were community

college educators. Participants were faculty members from different academic disciplines and institutions. I contacted local and regional individuals and institutions, as well as participants in the New Jersey computer educator's consortium. All selected faculty had no more than three prior online teaching experiences. The participants held masters and doctoral level credentials, with a group average of 18 years of teaching experience. Two individuals had no prior online teaching experience. Two individuals had taught one prior online course, and one individual had taught three previous courses online. The project was presented to them as a way to have a cohort with whom to discuss challenges and successes in teaching online.

All faculty members received some training in a learning management system (required for online teaching), but that was technical training and did not cover the sorts of pedagogical practices being examined.

Study Procedures

In this section I outline the process of the study. See Figure 4.1, a diagram of the data collection and analytical process.

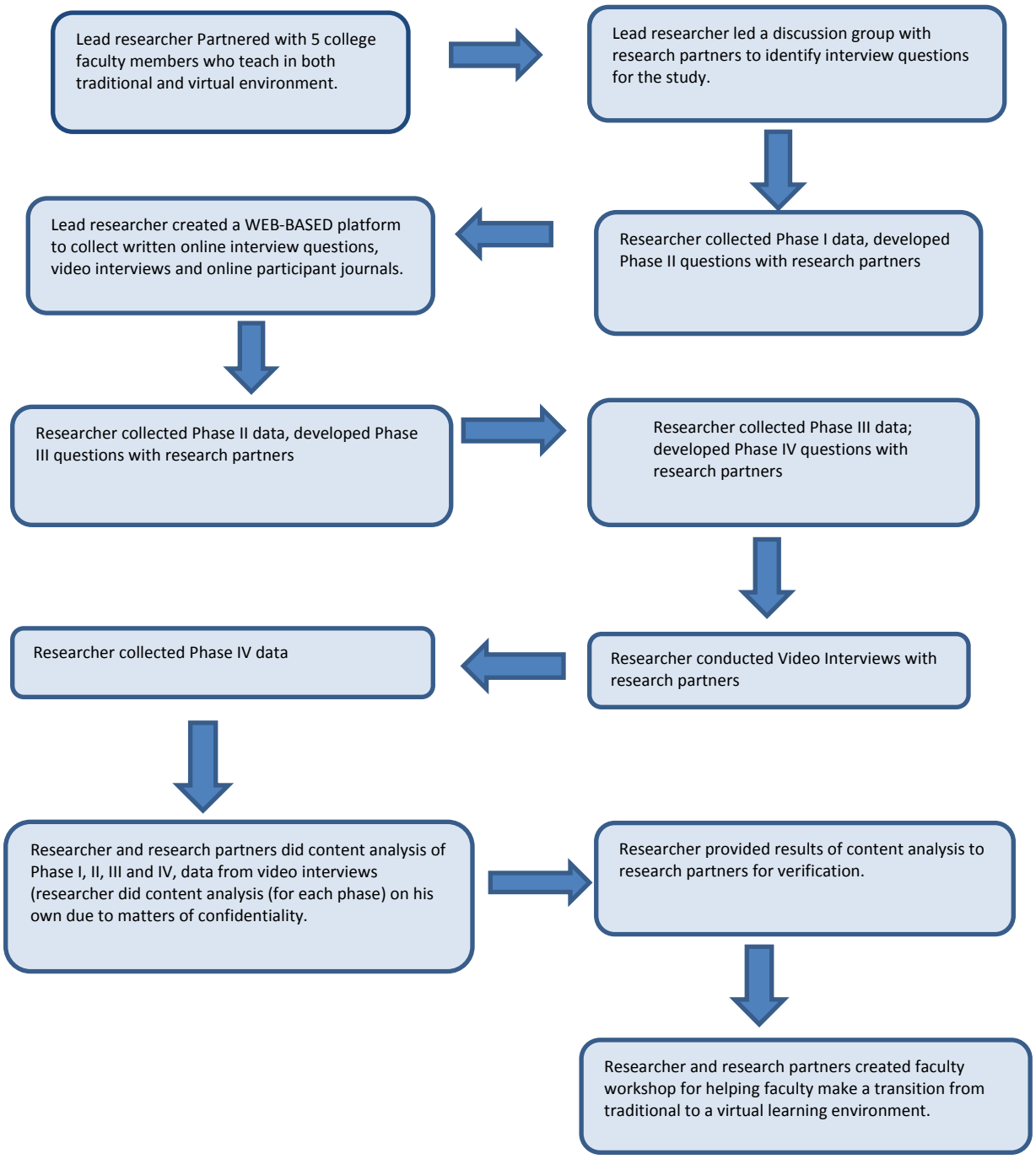

Figure 4.1. A diagram of the PAR.

Discussion group. Research partners were required to logon to my website and to follow these invitation instructions:

1. Thank you for agreeing to participate in my Dissertation research project. This project will examine what occurs when an experienced college educator converts three traditional classroom assignments to virtual assignments. Participants will join an online seminar, using Google hangout or Vidyo.
2. You will be required to
    - join an online group session each week for the next six weeks,
    - participate in sessions that will include virtual face-to-face interviews,
    - complete the four phases of the project,
    - maintain a journal of your experiences, and
    - complete an online questionnaire at the beginning of each phase.
3. Participants will be required to complete the following steps:
    - logon to the website: maddoxw@mccc.edu~maddoxw,
    - select the hyper link: Virtual Learning Environment,
    - select, complete, and sign the Participant Consent Form, and
    - save as a PDF and email to maddoxw@mccc.edu
4. Once complete, select the hyper link Participant Instructions

Once research partners completed the invitation instructions, they were required to complete a consent form: https://docs.google.com/forms/d/1p1TaqHPKKTr04qnjbmHgrEmfKPUTy0r-dVrQzybcXzI/viewform. The next step in the process required research partners to select and follow participant instructions.

Instructions. This research project examined how five experienced educators moved three modules of a traditional course to an online format.

Project Steps:

1. Use the hyper link and install the Vidyo software.

http://mccc.njedgevideoportal.net/flex.html?roomdirect.html&key=MBkAAiImrRH6

2. Setup your computer system as a member of the Vidyo Group
3. Contact me at: maddoxw@mccc.edu and test your setup.
4. Select a course and three assignments for modification.
5. Use Soft Chalk or an LMS at their institution to convert a course from a traditional to a virtual format.
6. Review the journaling and interview process.
7. Complete an initial online face-to-face discussion with me.
8. Select phase 1 and complete the instructor questionnaire located at

https://docs.google.com/forms/d/1ssoEjTgB5y4McLY6LizeHe2-TxU6QPL5W1bOuhM__ks/viewform.

Participants selected the course and made initial modifications from a traditional classroom to a virtual course. Research partners shared their experience with me.

Partners provided suggestions for questions for the next phase. One of the major modifications each participant provided was that the questions should be more specific to the technology and less focused on the instructor.

Research data collected. I collected Phase I data and developed Phase II questions with research partners. I asked the research participants to answer the following questions using the website:

1. Please provide your highest degree, academic discipline, number of years teaching college.
2. Is this your first, second, third or more time(s) teaching an online course?
3. Describe the course you've selected to teach online?
4. Select the category most reflective of your institution.
5. Describe your teaching environment.
6. What are your suggestions for the next phase?

Three of the PAR participants taught quantitative courses (economics and statistics). The other two individuals taught qualitative courses (communications and sociology). My initial plans required each participant to select a specific course. The research participants suggested that true PAR would allow participants to select their own course. After some discussion, it was agreed that course selection would be an individual choice of a course not previously taught online. All of the research participants were teaching in traditional classroom environments. The research participants provided input regarding questions for Phase II. Some research partners wanted questions that would require faculty to validate that a structural change had occurred in their class. Others wanted more specific quantitative questions, while others wanted questions that would drill deep into personal experiences with this project. I added questions in phase II that addressed all of the above mentioned concerns and obstacles that exist in an online environment that do not exist in the traditional classroom.

I led a discussion group with the research partners to identify interview questions for the study. The group was concerned about capturing the essence of the experience. Some of the partners were not sure questions alone would capture the real quality of the experience. During one group session a member suggested that I find a multimedia method to capture live sessions.

The group attempted to use Adobe Connect. However, the research partners determined Adobe Connect was an insufficient multimedia collection method. Adobe requires a telephone for audio. I determined Vidyo had the required functionality. The group developed several of the following questions:

1. Describe your ideal teaching environment.
2. How would you describe your teaching style?
3. What aspects of the initial PAR affected your teaching style?
4. Discuss what you consider to be the next critical step(s)?
5. How has the initial phase changed your teaching style?
6. Have you changed your perception of online teaching? If so describe.

Web-based. I led a WEB-Based platform to collect online interview questions, video interviews, and online participant journals. The nature of PAR is that it is an unfolding process. We met and created the initial questions. I used the web-based environment as a primary data collection method. The web-based tools provided opportunities to communicate with the research partners on their terms. A traditional meeting structure would have severely hampered data collection, interviews, and journaling.

I collected Phase II data, developed Phase III questions with research partner. Prior to opening the next session (phase II) I performed the first layer of analysis, referred to as open-coding (Holstein & Gubrium, 2003). I carefully read the comments from the interviews, the written responses from the online questionnaires, and the written responses from the web-based journals for the purpose of capturing key words and statements to put into an Excel spreadsheet for the next set of questions. I wanted to make sure I captured the research participants' input before posting the next phase of questions. My objective was to begin identifying themes and

concepts and create some mental marker labels so that the coding could be focused on helping me identify categories and developing a theoretical framework for taking action. I also met (online via Vidyo) with three of the research participants prior to posting the next set of questions to ensure I had correctly captured the next set of questions. The following questions were used in phase III:

1. Tell me about the critical factors that impacted your teaching style and how it impacted your delivery of the course material.
2. What environmental factors impacted your teaching performance during the modification this course?
3. What physical/personal/technology- affected your development or modification of the course from traditional to virtual?
4. Did you modify your course content?
5. If you made course modifications were the changes course or system related?

I collected Phase III data, developed Phase VI questions with a research partner. I conducted video interviews with research partners. The research partners and I developed a set of questions for the video interviews. After coding the data, I had group conversations with the research partners and sent a copy to each to develop an understanding of the interpretation of the data. I combined the journal comments with the video interviews. The reason I employed the online journal was for personal storytelling that someone may not want to do on camera. At the collective encouragement and agreement of the participants, I combined the video session into four data analysis groups because the participants felt it more efficient.

I collected Phase IV data. Following the meetings, I sent an email and posted a web-based electronic document that detailed our findings and asked participants to review it for

accuracy and clarity. I received confirmation from all of the co-researchers that the findings were reported accurately and clearly. I provided a PAR validation link on the webpage, using the video and journal data in checkbox format to allow participants to select the items they considered important. The video link is https://docs.google.com/forms/d/1iEImJAmvE01uhg7O9BgvFCgUP1pKI3miCqJbHgYdIHY/viewform

The research partners and I did a content analysis of Phases I, II, III, IV, and the data from video interviews. After the group PAR sessions, I identified categories and themes in the data and revisited the web-based survey to make sure I was ready to proceed to the action or workshop development aspect of the study. When we met (via Vidyo), the process started out slowly, and the research partners seemed a bit overwhelmed. I resisted being too assertive. I reiterated that "I was a co-researcher" and that they were the experts in challenges faculty face when moving from teaching in a traditional classroom to a virtual environment. Together, we moved through the data from video session 1 to video session 4 and all of the journaling data. The total package of data in the first session seemed overwhelming so I suggested we break the information into one video at a time. I suggested starting with video three because an overwhelming majority of the participants agreed with many of the statements. Videos one and two were different and varied more on views and themes. I split the team into two groups of three; the team had already decided that it would be helpful for each of us to write our own categories based on the open-coding that had already been done. Then we compared our categories with one another.

The research partners and I created action steps (a workshop) for helping faculty make a transition from traditional to a virtual learning environment. The research partners and I agreed that this experience helped each develop a different appreciation and perspective of

teaching. The collective body believes that our work is applicable for other faculty, department chairs, administrators, online course designers, and educational technology enterprises as well as faculty making the transition from traditional classrooms to virtual environments.

I believe our work will lead to a workshop focused on helping first time experienced faculty learn to teach online, using advanced internet teaching methods and tools. This course will include a component that allows faculty to access a student's virtual environment competence and complete a technology equipment assessment prior to the start of an online course. The workshop will be an ongoing activity each semester, helping faculty learn to use and implement sophisticated applications during the semester.

I was sensitive to the time commitment each of the team members so I planned the follow up video sessions: early mornings, late evenings, and weekends. This provided an ample opportunity for participants to focus in a relaxed setting. I was surprised how quickly we agreed upon the categories.

