FACULTY DEVELOPMENT FOR ONLINE TEACHING AS A CATALYST FOR CHANGE

Carol A. McQuiggan

Manager and Senior Instructional Designer

The Pennsylvania State University - Harrisburg

ABSTRACT

This action research study explored the change in face-to-face teaching practices as a result of faculty professional development for online teaching. Faculty's initial teaching model is typically born from that of their own teachers, and they teach as they were taught. However, few have any online experience as a student or a teacher. Learning to teach online may be a catalyst for faculty to reflect on and evaluate their current teaching practices. Data were collected through three rounds of action research that included individual interviews, participants' reflective journaling activities, researcher's journal and field notes, and classroom observations. The qualitative data analysis steps included data reduction, data display, and conclusion drawing and verification. The results of the study indicated that learning to teach online has the potential to transform faculty's assumptions and beliefs about teaching, changing their face-to-face teaching practices. The identification of the aspects of professional development activities that were most effective in helping faculty to reflect on and question their previously held assumptions and beliefs about teaching will assist administrators and faculty development specialists move from one-size-fits-all programs to a redesign within an adult learning framework that supports opportunities for change.

KEYWORDS

Faculty Development, Online Teaching, Adult Learning Theory, Transformative Learning Theory, Action Research, Reflection, Teaching Changes

I. INTRODUCTION

The introduction includes the background of the study, problem and purpose statement, guiding research questions, and an overview of the theoretical framework.

A. Background of the Problem

Institutions of higher education are under pressure to make changes in their traditional ways of teaching that could change the entire environment of higher education [1]. Perhaps the largest driving force for change in higher education and teaching is the rapid growth of the Internet, enabling distance education and changing the way we gather and share information, gain knowledge, do business, collaborate, design and deliver instruction, and changing the speed at which we can accomplish these tasks [2, 3, 4, 5, 6, 7]. The wide availability of the Internet has advanced creative uses of new technologies, changed classrooms, and placed new and different demands on faculty [6, 8].

Some faculty members have embraced online education [9], but many faculty members are only beginning to integrate technology into their teaching. Most have no experience with online teaching, having spent the majority of their years as a learner in a traditional face-to-face classroom [10]. Their initial teaching model is typically born from that of their own teachers, and they teach as they were taught

[11, 12]. In this way, the teaching and learning environment has not changed much over the years and the instructors regard themselves as the content expert, responsible for course delivery [13].

B. Teaching Online

With few faculty members having any online experience as a student or teacher, it is not surprising that numerous changes have been noted in the faculty experience when teaching online. Several studies have found that faculty note that which is unfamiliar, different, or absent, and roles seem to change when moving to the online environment [13, 14, 15]. The loss of face-to-face contact with their students is a common concern shared by faculty teaching online [13]. In addition, teaching online seems to place demands on faculty that are different from those encountered in the face-to-face classroom [16]. Some faculty report extensive planning and attention to detail needed to teach online, which is often overlooked in traditional classroom teaching [17]. The amount of advance preparation and organization gives the online course a distinction of being known as labor-intensive [14].

In rethinking their familiar ways of teaching when moving online, another change noted is a shift from teacher-centered to learner-centered instruction [11, 13, 14, 17, 18, 19, 20]. Teacher-centered instruction is instruction that begins with the teacher's agenda, ideas, and methods, and learner-centered instruction is teaching that begins by planning for the learners' needs, purposes, and goals, with a distinct focus on what the learner needs to do rather than what the teacher needs to do. This shift in instruction also shifts faculty's instructional roles to place a greater amount of responsibility for learning on the students [11, 18] due to the increased opportunity for student participation in the online environment [19], often seen within online student discussion forums where every student is expected to participate. The potential changes related to the move to online teaching can have experienced faculty members finding themselves as beginning teachers again [11, 21, 22]. Faculty might perceive their online teaching expertise at the novice and advanced beginner levels, which could challenge their self-concept as expert [23].

Learning educational technologies for teaching online may be a catalyst for faculty to reflect on and evaluate their current teaching practices. A move to online teaching is a potential opportunity to develop new ideas about teaching and learning [20] and to restructure traditional classroom roles and relationships [19]. Faculty will not intuitively know how to effectively teach online [24]. What worked for them in the past in their traditional classroom may no longer be helpful or reliable in their online classroom. New views of teaching and learning need to be cultivated for online delivery [21], which is an opportunity to reconsider their responsibilities as teachers [25] in any teaching setting.

To develop new views of teaching and learning, faculty may need to critically examine their unquestioned assumptions and beliefs about teaching. A comprehensive adult learning theory that facilitates a process of examining, questioning, validating, and revising perspectives is transformative learning theory [26]. A transformative learning process would need to involve faculty in an examination of their "problematic frames of reference to make them more inclusive, discriminating, open, reflective, and emotionally able to change" [26, p. 36]. Reflective and supportive faculty professional development environments that prepare faculty for this type of change seem to be lacking in the current faculty development models examined in the next section.