The framework of the study required examining instructor experiences with online courses. Seasoned faculty had one set of experiences developing courses for in-class environments while online course development demanded a different skill set. In face-to-face courses, the instructor developed a syllabus, provided an opportunity for students to introduce themselves, delivered a lecture, assigned homework, and answered questions. The online section required posting a syllabus; facilitating electronic introductions; developing and posting the lecture on a learning management system such as a PowerPoint, video, or audio file; and answering questions in a discussion board format or collaborative exercise (with/without faculty participation). Faculty posted assignments, and students submitted online.

Interviews and Journaling

There were two major layers to this research. First, the educator participants were asked to participate in reflective interviews and to log their experiences with online courses and the Vidyo video connect environment, using journals. The questionnaires were samples (see Appendix B). Second, in face-to-face meetings the participants and I completed an analysis of the interviews and data to determine the next steps. The data were collected using a series of web-based interview(s), questionnaires, journals, and group sessions. From these data we noted critical moments**.** The first of these can be found in Appendix B, but because of the nature of PAR, interview questions were changed after the first session and were collectively developed as the project progressed. The interviews were conducted at the beginning to develop a sound understanding of each instructor's background and teaching preference. During the initial interviews I ensured that each participant understood the cycle of PAR. Group interviews provided participants an opportunity to share awareness, assumptions, and beliefs about teaching in an online environment versus a traditional classroom. Participants were required to maintain a reflective journal, documenting their thoughts, perceptions, teachings styles, beliefs, concepts, and revelations.

Coding. Content analysis is often employed in qualitative research. There are three methods used in coding content analysis: conventional, directed, or summative. All three approaches are implemented to interpret meaning from the content of data.

There is a significant difference between the coding schemes, origins of codes, and the validity of the data. According to Hsieh and Shannon (2005),

> In conventional content analysis, coding categories are derived directly from the text data. With a directed approach, analysis starts with a theory or relevant research findings as guidance for initial codes. A summative content analysis involves counting

> and comparisons, usually of keywords or content, followed by the interpretation of the underlying context. (p, 1288)

This participatory action research project used the latter method (summative content analysis) to collect the data, code, and analyze data on the five participants and myself, looking for context trends and pedagogical changes.

Applying contextual analysis in a PAR project provides a way of studying how contexts are developed, modified, and sustained in online interactions (Erickson & Schultz, 1997, p.11). The PAR participants and I examined and analyzed the content to answer the question: **"**What kind of changes must an experienced traditional classroom educator make in order to teach in a virtual learning environment?"

I first needed to break down how teaching takes place in online learning environments. Second, I looked at the limitations and added opportunities a distance-learning, computer-based environment provides. This again took into account how faculty learn to apply their knowledge and use technology to enhance the learning environment. For example, do interactive exercises in online faculty development provide more of a curriculum modification benefit than a traditional one-sided learning model? Does the conversation afforded by faculty Vidyo discussion threads provide the same benefits for curriculum teaching skill modifications? If not, is this due to technology alone, or is it the way the instructors use the technology that makes the difference? If it's the latter, can we structure online classes so that the instructors need to engage students? Is it easier for a faculty to control / lose control in an online environment? If so, are there ways to counteract this tendency? Are there aspects of the online environment that are different from the traditional classroom that can actually enhance the teaching experience? Are these factors being incorporated into instructors' syllabi? What actions should a community college or college take to help experienced faculty fit a distance-learning curriculum into the

overall course offerings? At the heart of this question is an assumption that community colleges have an obligation to serve their communities. The difficulty lies in getting faculty buy in. The steps must include input by (generally tenured) older faculty who do not wish to change the way in which they teach their classes. PAR has proven to be of value in persuading reluctant participants of the need for a particular course of action, precisely because participants shape the action taken (Altrichter & Posch, 2009).

Participants applied PAR methods and procedures. Individuals were required to examine their teaching styles to determine if they have moved from one style of teaching in the traditional classroom to a different style of teaching in the virtual environment. Participants examined the experience to determine if it changed their psychological perspective of teaching: a paradigm shift.

Data analysis. The action research analysis section of this study applied the content analysis method of coding for data analysis and interpretation. According to Miles and Huberman (1994) there are three major approaches to qualitative data analysis: interpretative, social/ anthropological, and collaborative social research. PAR is a form of collaborative social research, working with the participants (stakeholders) in a particular setting to accomplish some sort of change or action. According to Miles and Huberman (1994), "Data are collected, and then reflexively considered (by all participants) both as feedback to clarify action as information to understand a situation, resolve a problem, or to satisfy some sort of field experiment" (p. 41).

Content analysis provided help in organizing and analyzing the data collected during this participatory action research project. Coding is the process of focusing large amounts of free-form data with the goal of empirically illuminating answers to research questions (Hahn, 2008). According to Gibbs (2005) "Coding is the process of combing the data for themes, ideas

and categories and then marking similar passages of text with a code label so that they can easily be retrieved at a later stage for further comparison and analysis" (p. 3).

The analysis provided an understanding and summary of the data. I further delineated the process into six steps, which were repeated at each stage of data collection:

Step 1: Reviewed the collected data. I answered the initial question(s) listed in Phase I based on limited initial findings. Participants reviewed the data collected from the interviews on google docs and determined that the questions needed to focus more on helping faculty become more reflective. We evaluated the information which determined what kind of questions would be required for the next phase. This cyclical review was repeated throughout the data gathering process.

Step 2: Answered questions arising from the initial phase. The data were subdivided by variables and data sources: initial activities in phase 1; data from questionnaires, interviews, website videos, conferences, and journaling; and interview questions, developed based on the findings from each prior phase;

Step 3: I collected the data.

Step 4: The participatory action research participants and I used coding to interpret the data and determine what participants meant with regard to the new themes. We took the data from the google docs spreadsheets, examined the data for like concepts, color categorized the similar items, and discussed the findings.

Ethical assurances. The ethical problem with this sort of research was that individuals found it challenging to discuss personal teaching styles with strangers. It was important to note that, first, while some people found it beneficial to discuss new teaching ideas, no one was taught at a level below that at which the class is usually taught. Second, the faculty were fully apprised

of what they could expect to gain (or lose) from participation in this project. Finally, because this was a PAR, research participants were provided a constant say into how faculty would structure this learning experience.

The next chapter will provide a detailed discussion and analysis of the study results.

Data Collection and Analysis

The goal of this study was to develop a basis for understanding the kind of paradigm shifts an experienced educator must make in order to teach in an online learning environment. Paradigm shifts are closely associated with transformative learning. As Cranton (2006b) stated, "Transformative learning is a process of examining, questioning, validating and revising our perspective" (p. 23). Mezirow (2003) believed that transformative learning is a process of learning that changes problematic frames of reference or sets of fixed assumptions—allowing a person to experience a more inclusive, discriminating, open, reflective and emotional change.

A paradigm shift could occur as a radical immediate change—rendering a person to experience a change of perspective or position on a topic. Mezirow considered this a disorienting dilemma. However, most individuals modify behavior over a longer period of time; therefore, most paradigm shifts occur over a longer period. Taylor (2000) refers to this process as a gradual cumulative process. When individuals experience a traumatic event, they may change immediately or only after reflecting on the experience over time. Sometimes the individual might not even notice a difference in behavior until another makes a comment. This modified change is a progressive paradigm shift.

The research participants in this study were provided an explanation of two different styles of teaching. An older method or concept referred to as positivist, where students acquire knowledge from sitting at the "foot of the master" to learn solely from watching the sage-on-the-stage, dominated how learning objectives were taught from the instructors' perspective. The newer method constructivist is learner-centered where students and teachers establish goals and objectives in a more collaborative "guide-on-the-side" manner (King, 1993, pp. 30–35).

The organization of this chapter is divided into seven sections as follows:

1. selection of research participants,
2. instructions to research participants,
3. Phases I-III: individual research participant sessions,
4. Phase IV: group research participant session,
5. assessment of PAR validation for analytic coding,
6. framework for action plan, and
7. conclusion.

Selection of Research Participants

I used a simple random method to select research participants for this study. To contact college faculty members for the study, I used a lottery process to draw the best sample. I composed a formal email that was sent to various academic department deans at several community colleges located in the tri-state area: New York, New Jersey, and Connecticut. Each college faculty member was given a deadline to contact me via email. I selected the first seven respondents, and after a thorough discussion about the required commitment, two individuals decided not to participate.

I selected five community college faculty members as research participants. Using the PAR model, I explored their experiences while teaching and developing an online college course. This PAR study was designed with a collaborative inquiry process. Using the knowledge previously discussed in the third chapter that all faculty members selected as research participants needed additional pedagogical practices, I felt that a shared network for learning would garner the best transparency for the collection of data.

The first process involved forming a collaborative group of community member participants. The second process involved a series of steps to collect the data. An individual's familiarization with technology is determined by one's digital status. A person is deemed as either a "digital native" or a "digital immigrant." The "net generation" are young people said to have been immersed in technology all their lives, imbuing them with sophisticated technical skills and learning preference. Most of these individuals were born after 1980 (Günther, 2007, p. 775).

According to Günther (2007), "digital immigrants are the older generation from the period when computer technology was developed. These people first had to learn how to use the Internet. Their approach is different and they read the manual before getting started" (p. 1). All selected research participants for this study were digital immigrants with no more than three prior online college teaching experiences. The digital immigrants for this study with no prior online teaching experienced are described as novice faculty, and those with two or more years experience are described as seasoned faculty.

The research participants have masters (graduate) and doctoral (terminal degrees) level credentials with a combined average of 18 years of teaching experience. Two individuals had no prior online teaching experience. Two individuals had taught one prior online course, and one individual had taught three pervious courses online. Interestingly, the digital immigrants experienced what Mezirow refers to as a disorienting dilemma, or disorienting experience, which occurs, according to Brookfield (1995), when we encounter unexpected or contradictory situations, events, or points of view. These experiences are handled in one of three ways: ignore the dilemma, manage the dilemma as transactional, or see the dilemma as leading to needed transformation. Table 5.1 below represents the background for the research participants.

Table 5.1

Description of Research Participants

Title	Delivery Mode
Participant S=1	Female economics and finance educator with 17 years of teaching. Status: Digital immigrant, traditional teaching style and taught two years prior online courses. Earned: Bachelor's Degree, Finance, Masters of Business Administration, Economics.
Participant: J= 2	Male computer information systems educator with 21 years of teaching. Status: Digital immigrant, traditional teaching style and taught three prior online courses. Earned: Bachelor's Degree, Psychology, Masters, Human Resources Management, Ph.D., Organizational Development.
Participant D=3	Female business communications educator with 12 years of teaching taught two prior online courses. Status: Digital immigrant, traditional teaching style and aught two prior online courses. Earned: Bachelor's Degree, Communications, Masters, Education.
Participant F=4	Male math and statistics educator with 25 years of teaching and no prior online teaching. Status: Digital immigrant, traditional teaching style. Earned: Bachelor's Degree, Mathematics, Masters, Economics, ABD, Economics.
Participant I=5	Male cultural studies educator with 15 years of teaching and no prior online teaching. Status: Digital immigrant, traditional teaching style. Earned: Bachelor's Degree, Psychology, Masters, Communications, Ph.D., Human Development.

The participants with no prior online teaching experience were very nervous but engaged as they attempted to modify their online college courses. One research participant explained how the PAR methodology enhanced his value as a teacher. Faculty with prior online teaching experience were comfortable with teaching online and modifying their college courses. However, there was a level of trepidation with the PAR process for this study. For example, a

research participant was concerned with answering questions correctly. I reiterated how this PAR study collaborative process gets evaluated and there were no correct answers.

Another research participant with prior online experience was fine with PAR and apprehension was minimized. A contrarian perspective about online learning being a challenge was expressed by a third research participant, who felt nonetheless that the PAR experience for this study might enhance her skills. While this same research participant used the same traditional methods of teaching in the virtual environment, the methodology for this PAR study provided a safe environment and opportunity for this individual to work with other experienced faculty, helping her to modify her pedagogy.

Instructions for research participants. The email to the five selected faculty members consisted of information about the PAR study. The data collection tool was Google Docs, which provided a practical framework for setting up the initial stages for inclusion of the research participants at remote locations. The research participants needed a functional way to obtain all instructions, ranging from basic set-up to understanding how to enter information needed for collecting data. The hyperlinks in Table 5.2 below provided the best user-friendly format for the research participants.

Table 5.2
Participant Instructions and PAR Overview

Title	Delivery Mode
Definition of Research	Definition of Research Link
Research Video	Research Video Link
PAR Concept Video	PAR Concept Video Link
Vidyo Interview Instructions	Vidyo Connection Link
Journaling Instructions	Journaling Instructions Link
Invitation/Consent Form	Invitation Consent Form Link
Software Set Up Instructions	Software Instructions Link
PAR Video Validation	PAR Validation Link

The communication with and among research participants mirrored the transition of face-to-face to virtual communication, the focus of the study itself. The training began as individual person to person, moved to more remote, telephone communications, and finally became virtual communication among the participants—hence, the essence of collaborative inquiry. The initial training session proved to be a challenge, working with one research participant in particular. The research participant and I worked out many of the initial bugs associated with the personal computer she was using. That experience provided a framework for how I worked with the other four research participants.

The best example of collaborative inquiry for this PAR study was how I worked with each research participant to set up and establish technological connections. The configurations required for personal computers (PC) were different from Apple computers. Another research participant and I had a very difficult time setting up her connection. I provided the answers I gained solving a similar problem with another participant. In this case I had to provide the instructions twice; however, the audio instruction I provided her did not function properly. Subsequently, on the third try we used the telephone and I made copies of my system page, which worked to walk her through the setup and she was able to connect, and fully participate. My biggest fear was one or more of the research participants would become frustrated with the technology requirements for teaching an online college course and drop out. Subsequently, the lessons learned for this research participant served as a significant communication strategy to help other research participants with similar technological issues.

Phase I-III: Individual Research Participant Sessions

I initially held one-on-one interviews with each research participant. Each phase required the research participants to be self-directed, using the data collection tools designed for this

research study. Additionally, group interactions were required, which also utilized technological delivery modes that I created based on our PAR design. Overall, the interviews developed a clear understanding of the research participant's perspective of online teaching, teaching style—constructivist or positivist—and their basic understanding of online teaching. The research participants were provided a website to log onto and complete interview questions for each phase of this PAR study as detailed in Table 5.2 Participant Instructions and PAR Overview. The research participants and I designed the Phase I Interview Session. One of the most startling revelations for me was the difficulty research participants had being reflective. Most of the initial learning for Phase I focused on student, technology and publisher issues. The research participants explained their myriad reasons for considering online teaching. This session revealed that most participants were concerned with communication/strategy and that online is linear. Most felt that online might be better for graduate level individuals, because it may require a higher level of learning to be successful. Participants felt that teaching online requires teachers to put themselves more in the role of the student. Some believed online as not as fun as face-to-face.

Limited student/faculty engagement created a teaching challenge. Most of the research participants were traditional educators who tried using traditional teaching methods in the online learning environment. The majority of research participants identified their teaching style as constructivist—believing they were the "guide-on-the-side." The seasoned participants with previous online experience were closer to the constructivist model. The novice faculty tried to implement control as if the online course was a traditional classroom; therefore, were best described as positivist educators. Interestingly, at this point paradigm shifts were not apparent; however, I did notice *progressive* transformations with novice faculty.

The review of phase I responses showed a major concern for all of the research participants was control of the online learning environment. Learning how to use the technology was a big issue in the initial phase. The initial concerns were being able to properly set up home computer systems. I had to test and retest configurations. Most research participants had little or no difficulty logging on to the website; however, three individuals had difficulty configuring their systems—establishing the initial connection and making the video operate correctly. I used tele-conference calls with guided instruction to help them make the initial connection. Once the connections were established, the research participants successfully logged on and proceed to follow the set up instructions. The novice faculty discovered teaching online requires more time than traditional teaching, which was already a known fact by seasoned faculty.

Phase I questions. The questions were developed by me and shared with the participants prior to the start of the PAR. All participants were provided an opportunity to add or change questions.

1. Please provide your highest degree, academic discipline, number of years teaching college.
2. Is this your first or second time or more teaching an online course?
3. Please explain your reason for teaching online.
4. Describe the course you've selected to teach online?
5. Provide your rationale for selecting this course?
6. What concerns do you have about teaching an online course?
7. What do you expect to learn from the discussion group that will help you teach online?
8. Discuss your criteria for question 7.

9. What additional factors apart from the previously listed criteria did you consider before deciding to teach an online course?
10. Discuss the degree to which the study's orientation session affected your willingness to participation in this research project.
11. What are your suggestions for the next phase?
12. Describe your teaching environment.
13. Discuss your significant learning.

Table 5.3 provides sample Phase I response quotes from participants.

Table 5.3

Sample Phase I Response Quote(s) From Participants

Participant	Course Taught	Sample Response Quote(s) from Question 3	Interview Clip
S	Economics	"Initially it was frustrating because in a traditional classrrom I would present an open-ended question to engage the student, which can't be done online." "The class in the traditional setting . . . I can see the students' faces and decipher if they are getting it." "My experience with teaching online classes is that it's linear not multi-dimensional . . . so students read the question and answer it like it's a home-work assignment . . . not really responding to what their peers in class or what I am saying as the teacher."	1.1_Participant_S

Participant	Course Taught	Sample Response Quote(s) from Question 5	Interview Clip
J	Computer Information Systems	"Online teaching takes more time . . . more anxiety and stress than in the classroom. In the classroom I can stay and deal with anybody for 4 hours or as long as it takes to make sure they get what I'm teaching!" "Online . . . either you email me or you don't because I have so many other things to address as an instructor." "In class have more time to give to the students."	1.2_Participant_J

Participant	Course Taught	Sample Response Quote(s) from Questions 8, 9	Interview Clip
D	Business Communica-Tions	"A critical factor a faculty member needs to be aware of the intricacies of how an online Learning community differs from a traditional setting." "At the outset . . . online teaching is not easier than teaching face to face and it gets easier as you get used to it . . . you have to be comfortable to go off topic and bring it back to the central theme of the lesson." "The time constraints are removed in online learning . . . traditionally a two hour block of time in a classroom is not the same as teaching online when you can go off topic and bring it back to the central theme of the lesson."	1.3_Participant_D

Participant	Course Taught	Sample Response Quote(s) from Question 7	Interview Clip
F	Math/ Statistics	"If you look at my students in online learning environments. . . they don't show consistent levels of learning aptitudes . . . when I teach online and give homework during week . . . the question on test is different than homework assignments that get answered . . . with good or favorable grades but the midterm test does not show that level of understanding as compared to the homework . . . as shown when a student has to come to a physical testing center." "This was amazing to me because the midterm test is not close to range of discussion material and depth of homework material that showed students were getting it."	1.4_Participant_F

		"Students view the You Tube video, answers to questions from me via email . . . students are able to go online to repeat and repeat it (review material) . . . but when they come to class . . . doesn't show they were able to comprehend the material at all."	
Participant	**Course Taught**	**Sample Response Quote(s) from Question 3**	**Interview Clip**
I	Cultural Studies	"My traditional teaching style was giving lectures and students taking notes in notebooks or on laptops . . . participating in this study has allowed myself to have more freedom . . . more time to do other things." "What happened as result of participating in this study . . . I have learned to use technology more to allow myself to have more freedom to do other things." "Time also for students to enhance the capacity of the research on the subject or body of knowledge . . . which is expanded beyond the limitations I have as the teacher.	1.5_Participant_I

The interview questions for Phase II delved into the areas of online college course modification and evaluation of teaching style. The questions for Phase II were developed by the research participants and me. I used the Google document retrieval tool to categorize the interview responses by question. This retrieval method simplified coding and allowed me to select the more relevant areas to analyze. The responses were categorized by introductory questions, teaching environments, experience with online learning management tools, and critical next steps.

The research participants were comfortable sharing information online. Most research participants described their ideal teaching environment as traditional (positivists), even though they described themselves as non-traditional (constructivist). The research participants described web tools like webinars, discussion boards, and the interactive aspects of online teaching as good features for online learning; however, using multi-media applications still created a disparity for certain students to effectively learn course material. Interestingly, both novice and seasoned faculty did not respond to this question concerning the system training.

Novice faculty had a perception that online courses were easier. The reality for all research participants is that online teaching requires more individualized attention on the part of the faculty. All research participants commented that online learning requires students to be self-directed learners. All research participants noted that online teaching requires faculty to know the basics of how to operate technology. When the technology didn't function, research participants found students asking the faculty members for basic support. This was the first notable disorienting dilemma—causing a level of discomfort for research participants, which impacted their teaching flow.

Most novice faculty made a progressive transformation by using the traditional method of sending the student to the help desk. The seasoned faculty provided technical support to help students with technological issues. This experience could have provided a paradigm shift if a research participant had completely changed from a passive technology problem solver to an active one—researching the problem and providing a solution.

Another progressive transformation was the perception that faculty engagement is easier in the classroom—harder to draw people out on the Internet through virtual interaction. The research participants reflected about the additional work required to fill any voids between

traditional classroom style and online style teaching. Another participant reflected that discussion questions used in an online learning environment cannot be used in the same manner as in the traditional classroom, and assignments must be broader in scope and encompass more material. One of the most interesting challenges for novice and seasoned faculty was to balance the traditional classroom efforts, including the classroom tools, activities, and live discussion with developing skills in the online environment and not burn out before acquiring all of the skills necessary to deliver that same level of teaching in an online learning environment.

Novice and seasoned faculty wanted open dialogue where students are as engaged as the professor. The majority believed the ideal environment would be one in which students would be actively engaged and prepared for class. Another ideal teaching environment is when students are engaged in research and sharing their findings and their opinions. Another major concern was the desire to incorporate interactive tools where students actually participate in the instructive activities of the class, drawing charts and graphs on the virtual whiteboards and taking control of instructional tools while applying the concepts as they are learning them with other students.

The major progressive transformation occurred when all of the research participants began requesting more control of the design and implementation of this PAR study. A few research participants suggested that we experiment with a new organization of the information and new technologies. Novice faculty developed a basic level of comfort with the earning management system. Both novice and seasoned faculty commonly taught interactive learning classroom environments with students divided into small group with one individual in each group reporting results.

All research participants wanted the higher level, more sophisticated technology added to their online college course; however, novice faculty inquired about the availability of technology

that could provide such functionality, and seasoned faculty, specifically, requested interactive technology. This could be viewed as a significant progressive transformation. There were no paradigm shifts in this part of the study; however, two research participants had a progressive transformation—they were able to develop a different perspective of online teaching. The process for this PAR study was working, and the research participants were fully engaged.

Phase II questions. The questions were developed at the end of Phase I in conjunction with all participants

1. Describe your typical teaching environment.
2. Describe your ideal teaching environment.
3. How would you describe your teaching style?
4. What aspects of the initial PAR affected your teaching style?
5. Discuss how the course learning management system training (Angel/Other online tools) affected your teaching.
6. Discuss what you consider to be the next critical step(s).
7. How has the initial phase changed your teaching style?
8. Have you changed your perception of online teaching? If so, describe.

Table 5.4 provides sample Phase I response quotes from participants.

Table 5.4

Sample Phase II Response Quote(s) From Participants

Participant	Course Taught	Sample Response Quote(s) from Question 1	Interview Clip
S	Economics	"The online learning environment offers a discussion board for teachers to interact with students but my experience that it's not multi-dimensional." "The students in online learning are not looking at what I am saying or what their peers are saying." "Online students see the discussion as the assignment but they are not getting other people's perspective . . . and are merely completing the task as is so to speak . . . without gaging the broader learning curve.	2.1_Participant_S

Participant	Course Taught	Sample Response Quote(s) from Question 6	Interview Clip
JH	Computer Information Systems	"There are folks and students who think online courses are a lot easier, but in reality . . . online courses should be taken primarily by self-directed people." "Online I thought it would be a Little more interactive with students Because of technology . . . Nice if There were a weekly kind of forum With all the students but it's not Possible." "The limitations is the technology . . . when i started there were no tools . . . but the advancement of technology is better because you can conduct webinars with students at remote locations."	2.2_Participant_J

Participant	Course Taught	Sample Response Quote(s) from Question 8	Interview Clip
D	Business Communica-Tions	"I believe that in order for on-line learning to be successful for educators . . . being passionate about learning has to be their #1 thing." "There is much more work in an online learning environment than actually teaching in a traditional classroom where you can make building blocks out of questions that students give you in a traditional classroom setting." "The online class content needs to have a built in component to measure student satisfaction and teacher satisfaction . . . there should be at least a one-time in-person workshop to handle the 'heavy lifting" of teaching an online course so maintenance won't be difficult for the ease of delivery of the content . . . social presence and richness of the media will lead to more engagement and collaboration."	2.3_Participant_D

Participant	Course Taught	Sample Response Quote(s) from Question 10	Interview Clip
F	Math/ Statistics	"I use both the lecture and interactive activity teaching style with students . . . after the lecture we pause and interact with ask questions . . . give response." "I have to see students actively involved by taking notes and asking questions." "In order for me to go to the next topic . . . it's critical to see because the course content is mostly problem solving."	2.4_Participant_F

Participant	Course Taught	Sample Response Quote(s) from Question 5	Interview Clip
I	Cultural Studies	"I am now creating students that are being directed to conduct their own research without me giving them everything in advance." "I can say . . . give students the summary and the philosophy of why we are covering certain aspects of course material and point out certain things for them to go and research . . . report back to me on blackboard course management system." "This has been a tremendous shift for me teaching in an online learning environment as it has truly enhanced my life."	2.5_Participant_I

The interview questions for Phase III examined any critical factors experienced by the research participants that impacted the teaching delivery, course modifications, and physical, personal, and technological aspects of this PAR study. A teaching delivery dynamic is critical when communicating in an online learning environment with students. The lack of face-to-face contact created a critical disorienting dilemma experience for several research participants. This experience resulted in the reassessment of certain traditional teaching styles to better assess if students understood what was being taught in an online learning environment.