C. Professional Development to Prepare Faculty to Teach Online

There is a recognized need for professional development to prepare faculty to teach online, and there are many different faculty development models being implemented with differing foci on technology, pedagogy, and course content. Some faculty members teach their first online course without any prior online teaching or learning experiences, with all of their training completed in face-to-face settings. Other faculty members participate in professional development programs that occur partially or completely online. Either way, most programs take faculty through a step-by-step training process [17, 21]. Some programs are voluntary, while others are mandatory for all faculty members who teach online. These programs can range from a 6-week intensive program to a 6-month-long course [27].

Faculty development only recently has been addressed as adult learning [21, 28], which focuses on the

unique aspects of adults as learners. The value of this is that it places in the hands of the developers all of the theory, research, and literature from the field of adult education and its various principles, practices, strategies, applications, and experiences [29]. Within an adult education framework, one needs to consider the characteristics of faculty as adult learners and be aware of their pressing problems, concerns, and issues in their professional lives. Faculty members bring with them a diversity of life experiences, educational experiences, personalities, learning preferences, and uniqueness. This shapes their perspectives on their teaching practices, influences how they will teach in the future, and even influences their motivation to participate in professional development activities [29]. However, the literature reviewed in section II of this article revealed that very few faculty professional development models explicitly adhere to an adult education framework.

To approach faculty development from the perspective of the adult learner, one must take into consideration faculty's characteristics, the context in which their learning is occurring, and the process that will be used to deliver the education and training [29]. However, most faculty development models are designed as a one-size-fits-all solution. Few development models view faculty as adult learners and typically do not consider their prior knowledge, experiences [12] or uniqueness. Most of the models reviewed lead faculty through a process focused on learning and change, but none of them provide deliberate feedback or reflection to use what they are learning for online teaching to inform their face-to-face teaching. The programs preparing faculty to teach online seem to presume that teaching online is separate from face-to-face teaching, even though it is faculty's experiences in the face-to-face classroom that initially inform their online teaching practices. What if the faculty development models provided activities for faculty to question their assumptions and beliefs about teaching as they looked anew at teaching for the online environment? What if the models intentionally provided activities for faculty to integrate what they were learning about teaching online to also inform their face-to-face teaching? How might these types of activities change faculty's assumptions and beliefs about teaching, and change face-to-face teaching practices? To date, no study has explored changes in teaching assumptions, beliefs, and face-to-face teaching practices resulting from faculty's preparation to teach online or from teaching online.

D. 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 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 forget, 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, how to establish a relationship with the students, and how to have the students develop relationships with each other. Preparing to teach online presents an opportunity to rethink assumptions and beliefs about teaching.

The facilitators designing these professional development programs need to recognize faculty as adult learners and their professional development as adult learning. By bringing all of the theory, research, and literature from the field of adult education, the facilitator can purposefully design a professional development program to foster transformative learning. A number of studies have investigated changes reported by faculty as they move to the online classroom, including changes in their teaching experiences, instructional methods, and instructional roles (e.g., 13, 14, 30, 31, 32]. However, no studies have been conducted that provided faculty with professional development activities for online teaching designed specifically to foster transformative learning to bring about changes in their assumptions and beliefs about teaching, and change their face-to-face teaching practices. Therefore, the purpose of this action research study was to explore transformative learning among faculty as a result of participating in professional development activities to teach online.

E. Research Questions

Action research has the intent of creating and understanding change. In preparing faculty to teach online, they were guided through professional development activities with the intent of fostering transformative learning. Specifically, critical reflection and discourse were used to question previously held beliefs and assumptions about teaching, while also informing their online and face-to-face teaching practices. This study was guided by the following 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?

F. Overview of the Theoretical Framework

Transformative learning theory, a comprehensive, constructivist theory of adult learning, provided the theoretical basis for faculty changes in this action research study. It is a theory of adult learning that has evolved through an integration of ideas from the fields of psychology, sociology, and philosophy. This theory is based on the constructivist assumption that meaning exists within us, within our perceptions of our experiences, and focuses on the individual. In this way, "transformative learning is a process of examining, questioning, validating, and revising our perspectives" [26, p.23]. Change in previously held assumptions and beliefs is at the heart of transformative learning theory. Professional development for faculty preparing to teach online presents a unique opportunity to assess previously held assumptions and beliefs about teaching.

While definitions of transformative learning theory vary based on the authors' field of expertise within psychology, sociology, philosophy, political science, etc., they all seem to be held up for comparison against Mezirow's [33] definition of transformative learning:

> Perspective transformation is the process of becoming critically aware of how and why our assumptions have come to constrain the way we perceive, understand, and feel about our world; changing these structures of habitual expectation to make possible a more inclusive, discriminating, and integrative perspective; and, finally, making choices or otherwise acting upon these new understandings (p. 167).