Novice faculty found the above-mentioned disorienting dilemma caused them to make a progressive transformation in their approach to student interaction. The progressive change occurred when a positivist method of teaching— sage-on-the-stage was changed to a constructive method, allowing students to provide course directions, hence shifting to

learner-centered. Interestingly, seasoned faculty made minor modifications. However, all research participants had to make a progressive modification to the online learning environment, which requires faculty members to find new resources for online course material—uploading such information—and student to student via email, which can be very labor intensive.

The research participants agreed that a student's facial expression in a traditional classroom environment served as evidence of learning, and without the physical feedback a teacher must develop other methods to collect feedback in an online learning environment. The perception is that faculty cannot see the level of engagement and ask content related questions to build discussions—rendering minimal control online. A few research participants agreed that some subjects are better taught online if better technological tools are provided.

The critical factor that most impacted teaching style for research participants was the availability of linked articles and videos, which in many cases are not available in traditional classroom environments. This course material would have to be assigned as an out-of-class homework project. Flexibility became a critical factor regarding the learning management system for this study. The research participants discovered that faculty had to be more aware of the course content and how to deliver the material if the online learning classroom was unexpectedly unavailable.

Phase III questions. The questions were developed at the end of Phase II in conjunction with all participants:

1. Tell me about the critical factors that impacted your teaching style and how it impacted your delivery of the course material.
2. What environmental factors impacted your teaching performance during the modification this course?

3. What physical/personal/technology affected your development or modification of the course from traditional to virtual?
4. Did you modify your course content?
5. If you made course modifications, were the changes course or system related?
6. Do you think teaching online moved you from a digital immigrant to more of a digital native?
7. Did teaching online change your teacher/student interaction?
8. If your answer to question number 7 was yes, please explain.

Table 5.5 provides sample Phase III response quotes from participants.

Table 5.5

Sample Phase III Response Quote(s) From Participants

Participant	Course Taught	Sample Response Quote(s) from Question 3	Interview Clip
S	Economics	"Online when I do my discussions . . . they would be the same lesson that I would pose in the traditional classroom . . . my lecture notes reflect what i would say in a traditional classroom." "Another benefit of online learning is that i can link articles and videos . . . which in class i have to assign or depend on technology that may or may not work . . . online people are linked to real time information than in a traditional classroom environment" "In class we might come up with a Topic and right away explore it . . . But somebody online might thinking About it and not bring it up . . . so It's not explored. . . . I haven't Changed my teaching style too much But I have tried to enhance material With better videos, links and resources Because they're not going to get that From a classroom perspective."	3.1_Participant_S

Participant	Course Taught	Sample Response Quote(s) from Question 1	Interview Clip
JH	Computer Information Systems	"In terms of being flexible with teach style . . . I had to learn to be more aware of the content that i was teaching . . . example: once when the system (course management) went down . . . I instructed students to work on certain parts on the content and we all would've just been sitting there."	3.2_Participant_J

		"The students were engaged during the down period with an activity for 5 minutes while I was fixing the webinar for the online learning environment." "In other words . . . you have to be flexible as a technological content expert in an online learning environment vs. a traditional classroom where the classroom is structured around the teacher and his/her intellectual property (skills and training on specific subjects) as the expert."	
Course Participant	**Taught**	**Sample Response Quote(s) from Question 3**	**Interview Clip**
D	Business Communications	"When helping someone build an online course . . . I start with the syllabus and look at content . . . make it as effective without seeing my facial gestures . . . physical cues as if someone was in my traditional classroom." "What does this online course content mean so that i can still keep a social presence without being there . . ." "Sense of creating a learning community . . . online learning has to be understood by students . . . this is not the easy way and understand they are partners in making the process work . . . must bring to the table their level of commitment to making it work."	3.3_Participant_D

Course Participant	Taught	Sample Response Quote(s) from Question 2	Interview Clip
I	Cultural Studies	"I built my syllabus . . . prior to this PAR study . . . I used the basic format of a syllabus as flat vs. dimensional in online with more options students have to view through blackboard (course management system)." "What is also good . . . I can import lectures from other college professors so my teaching style has changed dramatically." "Instead of me trying to be the quintessential expert on everything as the college professor . . . I can use online learning resources to substantiate the lesson so students can validate their learning or give me an alternative to what I provide for them."	3.4_Participant_I

Course Participant	Taught	Sample Response Quote(s) from Question 3	Interview Clip
F	Math/ Statistics	"The multiplier for my course . . . I can write the equations on the chart and at the same time provide example of its meaning and immediately see the interactions with the students." "Online learning . . . the only thing I can ask is for the students to go to the textbook to explain the example . . . I can't ask directly to students online and clarify their learning to identify the equation based on hypothetical scenarios to solve equations . . ." "Online students will write the equation but I can't see if they only used the examples found online or other unknown resources to solve the problems."	3.5_Participant_F

Phase IV interview questions concentrated on the fundamental areas of post feedback and self-reflectiveness for this PAR study. The research participants were asked to discuss how their pedagogy was most effective in an online learning environment. The most significant progressive transformation was that novice faculty agreed that a blended combination for college course material provides both the presence of verbal and non-verbal cues. Another progressive transformation was the idea that traditional classroom teaching tools or technology would improve online learning. Examples include smart board technology and simulations of the content, individualized activities and interactive technologies (Adobe, Skype, and Vidyo).

One research participant experienced a significant or ground-breaking paradigm shift. This novice faculty member stated how this experience changed his entire approach to teaching and his life. “I’m now not only able to teach in a totally different environment, I also able to deliver my course to and greater number of individuals and my life has change because I’m free (if I choose) from the traditional classroom.” The progressive transformation by this novice faculty resulted in a complete paradigm shift.

A few specific lessons about online learning included instructors having to answer emails from students who had difficulty navigating the learning management system and that technical support will be required by both faculty and students at some point. The research participants reported being more effective in traditional classroom environments; however, the online learning environment provided an opportunity to cover more material. Novice faculty wanted the newest technology because after teaching online for a very short period—using beginner tools or applications—they wanted to see the value of advanced technology. Both novice and seasoned

faculty wanted advanced multi-media and interactive functionality, even though they didn't have the expertise to operate such technology.

All research participants wanted the ability to create dynamic group discussions in the online environment to have groups report to the entire class, change the groupings and have an individual provide a group report etc. One of the most powerful revelations was the discussion of which courses are most conductive for online learning: qualitative or quantitative. The research participants were also queried as to whether qualitative or quantitative courses are best suited for online learning environments. Qualitative courses include English, history, and psychology. These courses were described by research participants as "flat" courses—flat because most of the assignments in these courses do not require three-dimensional (3-D) presentations. Quantitative courses include biology, physics, and statistics; these were described as 3-D courses because most of the assignments in these courses require 3-D presentations.

A flat course can be taught using traditional or basic online tools (pre-recorded video lecture, discussion board, and a posted power point). A three-dimensional course requires the same basic tools to be effective, plus the functionality of interactive tools in the form of 3-D charts and graphs, allowing the students and faculty to share control of applications. Novice and seasoned faculty believed at the outset of this study that there was no significant difference between traditional classrooms and online classrooms. At the conclusion of this phase, all research participants agreed there was a significant difference.

Phase IV questions. The questions were developed at the end of Phase III in conjunction with all participants:

1. List specific lessons learned from teaching online.
2. Where do you think your educational pedagogy is most effective?

3. Please explain your answer to question number 2.
4. What classroom teaching tool or technology would improve online teaching?
5. What activities do you use in the classroom that you would like to implement in a virtual environment?
6. Are qualitative or quantitative courses more conductive to a virtual environment?
7. Provide a rationale for your answer to question number 6.

Table 5.6 provides sample responses from Phase IV questions.

Table 5.6

Sample Phase IV Response Quote(s) From Participants

Participant	Course Taught	Sample Response Quote(s) from Question 1	Interview Clip
J and J.H. Group Session	Computer Information Systems	"Some kids don't understand how to turn on the system (course management) . . . There should be some kind of precursory training for online learning . . . Advisors need to play a more active role." "Usually at some point you will need technical support (course management system) . . . not everybody will be able to handle online learning." "You have to stay on top of it . . . Students that are self-direct and those with good time management skills . . . the more experienced students are better apt to hand the disciplined nature of online learning."	4.1_Participants_JJ

Participant	Course Taught	Sample Response Quote(s) from Question 1	Interview Clip Hyperlink
S and F	Economics Math Statistics	"I can cover more material online than in class because it is expected that students will read chapters and cover work . . . but Idon't have ability to assess the students' know- of the material in advance." "I do more hand holding in classroom by constantly going over material . . . online students are expected to cover material independently."	4.2_Participant_F 4.3_Participants_S 4.4_Participants_SF 4.5_Participants_SF2

Participant	Course Taught	Sample Response Quote(s) from Questions 3	Interview Clip
I	Cultural Studies	"Offer genuine hybrid course as the next best step for online learning."	4.6_Participant_I 4.7_Participant_I

Assessment of PAR Validation for Analytic Coding

The PAR participants for this study and I used analytical coding to interpret the data and determine what participants meant with regard to themes. We took the data from the Google Docs spreadsheets and examined the data for like concepts, color categorized the similar items, and discussed the findings. The color coding provided clarity: green represented introductory concepts, yellow represented in-depth concepts, burnt orange represented future issues, and blue represented a new concept.

Themes from each phase were listed in rank order by frequency. Following the comparison discussion, another layer of analysis with respect to the challenge themes with shared findings from critical questions in each phase was created. I selected critical questions based on the research participant suggestions, recommendations, and input. If a question had few responses (one or two responses with very limited amounts of data) or no data, the question was not selected. Appendix D (highlighted as color coded data timestamp screenshots) shows a sample of the actual feedback from a research participant for each phase.

The video data for each phase were collected and posted as a hyperlink on my website. Each research participant had exclusive access to review and verify the video data. The research participants were also required to select what research questions they felt were most important

from each phase of this study. Once I received all of the responses from the research participants, I collected the data and convened three follow-up video discussion sessions.

The PAR validation for this study aided the participants in determining how hyperlinks embedded in the design of online courses actually enrich the content and helped them as faculty members to stay on task. However, it was noted that links to resources can potentially expire, which gives credence to the importance of refreshing the online course as a form of technological maintenance. The phases for this PAR study mainly utilized web video interview sessions I designed with hyperlinks. Each participant was interviewed separately and in a group session. The data collected, along with the results, culminated into the final PAR validation link for this research study. Moreover, all of the research participants were asked to verify the information to ensure the integrity of this PAR study. In the fifth chapter, I will summarize and discuss my findings.

Framework for Action Plan

The action part of this research study was to develop a workshop series for seasoned faculty. The main goal, through a series of workshops, was to help experienced faculty with any issues at the outset of teaching in an online learning environment. The four objectives for the workshop series focused on the following areas:

1. identification of fears and anxieties,
2. dynamics of online course modification,
3. effective use of basic online tools, and
4. general online course control and implementation.

The framework for the workshop series based on this PAR study will be piloted in fall 2015. This workshop series is different from other online/virtual teacher courses because it's

designed specifically for very experienced faculty members who are extremely apprehensive of teaching in an online learning environment. The workshop series will provide a safe space for very experienced faculty members to attempt new techniques and approaches and develop a familiarization with online learning environments. A projected and additional benefit of implementing this framework is that a college would be able to generate revenue by offering high level courses not usually taught online.

The workshop series will also include a component to help faculty members learn how to assess a student's online learning environment competence and complete a technology equipment assessment prior to the start of an online course. The workshop series will be an ongoing activity each semester during an academic school year—helping faculty members learn to use and implement sophisticated technological applications during the semester while teaching in an online learning environment.

Conclusion

The research participants and I agreed that the PAR experience helped us develop a different appreciation and perspective of teaching. Furthermore, we believe that our work is applicable to other faculty, department chairs, administrators, online course designers, and educational technology enterprises, as well as faculty making the transition from traditional classrooms to online learning environments. This PAR study illustrated the importance of the methodology to utilize community collaborations—developing partnerships with participants to study issues of importance, collect and analyze data, and take action on the knowledge that is produced.

The desire by each of the research participants to try for the first time or further explore the area of teaching in an online learning environment was the fundamental starting point to mitigate factors that exist with experienced faculty. The paradigm shifts an experienced educator

must make in order to teach in an online learning environment stem from a myriad of factors that delve into the transformative learning process, derived from a persons' unique experiences as explored for this PAR study.

The online learning environment represented an *alternative expression of meaning* for novice and seasoned faculty. The process by which each research participant garnered authentic progressive transformation is what I sought to extract as challenging themes, through a careful and meticulous color coded, timestamp analytical data collection method. The collaborative community process that involved the hands-on participation of the research participants helped them question concepts that related to their teaching style and other personal assumptions through Phases I-IV of this PAR study.

A life-style change in and of itself could be categorized as a euphoric moment for a person. The transformative experiences of the novice and seasoned faculty for this PAR study were categorized as progressive because any paradigm shift could potentially have a positive social change on members of the student body, colleagues, the institution of higher education, and the community as a whole. One of the research participants experienced a significant paradigm shift. This individual made a complete change from a novice (true skeptic about the value of an online learning environment) to a fully engaged online educator—by stating, "This experience changed my life in many ways and added a dimension to my teaching that provided freedom to teach my course from multiple locations."

The paradigm shifts closely associated with transformative learning that I identified in this PAR study challenged the perspective of novice and seasoned faculty to rethink their belief system about teaching in an online learning environment, purposely forcing them to question their teaching styles, whether positivist or constructivist. The possibility of a person to either

accept or reject what happens in their sub-conscious mind creates the platform to significantly change: hence, a disorienting dilemma as a trigger point; therefore, the stimuli with this PAR study for novice and seasoned faculty, by their own omission, provided a safe environment for them to process these revelations.

Summary and Discussion of Findings

The final chapter of this dissertation provides a summary of the study, including the summary of the problem and the participatory action research method utilized. The majority of the chapter is, however, devoted to summarizing and discussing significant findings of the four phases as well as to discuss the pertinence of the results for the strategic implementation of faculty development initiatives to teach in an online learning environment.

Problem Summary and Methodology

One resource to attract a broad student body at institutions of higher education (IHE) in the United States and abroad is the convenience and presumably cost-effective method of online learning. As previously discussed in this dissertation, Barker (2003) noted that moving from a traditional classroom to a virtual environment is another change, that is, a shift from teacher-centered instruction to learner-centered instruction. This change in the way instruction is provided or knowledge is developed also modifies faculty's instructional role, placing a greater responsibility for learning on the students (Barker, 2003; Gallant, 2003) due to the increased opportunity and responsibility for student participation in the online environment (Jaffee, 1997), as is often observed in student discussion boards. In traditional classrooms the introverted students can sit passively and choose not to participate yet receive credit. However, in the online classroom participation is a requirement, and discussion boards require every student to contribute. The online environment provides ample opportunity for it to occur.

The discord between the traditional classroom and online learning environments is the notion that traditional classrooms create the environment for a person to have different attitudes,

values, and behaviors and explains why faculty might experience inner tension when transitioning from a traditional classroom to an online learning environment ("Proceedings of the 4th Annual Academic Business World International Conference," 2008). I provided each research participant one-on-one time with me to initially address any anxiety, fear, or other concerns. This experience allowed research participants to use our individual question and answer sessions as an opportunity to meet the challenge from a different perspective—leading individuals to a potentially transformative experience.

The overall purpose of this study was to identify challenges digital immigrants (experienced faculty) face in the transition from teaching in traditional classroom environments to online learning environments and to identify and understand any paradigm shifts required to teach in an online learning environment. In this manner, the study sought to fill the gap in research related to how experienced faculty might effectively develop an online college course and teach in an online learning environment. The assumption of this study was that a better understanding of the process and broader scope of how experienced faculty make the transition from teaching in a traditional classroom environment to an online learning environment could provide key input into policy decisions and the practical design of training initiatives that will strengthen faculty as leaders in academia.

Acknowledging that studies of this nature are generally lacking (Principles of Community, 2011), PAR, a collaborative research method, was used for this study. PAR encompasses action and the complete involvement of all principals associated with the research inquiry. PAR seeks to promote social change through a democratic strategy to address questions and issues that are of importance to a particular community (Swantz, 2008).

An important finding of a previous pilot study was that I encountered more technical problems and areas of concern than I had anticipated. Both novice and seasoned faculty were uncomfortable adapting their traditional classroom material for an online learning environment and were unsure how to do it. The full study was designed to address these concerns and took place over a 15 week college semester period in spring, 2014 via a secured Learning Management System at a community college in New Jersey, during which time a number of questions for each of the four phases were administered via a secured (controlled) website portal to five college faculty professionals from various community colleges in the Tri-State area (New York, New Jersey, and Connecticut). Additionally, in-depth videotaped sessions were conducted via Vidyo technology-based platform.

The study was conducted in an online learning environment through a secured Learning Management System with five college professors at a community college in New Jersey. Research participant invitations were sent to the seven faculty members that expressed an interest in the idea of examining "what changes an experienced faculty member must make when transitioning from a traditional to a virtual teaching environment." The PAR was conducted with five faculty members because two members were initially very apprehensive because of their limited familiarization with the PAR methodology. The main concern was how feedback would contribute to an academic research project. To relieve their concerns, I provided a PAR concept video link, explaining the research method in detail.

The next step required an explanation of research methodologies and how education research correlates with PAR. The research participants were able to access user-friendly system functionalities I designed as shown in Table 5.2 Participant Instructions and PAR

Overview. Additionally, research participants were provided a link for software instructions to establish a connection to the course management system and configure their computers to setup the Vidyo software program to collect data for this PAR study.

Review and Discussion of the Main Conclusions of the Study

In this section the main conclusions and significant findings for each of the four phase interviews of the study are highlighted. In addition, implications for further research and faculty development with previews of the next step of this study are discussed.

The findings show the importance of implementing four phases. All research participants experienced challenges at the outset of this PAR study. A long-standing myth that online teaching is easier, requires less work, and accepts a more limited comprehensive skill set for students was eventually dissolved. While some research questions produced ambiguous evidence, such as what aspect of the PAR affected participants' teaching style, the majority of research questions about the effect on teaching styles were, in fact, supported with a plethora of feedback from research participants. This discussion was enhanced when I coined the flat course versus 3-D course discussion between novice and seasoned faculty. A qualitative course would be considered flat because the course material could be delivered with traditional online teaching tools. In order for a qualitative course to be effective, research participants believed that online teaching must be more entertaining than in a traditional class. Quantitative courses, on the other hand, require multimedia tools in order to effectively teach these courses. Another concern involved the perceived inability to connect with students in an online learning environment, thus, creating a barrier between faculty and students. Some of the novice and seasoned participants held the perception that teaching in an online learning environment is

easier than traditional classroom teaching. At the conclusion, they all agreed teaching online was not easier.

Additionally, as both novice and seasoned faculty shifted from a traditional classroom environment to an online learning environment, requests were made to incorporate more state-of-the-art or advanced technology teaching tools: smart boards, classroom clickers, video capabilities, etc. Novice faculty wanted higher levels of technology even though they didn't know how to use that technology. As participants became more comfortable with the PAR study and gained a sound understanding of projects goals, they became much more conscious of the challenges and differences between traditional and online teaching environments. Teaching in an online learning environment is not just surface educating but requires deep critical and analytical approaches rooted in the advancement of technology in the 21st Century.

Interestingly, a research participant reflected that discussion questions used in an online learning environment cannot be used in the same manner as they are in a traditional classroom environment. The point was reinforced by another participant: "It's also important to note that assignments must be broader in scope and encompass more material." One of the most interesting points from a research participant follows: "I had to go from having students directly depending on their presence in class for my lectures to being able to access most of the same information from a digital duplicate." This statement suggests that faculty are acknowledging the progressive transformation from a positivist to a constructivist teacher when working with the net generation, but additional study would be required to ferret out the reasons for this finding. One of the questions I designed for Phase III interview sessions, Did teaching online change your teacher/student interaction? examined post learnings and group session conclusions. The responses prompted and represented a progressive paradigm shift when a

participant began to think the demands of an online learning environment could require more than what could be accomplished solely in a traditional classroom environment. One research participant commented, "using a digital format . . . I became more informed about deeper levels of research. I learned more about different information systems that would give both my students and me more information. More often than not the information was more cogent and had greater utility because students were able to build research questions to fit their specific and individualized concerns and interests." Another research participant commented, "With each modification, the course has improved in assessment capabilities and more material has been added to better engage students." This acknowledgement by faculty lends credence to a progressive paradigm shift—seeking ways to make the online learning course material more interactive with students.

Phases I-IV Interviews via Vidyo Sessions

I collected data on how each research participant responded to each part of this PAR study. The phased approach was a progressive process, each phase building on the previous. Phase I interviews provided the introduction of the data collection process and learning about the research participant backgrounds—concerns related to teaching in an online learning environment. Phase II interviews concentrated on course modification and evaluation of teaching style. Phase III interviews examined post learning and group session conclusions, and Phase IV interviews concentrated on self-reflective aspects. Both were collected from research participants using Google Docs. Research participants were required to establish an Internet connection and configure their personal computers to communicate through the *Virtual Learning* website— designated learning management system. As expected, the faculty with the

least technology background had the most difficulty comprehending how to set up and launch the designated system.

Significant Learning From Phase I Interviews

Technology issues. The following technology issues required mediation in order for the study to progress smoothly. Research participants were required to login and complete the first interview videotaped session, and this required more attention than initially anticipated. Nonfunctioning technology created a challenge for the initial start of the PAR. Learning how to navigate the learning management system was a major obstacle in the initial phase of the study. We learned software and hardware designed and marketed as compatible products are not. Adobe full service video solutions require a traditional telephone tool in order to fully function. I was unable to set up the initial instruction sessions as the lead research investigator until we resolved this problem. Students had difficulty setting up their computers, which created unexpected challenges for novice faculty members. Basic aspects of the technology are far more critical than the application when implementing a PAR project.

Pedagogical themes. The following themes emerged from an analysis of the data. A progressive transformation occurred when research participants agreed unanimously that online education is more appropriate for graduate level students who are self-motivated because the course material requires a disciplined, independent study learning style. Prior to this acknowledgement some of the participants were skeptical as to the value of online education.

For novice teachers, limited faculty student engagement created online teaching challenges, which hindered activating other learning activities in the PAR. Most research

participants described themselves as constructivists (guide-on the-side); however, the data showed most were positivist (sage-on-the-stage).

Research challenge. It was very difficult to get both novice and seasoned faculty to be self-reflective. Most of the participants wanted to discuss educational theory, class challenges, students, publishers, and any other topic to avoid self-focused issues. At first I thought this was going to derail the entire project. In addition, during the initial phase there was a slight glimpse of a progressive transformation with a few teachers trying to use the technology in a manner they had never attempted before. However, there were definitely no paradigm shifts.

Significant Learning From Phase II Interviews

Technology issues. I had to instruct, essentially assist, each research participant in reviewing the hyperlinks as described in the fifth chapter, Table 5.1 I pre-designed in order to effectively move to the next step in this phase— reminiscent of the initial challenges using the learning management system. Participant(s) needing electronic instructions was the first sign that a progressive transformation might occur. The novice teachers were having some challenges with the online instructions and were attempting to seek verbal instructions. I pushed back and provided electronic answers. After several interactions a progressive transformation did occur. On the surface this might appear to be participant compliance with the researcher's wishes. However, the detailed discussions were concept related concerns. The novice members had accepted this form of communication.

Pedagogical themes. The following themes emerged from Phase II. All research participants agreed faculty engagement was easier in the traditional classroom environment; however, it's harder to gauge student interactions in an online learning environment. Acknowledging different pedagogical situations could be considered a minimal progressive

transformational acknowledgement; however, it would be a stretch. However, the participants considered it important.

Research participants acknowledged teaching online required more work than traditional classroom teaching. When a faculty member answers an in-class question by a student(s), the entire class can hear the answer. However, some online questions and answers are only received by a student through email, conference call, or related one-on-one modes of communication. This was a progressive transformational experience because all of the novices were sure that online teaching was much easier than classroom teaching. The overwhelming conclusion was that teaching online can be similar to individual tutoring.

Another major concern was the desire by research participants teaching 3-D presentation course material (quantitative subjects like biology, physics, and statistics) to incorporate interactive tools where students can actually draw the graph and apply the concepts. This was a progressive transformational experience because all participants thought a course was a course, regardless of environment. What we discovered was the subject matter has a major impact on the applications required to successfully teach the course. This was as close as the group would come to a true paradigm shift.

Research challenges. One of the most interesting challenges for novice and seasoned faculty is to balance the traditional classroom efforts, including the classroom tools, activities, and live (real-time) discussions with developing skills in the online environment and not burning out before acquiring all of the skills necessary to deliver that same level of teaching in an online learning environment. This was a slight progressive transformation. Participants learned that balance is a critical factor when teaching online. All research participants began requesting more control of the design and implementation of this PAR study. A true

progressive transformation occurred at this point. Participants moved from being unsure of the PAR to wanting control of the process. At this point we moved from a leader-participant research project to a fully collaborative participant-participant PAR. In this phase there was a group progressive transformation. The group moved from being completely dependent on the research leader to wanting to fully participate in the design and the critical aspects of the PAR**.**

Significant Learning From Phase III Interviews

Technology issues. The online learning environment requires faculty members to find new resources for course material and upload that information and email it to students, which can be very labor intensive. Finding new resources does not represent a progressive transformation or a paradigm shift; however, participants found this environment required finding new teaching material and resources for familiar courses. All research participants discovered that faculty had to be more aware of the course content and how to deliver the material if the online learning classroom was unexpectedly unavailable. This was a progressive transformation because participants had to develop an understanding of technology at a level beyond an end user's perspective. Flexibility became a critical factor regarding the learning management system. The flexibility required to set up and use the system was more a training issue than a transformational experience. However, novice participants had to modify their perceptions in order to view the learning management system as a classroom.

Pedagogical themes. The following themes emerged from Phase III. Participants agreed that face-to-face classrooms (traditional) were valuable teaching environments, however, there is minimal control in an online teaching environment, and face-to-face is easier to get students to engage with each other. The perception is that faculty cannot see the level of

engagement and ask content related questions to build discussions. This was a progressive transformation requiring a very different mindset.

Engaging students in an online environment required participants to engage the written document without seeing the student. This was the most difficult concept for the novice participants. However, once they made this transformation, they found the experiences worthwhile.

A teaching delivery method is critical when communicating in an online learning environment with students. Learning to manage the delivery method was difficult because most participants found themselves thinking of delivery in traditional classroom method(s) and discovered as they modified a course, it required setting up different methods to teach the same material. This was a progressive transformation.

The lack of face-to-face contact in an online learning environment creates a very different experience, which requires a different approach from that of a traditional classroom environment because struggling students, experiencing misunderstandings about the course material, are not instantly recognized by the teacher. This was a progressive transformative experience because most participants didn't realize how much classroom teachers depend on student faces. The transformation was learning to deliver a lecture(s) without student faces for support.

The critical factors that most impacted teaching style for research participants were the availability of linked articles and videos, which in many cases were not available in traditional classroom environments. Learning to use the technology required participants to link articles and videos. This was a progressive transformative experience for all novice participants. Initial

attempts were unsuccessful and frustrating. However, after several attempts they became somewhat proficient.

All research participants agreed that some course material such as 3-D presentations (for quantitative subjects like biology, physics and statistics) are better taught in an online learning environment if state-of-the-art technology is provided. This is a very interesting concept because on the surface it appears to be a training issue. However, an in-depth examination uncovered a mindset issue. Participants unfamiliar with advanced applications or technology initially could not envision an application or tool that would allow one to simulate traditional classroom activities in an online environment. Changing this mindset was a progressive transformation. However, once participants became familiar with interactive technology and applications, a paradigm shift occurred where doubters became believers in a new way to teach a traditional subject.

I coined the flat qualitative courses versus 3-D presentation quantitative course debate in this study based on feedback by novice and seasoned faculty. Qualitative courses include English, history, and psychology; quantitative courses include biology, physics, and statistics. A blended combination of flat and 3-D content for college course material provides both the presence of verbal and non-verbal cues. A group progressive transformation occurred when all participants agreed the blended method is ideal for 3-D courses.

After a very short period of working with the technology, novice faculty wanted the newest technology for teaching online before they were able to manage the technology. This could be considered a paradigm shift because novice participants moved from having difficulty using basic technology and application to wanting more sophisticated technology and applications.

Research challenges. All research participants discovered that faculty had to be more aware of the course content and how to deliver the material if the online learning classroom was unexpectedly unavailable. Moving from needing IT support to providing some basic support instructions for students was a progressive transformation. In this phase there were significant progressive transformations and one paradigm shift. The participants developed a noticeable grasp of online concepts and were less dependent on the traditional information technology help desk for basic support for minor student online technology problems.

Significant Learning From Phase IV Interviews

Technology issues. After using a beginner application, novice teachers could see the value of advanced applications. This was a progressive transformation.

Pedagogical themes. Traditional classroom teaching tools or state-of-the-art technology would improve online teaching environment. Most participants were unaware of the vast array of teaching applications prior to this PAR. Recognizing the need for state-of-the-art teaching technology is a progressive transformation.

Some research participants reported being more effective in traditional learning classrooms; however, online learning environments provide an opportunity to cover more material. This could be considered a disorienting dilemma where the participants recognize a managing a situation, feel uncomfortable, and choose to maintain the status quo.

All research participants shared the most powerful revelations about courses that are most conducive to online learning: the qualitative or quantitative flat course versus 3-D course debate. One research participant was adamant: “We should change the course into a hybrid course . . . this method provides an opportunity for students to get a better understanding and improved problem solving techniques on the subject matter. The hybrid courses give the

students a learning environment that is richer than either traditional or virtual environment by itself." This is a major paradigm shift: participants started thinking that quantitative courses taught by novice online teachers would be ineffective. However, novices wanted to attempt two transformations: first was selecting a very difficult course, changing the pedagogy from traditional to online, and second was learning to teach a difficult course, using advanced applications in an online environment.

Research challenges. The activity most used in the traditional classroom environment that research participants would like to have in the online learning environment was the ability to create dynamic group discussions, where you can create groups, have the group report to the entire class, change the groupings, and have the new group report, and so forth. This created a future research challenge because the PAR wasn't designed for student groups. However, this request represents a progressive transformation in which participants requested a previously unknown technology, application, or function. In this phase there was progressive transformation regarding flat vs 3-D courses. The seasoned and novice participants developed a noticeable appreciation for blended courses. Participants concluded that teaching difficult courses was best suited for a blended environment.

Significant learning from journaling. Research participants were required to maintain a reflective journal of experiences and thoughts and record the data in a secured Internet portal I designed. I used color coding to cluster progressive paradigm shifts and challenging themes.

Technology issues. In the beginning weeks participants had difficulty setting up their systems, navigating the website connections, overcoming some trepidation, and grasping the digital platform. One participant stated these concerns: "The first week, I was confused about how to use the technological approach to teaching. I began to ask around to some professors,

who had used the Blackboard system for their on-line classes . . . unfortunately, fear ran loose as well. I approached the digital pedagogical methods with much trepidation to say the least. I thought that if I placed my lectures onto a digital platform, I would lose control and ultimately students would not get all that they could from my lectures" This is a disorienting dilemma, which can cause individuals to doubt their competence; however, once confronted they usually overcome the challenge. Participants were at the beginning stage of a progressive transformation.

Pedagogical themes. In the following weeks of the study, participants had challenges reconfiguring lectures, setting up electronic presentations, overcoming personal frustrations, and maintaining commitment to the PAR. One participant's journal precisely articulated these issues: *"*During the third week, I actually began my taping of three videos of my first three lectures. I began the taping only to realize that I did not know how to operate the movie camera. Another challenge, first the challenges were intrinsic, now they became externalized. I got disgusted and only the sense of duty and commitment to this research assignment convinced me to continue. The reality is . . . I was overwhelmed when I started teaching online so many years ago...and did not do it because I felt it was ineffective. As the years when by, hybrid became a norm as well as many e-companions, forcing me to become more dependent on online learning." This is an excellent example of a disorienting dilemma and a progressive transformation. Another participant provided insight on curriculum modifications stating: "I can actually write my entire curriculum for the next class… by using the blackboard account and I can also use the blackboard account as an "App." This means I don't have to even spend time logging in . . . I can simply switch from one "engine" to another." This is an example of pedagogical progressive transformation. Another participant's journal documents a progressive

transformation from a positivist to constructivist: “I am no longer afraid of not being physically present to teach my students. I am no longer afraid of releasing students to their own intrinsic development with a minimal guidance from me (in-person).”

Research challenges. Once participants developed an understanding of the PAR process, control or maintaining focus started to become an issue. Some participants wanted to move the research in a different direction; however, given PAR is participatory, we discussed the issue and collectively agreed to maintain our focus. Some participants wanted to move to a discussion of valuing other humans as stated: “I think that through the use of technology we will learn to value another human being sharing from the affective domain of pedagogy even more.” This is another example of how PAR participants become fully involved. This progressive transformation uncovered another research project: How can we use this process to learn to value other human beings? This is a clear example of progressive transformation where the PAR provided participants an opportunity to view technology from a different perspective.

Significant Learning From PAR Group Sessions

I collected all of the video data and posted it on the website in a hyperlink: (docs.google.com/forms/d/1iEImJAmvE01uhg7O9BgvFCgUP1pKI3miCqJbHgYdIHY/viewform) called PAR validation where all participants were able to review and verify the information. Participants were required to review the data and select the items they considered most important. Once I received all of the responses, I collected the data and convened three follow-up video discussion sessions. The same process with journaling was used to record these data in a secured Internet portal I designed.

Technology issues. Participants were very concerned with their own technological competence and how that would affect the course. There was also some concern with students’

inability to access the course. Some felt this technology issue detracted from the joy of teaching. As one participant stated, “Online is not as fun as face-to-face” because some students lack the “technical competency required to succeed in this environment.” This is an example of a faculty disorienting dilemma. However, some participants offered a solution: “biggest limitation is technology, however, allowing us to move toward a blended course” would solve the problem. This is another example of participants moving from a disorienting dilemma problem to a progressive transformative solution.

Pedagogical themes. Participants discussed the challenges of redesigning lectures, creating electronic presentations, and modifying teaching styles for online teaching. During our discussion participants discussed some of the learning. Several participants stated that they learned a lot about their teaching styles by teaching online. Another discussion topic was the revelation that to be successful teaching online “you have to put yourself more in the role of the student!!!” All participants agreed that teaching online changed some aspect of their teaching style. “My teaching changed: Online I do more handholding. Teaching online I use the same style/I just use different tools.” This represents a progressive transformation.

Research challenges. Participants discussed a few research issues: Which student population is best suited for an online education? Are qualitative or quantitative courses more conductive to a virtual environment? Should students be required to take a pre online test to verify a minimum level of computer competence prior to online course enrollment? These were the most significant questions that resulted from the PAR. I find it interesting that most of these questions are more progressively transformative in nature.

Limitations of the Study

As with all studies, this study is subject to limitations, which can potentially influence conclusions drawn from the data collected. Possible methodological limitations of this study include the following.

Sample size. Participant sample size requires consideration; however, participant size is not relevant in a PAR study because the study is designed to examine a small group. Nevertheless, insights gained here are potentially transferable to other faculty and colleges.

Data collection measurement tool. At the outset of this study novice and seasoned faculty had difficultly comprehending how to utilize the technical requirements (the learning management system) to participate in this study. An inference could be made about using a simpler method like a hand-written survey for the research sample; however, to effectively evaluate the responses from research participants, the nature of this study required a full introduction of the mainstream mechanism to teaching in an online learning environment. I acknowledge that future researchers will revise the specific methods or add other methods for gathering data.

Self-reported data. This PAR is a qualitative research study, utilizing a community partnership between myself and research participants through every aspect of gathering data with a self-reporting process. I acknowledge that all data were not independently verified; therefore, the information received as evidence was taken at face value. Additionally, self-reported data bias sources such as (a) selective memory (recurring present facts or reflective experiences), (b) telescoping (recalling events from past experience to compare with present experience), (c) attribution (comparing positive experience of a person's own agency to outcomes as result

from external and negative forces), and (d) exaggeration (embellishing experiences more than factual based for a person's own agency) (Lund Research, Ltd, 2012).

Practical Implications and Research Contributions

This research contributes in several ways to the subject of professional development for experienced college faculty teaching in an online learning environment. First, it frames the use of collaborative partnerships in the theoretical lens of PAR. The PAR collaborative approach would be a worthwhile professional development strategy.

The findings in this PAR more than supported the importance of the methodology to create and develop a partnership with participants to identify issues of importance to them, develop and implement a method for studying issues of importance, collect and analyze data, and take action on the knowledge that is produced (Rodriguez & Brown, 2009; Smith et al., 2010). The PAR provides shared ownership of all aspects of the research and gives credence to the academic integrity of the whole endeavor.

The results of the current study are also relevant to practitioners. First, the PAR can be used as an assessment tool for novice and seasoned faculty by enabling them to compare themselves to similar attitudes and behaviors in terms of their personal and professional belief or experiences. Such an approach would allow novice and seasoned faculty to compare specific types of teaching styles and any biases and compare those to that of their colleagues, thus enabling them to gain insight into how effectively they are managing any level of risk or threat associated with teaching in an online learning environment.

The PAR could also be used prescriptively by colleges to gauge their current information system (IS) effectiveness and their current use of various learning management systems to deliver online content to students. Based on their analysis, they could then target specific types

of countermeasures to obtain the prescribed degree of IS effectiveness. Such an approach would allow the institution to more judiciously allocate funding to accelerate and expand the learning management system; specifically, in funding while not continuing to rely on outdated technology— causing a backlash among experienced faculty as well as burning out adjunct faculty.

Recommendations for further research based on these results is based on truly understanding and being able to model the relationship between faculty dispositions related to perceived risks and threats and countermeasures to examine each from different perspectives. Requesting data and information from other organizations might provide another perspective on progressive transformation and paradigm shifts for organizational development professionals working with corporations (Jokela, Siponen, Hirasawa, & Earthy, 2006). This is an opportunity for not-for-profit and for-profit organizations to jointly study progressive transformation and paradigm shifts as it relates to seasoned digital immigrants purchasing and using digital products and services.

Recommendations for Faculty Development

This PAR study supported the argument to implement new technology not only to create a lucid learning environment for students, but also to point out the cause of not doing so, due to faculty who are sheltered or inexperienced with such technology and who are very structured and traditional in their teaching methods, thus feeling uncomfortable in different teaching situations. Novice and traditional faculty should be required to take an online course prior to teaching an online learning environment. What traditional classroom teaching tool or technology would improve online teaching? The answer from several research participants supported a blended classroom as an important concept to implement. As a result of this PAR project it has become

evident that experienced faculty would benefit from a first timers workshop on how to transition from traditional classrooms to virtual environments. This type of workshop would be for experienced faculty who are digital immigrants. This workshop would focus on the issues, challenges, and specific obstacles experienced faculty face when contemplating the idea of transitioning from a traditional classroom environment to an online learning environment.

My research has provided insight into the fear and the unwillingness to admit this fear that many long term faculty experience when expected to teach in an online learning environment. A research participant commented: "I have for many years wanted to experience what online teaching was all about. I had attended a few teaching seminars at our County Community College's Virtual Campus, but I had a difficult time conceptualizing how to teach virtually." This research participant concluded, "There is definitely some fear and anxiety as I worked through this idea of online teaching."

The Introduction to Online Teaching for Experienced Faculty Workshop

I am often asked the question: "What kind of changes must an experienced educator make in order to teach in an online learning environment?" I decided it was important to integrate conceptual material into the workshop due to the theoretical framework it provides for thinking about paradigm shifts. I incorporated the concept into the design of a faculty workshop, using this study's participants' list of significant happenings in teaching styles, technological knowledge, and online components that took place during their phase I-IV interviews, video interview sessions, and journaling. The participants' list included meeting the challenges transitioning from a traditional classroom to an online learning environment, managing the technology, and requesting the correct technology in the class. This was a paradigm shift for the novice

participants who started out skeptical of technology but, after time, saw technology as an effective teaching enhancement**.**

The workshop would give detailed explanations with supporting evidence regarding online teaching for experienced faculty and would cover the following objectives:

- obtain knowledge and understanding of the growing field of online teaching,
- overcome personal fears and anxieties associated with changing from a traditional teacher to one that is now teaching online,
- explain the components required to develop and implement an effective online or hybrid course to help other professors begin this new direction,
- improve experienced faculty effectiveness and communication when giving instructions to students online or not in a traditional classroom environment,
- encourage experienced faculty to begin to move forward in this endeavor,
- assist experienced faculty acquire the competencies required to manage a class not only as a hybrid class, but also moving to the next level of teaching a course solely online, and
- develop a collaborative relationship with an online learning expert.

The proposed workshop for experienced faculty (digital immigrants) is currently in the development phase to launch as a pilot initiative in Fall 2015. The framework is described in Table 6.1 Project-Based Learning Rubric (Framework). The following core learning areas will serve as the framework: technology, instruction, reflection, and presentation. The learning objectives will include subsets and mastery levels of competency concepts for each experienced faculty member. This professional faculty development initiative, which can be used for real

practical application in academia, also serves as a safe training ground for like-minded colleagues.

Table 6.1

Project-Based Learning Rubric (Framework)

The Introduction to Online Teaching for Experienced Faculty Workshop

Technology	Instruction	Reflection	Presentation
Is proficient with designated Learning Management System(s) to teach online course	Has taught same college course in both traditional classroom & online learning environment(s)	Teaching style past & present are clearly expressed in a reflective – didactic manner	Display with multimedia tools all functions for selected online college course
Shows trajectory of designated Learning Management System(s) at IHE	Has taught a college course in online learning environment	Makes clarification – clearly delineating proposed or combination teaching style	Display with multimedia tools – outline for selected online college course
Applies the technological application – understanding (troubleshoot, set-up of LMS)	Has taught a college course in traditional classroom environment	Able to share trajectory of teaching experience(s) & external factors	Display with multimedia tools – timeline of an online college course to design
Understands basic history of designated Learning Management System(s)	Understands the differences of traditional teaching/online learning environment(s)	Makes clarification – clearly delineating current teaching style	Display of an online college course to design with supporting details

Concluding Remarks and Reflections on the Process

The goal of this research was to introduce and illustrate the need for professional development in how to train experienced faculty (digital immigrants) to teach in an online learning environment. The results of the analysis suggest that each goal was met with resounding success. Getting started was a disorienting dilemma— it was very difficult trying to start as I had to develop an understanding of participatory action research by creating community collaboration with research participants. I didn't see how this process would lead to faculty understanding the transformation required to move from teaching in a traditional classroom environment to teaching in an online learning environment. With a basic knowledge of PAR, I had to develop a process for the research participants. I experienced unexpected learning during each step of the process as each research participant became fully engaged.

I thought research participants were going to experience significant changes and that I would be more of an observer. Much to my surprise I had some progressive transformative experiences myself: teaching adults to use technology from remote locations, testing new applications with novice users, and keeping participants engaged when the technology did not operate correctly. My most significant transformative experience occurred at the beginning of this research. I had initially planned to study paradigm shifts from a student perspective. The initial pilot study clearly pointed out that the issue was faculty. Further, I discovered that qualitative courses are more conductive to online learning environments while quantitative courses are better for traditional classroom environments. One of the most interesting revelations was that novice faculty new to online teaching who received limited basic online tools, when comfortable, wanted the more sophisticated applications and tools without full knowledge of

how to use such technology, inherently recognizing the high level teaching capabilities and functionality of classroom teaching in an online environment.

Need for Future Research

Experienced faculty with little or no online teaching find that using technology creates a degree of trepidation and anxiety. Faculty experience disorienting dilemmas, described by Mezirow as a type of significant stimulus that leads many people to undergo a perspective transformation (1978, 1991). A disorienting dilemma is a dilemma that causes a significant level of disruption or disturbance in a person. However, with the use of critical reflection and rational discourse, individuals can effect a transformative learning process. The results of this study provided an understanding of how five experienced faculty moved from high levels of anxiety, concerning moving from traditional classrooms to online teaching, to relative comfort with virtual learning environments. This study also provided a clear example of how disorienting dilemmas, when implemented in a safe environment, help participants develop creative solutions.

Most participants in this study described their teaching style as constructivist. This is a model that employs collaboration. In this case, the student functions as a sculptor, using information, prior knowledge, and experiences to develop new knowledge and reorganize existing knowledge. At the same time, the teacher is the guide on the side. However, the PAR demonstrates the participants were positivists, with the teacher at the center of the learning environment, or the sage on the stage. Participating in this research study helped participants develop a more realistic view of their individual teaching style and in most cases develop pedagogy closer to the guide on the side model. After several video sessions, it became clear that a non-threatening environment allowed the participants to share online teaching experiences and to reflect on and evaluate their teaching styles. The reflective sessions provided participants an

opportunity to examine how new methods fit into their pedagogy. One of the most interesting revelations occurred when faculty, with little or no virtual teaching experience, were faced with a disorienting dilemma; all made a progressive personal transformation when they were provided a safe space to discuss their experiences. They appreciated the experience and made some minor, and, in some cases, major changes to their teaching style.

Some faculty experienced progressive transformations; one individual experienced a paradigm shift. Progressive transformations occur, according to Cranton (2006b), when individuals, through conscious or unconscious reflection, experience a series of incremental changes in their world view (in this case, pedagogical philosophy and approach), which results in a full perspective transformation. When institutions develop and implement reflective and supportive faculty development opportunities that foster paradigm shifts, they allow for transformative change. This study provides an example of a progressive transformation and a paradigm shift as the result of a safe and reflective PAR.

Qualitative courses such as (liberal arts) and quantitative courses such as STEM classes require the same basic applications to teach online. However, STEM classes require advanced applications and technology.

The current research discusses how faculty learn to move from an instructional style suitable in a traditional classroom to one that is suited to online instruction. McQuiggan's (2007) *Preparing to Teach Online as Transformative Faculty Development* examined the changes faculty made in face-to-face teaching practices because of a professional development experience. Her study explored transformative learning among higher education faculty due to participating in a blended instructional training program as they prepared for online teaching.

Their transformation or translation was a result of their *desire* to move towards online teaching by preparing a course for hybrid delivery.

However, McQuiggan's (2007) study stopped short of examining how a faculty member's prior experiences or lack of experience with multimedia and its virtual classroom application, affect one's attitude(s) toward the use of technology as a teaching tool or method and one's vision of the use of technology within a traditional versus a virtual environment. These factors will determine a faculty member's willingness to make a progressive transformative change or a paradigm shift for teaching online. This PAR study unpacked the critical moments between the disorienting experience where the paradigm shift is about to occur and, in one case, determined the critical aspect of this phenomenon before the transformation started.

An outcome of this research is that a bridge was created between digital teaching immigrants and digital teaching natives that allowed experienced faculty to address technology anxieties, examine existing pedagogies, and develop successful strategies for communication with digital natives. A professional development program to prepare experienced faculty to teach online was needed, not only to teach the technical aspects of teaching online, but also, more importantly, to consider new and different ways of teaching. The additional benefit is that it delineates the need to develop a workshop for other faculty in a safe environment.

Future studies should consider examining specific aspects of the bridge between digital teaching immigrants and digital teaching natives that address how to enhance blended courses. Since blended courses also create a disorienting teaching experience, the digital immigrant faculty will benefit from more research aimed at determining how to minimize the uncertainties that come with working in this new environment.

The core insights identified by this study are captured in the following quotes from participants, the first representing a progressive transformation, the second a true paradigm shift:

> At first, I thought no college course material could be taught online . . . now I'm beginning to think that some courses can be taught online.

> I'm now not only able to teach in a totally different environment, I am also able to deliver my course to a greater number of individuals, and my life has changed because I'm free (if I choose) from the traditional classroom.

Appendix

Appendix A

Online Enrollment Example of Growth

Online Data	Fall 2009	Growth 2009 - 2010	Fall 2010	Growth 2010 - 2011	Fall 2011
Semester	**20101**		**20102**		**20103**
Classes	75	**11%**	83	**28%**	106
Total Seats Available	1720	**11%**	1916	**18%**	2254
Total Enrollment	1441	**11%**	1594	**7%**	1710

Appendix B

Data collection

Phase I — Introductions of faculty

The five participants were interviewed using the following to determine what they expect to get out of the project.

1) Please provide your academic experience or discipline, number of years teaching college.
2) Is this your 1st or 2nd online course?
3) Please explain why you are teaching an online course.
4) What is the course you are teaching and what is your rationale for teaching that course?
5) What concerns do you have about teaching an online course?
6) What do you expect to get out of this discussion group that will help you with #3?
7) What technical evaluation did you conduct prior to teaching an online course?
8) What were your criteria?
9) What things did you consider before teaching an online course?
10) Discuss how the orientation affected your participation in this course.

Phase II—Faculty Input or Course Modification and evaluation of Teaching Style (sample)

1) This phase will be modified based on results of the first phase. For now, I am anticipating that in this phase, faculty preferences and biases with respect to teaching styles will be explored. The educators will be interviewed using the following questions regarding teaching preferences:
2) Describe the conditions where you teach the most/share the most information/best able to help students learn the material.
3) Describe your ideal teaching environment.
4) What things in the course helped you teach the material the quickest/helped you deliver the knowledge/enhanced student learning experience?
5) How did you or do you teach best? How would you describe your teaching style?
6) Discuss how the course learning management system training (Angel/Other online tools) affected your teaching course?
7) Describe the conditions where you learn the most/retain the most information/best help you deliver the material?
8) Describe your ideal learning environment?
9) What things in the course helped you learn the material the quickest/helped you retain the knowledge/enhanced your teaching experience?
10) How did you or do learn best?
11) How would you describe your teaching style?

Phase III—Faculty Participatory Action Research Revelations (sample)

The five faculty members involved in the PAR will participate in a post-learning individual and group interview session(s) at the conclusion of the entire PAR session:

1) Tell me about the critical factors that impacted your teaching style and how it impacted your delivery of the course material?
2) What environmental factors impacted your teaching performance during the modification this course?
3) What physical/personal/technology- affected your development or modification of the course from traditional to virtual?

Appendix C

Consent Form

Participant Consent to a Study about Faculty Online Learning/Course in a Participatory Action Research Project

You have been asked to participate in a research study conducted by, Winston H. Maddox, a doctoral candidate in the Leadership and Organization Change program at Antioch University, Yellow Springs, Ohio.

The following information has been explained to me:

I am volunteering to participate in a research study about the experience of an online faculty and his/her experience(s) in teaching an online course in a higher education institution. I understand that I will be asked about my experiences with other members of the project.

The benefits I may expect from this study are: a) an opportunity to reflect on a positive online experience; b) an appreciation of participatory action research applied to learning to apply traditional curriculum in an online environment in a higher education institution; and c) contribute to the body of knowledge to benefit professionals in higher education.

The procedure will be as follows: I will participate in a multi-phrased participatory action research project. I will complete three interview/question sessions with the investigator. I will develop and modify three sessions of my course. The investigator will record our conversation (audio/video and written) and have it transcribed. The participatory action research method will allow me to participate in framing each phrase of the research. As a follow up to the interviews, the investigator may contact me and ask me additional questions via telephone, electronic mail, video conference or in person. The investigator may also ask me to review his written report of our conversation to confirm his descriptions.

Participation is voluntary: I have the right to choose not to participate in this study, or to terminate my participation at any time.

Confidentiality: The video of my interview will be seen by the investigator and anyone who chooses to read the dissertation. I understand that my name and institutional affiliation will be changed in the reporting of this study. In addition, I understand that the report may be the basis for a journal article.

Contact information for me:
Winston H. Maddox
Mercer County Community College

1200 Old Trenton Road
West Windsor, NJ 08550
609.586.4800 x3867
maddoxw@mccc.edu

If you have questions about your rights as a research volunteer, call or write:

Carolyn Kenney, Ph.D.
Antioch University, Professor of Psychology
Ph.D. in Leadership & Change
150 East South College
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805.898.0114
ckenney@phd.antioch.edu

Consent Statement:

I have read and understand the information above and on this page. The investigator has answered all of my questions to my satisfaction and has provided me with a copy of this page of this form. I consent to take part in the study "Participatory Action Research Project."

_____

Name of researcher (please print) Signature of researcher Date

_____

Name of participant (please print) Signature of participant Date

Appendix D

Sample of Actual Participant Feedback From Each Phase

Phase I Timestamp	1. Please provide your highest degree, academic discipline, number of years teaching college?	2. Is this your first or second time or more teaching an online course?	3. Please explain your reason for teaching online?	4. Describe the course you've selected to teach online?	5. Provide your rationale for selecting this course?	6. What concerns do you have about teaching an online course?	7. What do you expect to learn from the discussion group that will help you teach online?	8. Discuss your criteria for question 7?	9. What additional factors apart from the previously listed criteria did you consider before deciding to teach an online course?	10. Discuss the degree to which the study's orientation session affected your willingness to participation in this research project?	11. What are your suggestions for the next phase?	12. Describe your teaching environment	13. Discuss your significant learnings.
3/12/2014 22:25:17	Master's 24 Years at Community College	First	Although it is not completely online, I have substituted web projects for what would normally be in class tests. I believe that this will enable the students to study and review the material in complex courses to a greaterdepththan just getting ready for a test.	There are two: Aerodynamics andAircraft Components	They are quite involved and the material is complex.	My main concern is that I am new to this, and I do not want to short change the students. At the end of the course I want them as familiar with the material as though it had been taught andtested in the conventional way.	Develop methods for transforming a course	Learning from other people who would be more experienced in this.	Denying the existence of the internet and the fact that it is so great a part of students lives would be tantamount to erecting a barrier between myself and them.	Moderately helpful	Integrating more projects that involve research to a greater degree, and encouraging students to be selective in the information they gather.	Mine is a relaxed informal classroom setting, with the change that the testing phase has largely been replaced by online projects.	I believe what you are asking me is what I have discovered regarding my interaction, and observations of and with the students. I have found that they are much more technically adept, but sometimes lack discernment regarding the value of information they gather.
3/16/2014 17:37:42	Ph.D., Education 15 years teaching in college.	3rd	Enjoy using technology to teach. It gives me an opportunity to pursue my goals to teach college students. I enjoy helping others reach their academic goals. It fits into my current work schedule.	This is an introductory course in Information System Technology.	It is a web-based course with instructional support.	Some students do not come prepared to learn on-line. Some students are not self-directed learners.	Learn to teach in a virtual environment	I wanted to pick more than one item.	Amount of tech support from the college. Readiness of students. Administrative support.	Not helpful	Give more options for question#7.	Virtual classroom with MAC or PC.	The publisher for MyIT Lab is not as helpful as they could be. They keep the students on hold for a long time. When I called the MyIT Lab help desk, I too was on hold for a while. There needs to be more technical support from the publisher. The on line modules some times did work (audio PowerPoint presentations). There needs to be more done to ensure students are well suited to take an online class. I spend a lot of time as a 1st line help desk technician.
3/17/2014 13:58:56	Masters	1st	Provided flexibility	MIS 2011, Management of Information System	Felt it was most conductive to modification	Not sure the students will be engaged	Increase technology skills	Improve my use of technology in a teaching environment.	Student participation	Very helpful	Change the format of the questions.	Community college, in a suburban and urban setting	Learned that online teaching is student intensive
3/22/2014 14:34:47	PhD Business, Economics, Management and		To fulfill my contracted hours and was only course available, in other cases it was because I was assigned to develop online and	The course is designed to provide an understanding of the social system in organizations. To be studied and understood are the relationship of individual and group behavior patterns to organization structure and task requirements; the role of the individual; and the human factors confronting the manager laboring to establish the necessary environment and motivation for the appropriate functioning of the organization. People problems – employees, the work environment, and the interaction between the two – are a major concern of the course.	Summer contract	Connection with students. Enhanced classroom discussion do not measure the same online. Students have many areas of writing difficulty. Students lack of	Develop methods	The main issue I have is taking my core attribute that I have in class and transcend them	Consistency keeping students engaged like we are in a "real brick		WHile some have issue engaging face to face, I feel getting them in a classroom gives me a better opportunity to breakdown the walls of communication rather than online!	Collaborative and student centered. WHile I do not teach graduate/adult students exclusively, I find this would work	

Phase II Timestamp	1. Describe your typical teaching environment?	2. Describe your ideal teaching environment.	3. How would you describe your teaching style?	4. What aspects of the initial PAR affected your teaching style?	5. Discuss how the course learning management system training (Angel/Other online tools) affected your teaching?	6. Discuss what you consider to be the next critical step(s)?	7. How has the initial phase changed your teaching style?	8. Have you changed your perception of online teaching? If so describe.
3/24/2014 23:06:00	My course involves weekly homework assignments and discussion forum. one mid-term and final exam . I also look at my email daily and try to answer question posed by students.	Given the nature of my course, econ 103, the present enviroment is ideal. I would like very much to incorporate interactive tools where student can actually draw the graph and try them themselves and apply the concepts. This semester I actully did incorporate Aplia(Optional not required though) for Econ 103 . Except 2 students no one else used it. I will require this tool next time when I teach the course. I believe it will be very useful for all students to use	In my in class teaching I try to be Friendly . In class, I try very much to make student interested in the subject matter. For my on line course, although this goal of mine is desirable but I do not think it is fully achievable	This is my first semester of teaching on line. I can answer this question if I would have thaught this course many more times . Listening to PAR, it requires a learning process and feed backs which I do not have it yet.	Using many online tools such as Aplia , Connect, or My econ. Lab might increase students interst in the subject matter and increase their participation	I would like very much to see more interaction and make sure that students are learning. Will use interactive tools such as My econ. Lab, Aplia, Etc.	not that much	As I mentioned for phase one , Online classes is ok for some courses but not all.
3/27/2014 17:18:03	My typical teaching environment is in a computer class or a smart classroom. Usually there are twenty five students sitting in front of computers. The curriculum involves a mixture of digital research and interactive dialogue.	An ideal teaching environment is when students are engaged in research and sharing their findings and their opinions. I am inspired by students who question the research and yet become more engaged in further research. An ideal teaching environment is a classroom that has computers and a screen for digital displays.	My teaching style is a mixture of didactic and interactive. Students are usually instructed by lectures where the rationale and utility of the research is explained. Once the explanation is given the floor is open for discussion and opinions. Then students are instructed in the research using a myriad of websites and paper resources.	defining complex adaptive issues and looking at my syllabus and thinking how the PAR could be applied in teaching students. Usually students work alone and they usually they interact with their computers and with the professor. The PAR requires a more team or collegial approach.	In rearranging my teaching I used the Blackboard system. I found that very difficult for me first as a technology and second from the pedagogical perspective. To attain training in the Blackboard system I had to send an email for an appointment (which was never honored). Then I had to hunt the technician down on campus and schedule an appointment. The most challenging thing about this process was to move my mind-set from students being directly dependent on me for information and guidance to now being allowed to refer to an digital vicarious guide. My videos of my lectures and the syllabus could not be loaded into the Blackboard, the syllabus could but not the videos. However, a link to YouTube could so that became my second mode of digital transfer of teaching.	I think that their should be some clear definitions and criteria of teaching styles. Moreover, the elements of the teaching styles should be quantified (or given a numeric value) for the purposes of this research model. I think that the answers to most of the questionnaire questions should be formed in a multiple choice format, with quantifiable values for the purpose of this research.	I had to go from having students directly depending on their presence in class to being able to access most of the same information from a digital "duplicate."	To some degree, I see how online teaching could be challenging to someone like myself who is used to a lecture-led style classroom/teaching environment.

Phase III Timestamp	1. Tell me about the critical factors that impacted your teaching style and how it impacted your delivery of the course material?	2. What environmental factors impacted your teaching performance during the modification this course?	3. What physical/personal/te affected your development or modification of the course from traditional to virtual?	4. Did you modify your course content?	5. If you made course modifications were the changes course or system related?	6. Do you think teaching online moved you from a digital immigrant to more of a digital native?	7. Did teaching online change your teacher/student interaction?	8. If your answer to question number 7 was yes, please explain.
4/7/2014 10:44:10	I have to be more specific and exact when communicating on line with students. This is a little different from being in the classroom because there I have a chance to clear up misunderstandings on the spot.	Just the time it takes to update information.	Given the technology it is more difficult to update course material. I have to find the new resource, upload it and email it to students. This is very labor intensive. Given the scarcity of time some updates just don't get made. Sometimes the library site was down.=	Yes	Course	Not Applicable	No	Yes with online instruction this requires more student interaction.
4/7/2014 22:10:29	It is not as easy to assess student understading of the subject matter as is in my classroom . In my class i will right away who understtod and who did not.	I am not able to interact with my students as I can in class.	I am using Aplia and that seems to be very helpful.	No	Course	Yes	Yes	Interaction is not as easy as in class.
4/8/2014 8:49:55	Delivery was much the same, but the assessment was greatly enhanced, and in much more detail.	None in the classroom, but the evaluation was enhanced and validated the fact that good and interested students will do well, and disinterested students will remain so.	It was a "blended" enviornment, not completely virtual but the constant access that students had to the material, especially the testing components intensified their involvement.	No	No	Not Applicable	No	Not applicable

Phase IV Timestamp	1. List specific lessons learned from teaching online.	2. Where do you think your educational pedagogy is most effective?	3. Please explain your answer to question number 2.	4. What classroom teaching tool or technology would improve online teaching?	5. What activities do you use in the classroom that you would like to implement in a virtual environment?	6. Are qualitative or quantitative courses more conductive to a virtual environment?	7. Provide a rationale for your answer to question number 6.
4/6/2014 18:26:31	Specifically, I can only say that the good and dedicated students will remain so. I may have enhanced the interest of some by this, but I believe that a serious student will always be just that, and an indifferent student will unfortunately remain just that. I see the technology as a tool, not a cure.	Blended Environments	Using this facet of online assignments for the first time, I have discovered that there are more facets to evaluating the work a student submits.	I would likesomeway of direct contact with many students at once. this seems to be a drawback of the current capabilities. I would also like some ability to interact with graphical presentations with a group.	Again, I would like someway to interact with graphical presentations with a group.	Undecided	I would need more experience with the enviornment to answer this.
4/7/2014 10:16:24	1. Double check all links. Links to resources go bad quickly. 2. Emailing students is critical to keep students engaged. 3.	Blended Environments	Operating in a blended classroom I have the opportunity to engage students face to face as well as on line. I enjoy the face the face. The online course offers the advantage of reaching a larger group of students.	The more reliable the network the more beneficial the learning experience.	I use the following activities: polls, surveys and threaded discussions.	Undecided	There are parts of each type of course that make it more adaptable to a virtual environment. I think qualitative would be more conductive to a virtual environment. There would be more reading of assessments for the instructor.

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