The perspectives Mezirow mentions are the frames of reference through which we filter our meaning making. They consist of the core structure of assumptions, beliefs, values, and expectations assimilated from our personal history of experiences. Each frame of reference has a number of habits of mind, which are expressed as points of view [33, 34].

To further explain these meaning structures, consider a faculty member who, whenever she hears online teaching mentioned, just shakes her head in disgust because she knows that teaching is only meant to be done face-to-face. She knows this because it is the way she has learned, and the way she has taught for twenty years. This is her general expectation or frame of reference. The habits of mind are the specific interpretations that guide her reaction, such as assuming that it would be impossible to teach her course content online, or that teaching online is not as effective as teaching face-to-face. These might be expressed as points of view.

We have a need to understand our experiences and integrate them into our existing meaning schemes. When we experience something that does not fit, such as online teaching, we can reject it, add it to our existing frames of reference, learn a new frame of reference, transform our points of view, or transform our habits of mind [34]. For our hypothetical faculty member to fit online teaching into her frame of reference, she would have to experience a change in a meaning perspective or meaning scheme. A

transformation can occur from a disorienting dilemma or from a gradual accumulation of experiences that challenge our previously established perspectives [26, 34]. A transformation of habits of mind can promote reflective learning and a transformation of frames of reference can promote transformative learning. Critical reflection and critical self-reflection, experiences that open up new perspectives or challenge existing frames of reference, and discourse with self and/or others are integral to this process of transformation [26, 34, 35].

Being critically reflective of our own assumptions assumes an openness to consider new information and other's perspectives. Critical self-reflection creates an awareness of our assumptions and beliefs, and how we came to them. Reflective discourse involves dialogue with others in which we assess our assumptions and beliefs, try to find common understandings, and validate our meanings. Mezirow explains, "To assess and fully understand the way others interpret experience requires discourse, and to understand and assess the reasons for their beliefs and understandings requires the ability to become critically reflective of their assumptions and our own" [34, p. 15].

Professional development for faculty preparing to teach online presents a unique opportunity to assess previously held assumptions and beliefs about teaching. Perspective transformation could also impact a faculty's classroom teaching practices.

II. RELATED LITERATURE

The related literature describes the development of faculty's teaching assumptions and beliefs, provides an understanding of the nature of online teaching and faculty's experiences teaching online, the concept of faculty as adult learners within their professional development programs, and the role of professional development to prepare faculty to teach online. It also provides a review of the empirical literature on professional development models.

A. Development of Faculty's Teaching Assumptions and Beliefs

New faculty's beliefs and conceptions of good teaching are formed during their "apprenticeship of observation" experienced through their years spent as a student [36]. They use their best teachers as the models to follow, and do the opposite of those they disliked as learners [37, 38, 39]. As a result, beginning teachers approach their teaching uncritically, and traditional disciplinary practices are followed with lecturing often as the main form of teaching [11, 38, 39, 40]. In fact, their discipline is a fundamental influence on their teaching practices [41]. The model used for teaching has largely been taken for granted [42].

Implicit beliefs about teaching are not only born through experiences as students. Throughout their lives, faculty's socialization in their education, community, and culture develops their habits of mind about the roles of educators and what good teaching looks like [10, 37]. The physical classroom space with the desks all in nice, neat rows facing the teacher's desk at the front of the room feed into normative beliefs about what should happen in a college classroom. The personal experience of teaching further develops faculty's implicit beliefs about teaching. It is through their actual teaching experiences that faculty members begin to develop a knowledge base of practices that seem to have a positive impact on student learning [43]. In this way, their personal, practical, and craft knowledge about teaching will evolve as their experiences in the classroom either confirm or challenge their beliefs about teaching [36]. As their teaching practices become more repetitive and routine, the opportunities to reflect on one's practice may decrease [42]. However, their assumptions and beliefs need to be considered and made explicit if faculty development activities are to have lasting changes on teaching practices [44].

B. Online Teaching as a Catalyst for Changing Teaching Beliefs and Practices

Moving to online teaching can cause faculty to rethink their familiar ways of teaching. A change that is noted numerous times in the literature is a shift from teacher-centered instruction to student-centered instruction [11, 13, 14, 17, 18, 19, 20]. As faculty members learn about alternatives to the transmission model of teaching, which is the passing of knowledge or information from faculty to students, they are

able to shift their instructional roles to place a greater amount of responsibility for learning on their students [11, 18] due to the possibilities for increased student participation in the online environment [19]. However, one study found the boundary between teacher-centered and student-centered instruction to be relatively hard and difficult to change, possibly requiring a conceptual change regarding the expected outcome of learning, the directionality of teaching, or the control of content [44]. In another research study [23], faculty ranked redesigning and rethinking faculty roles as the highest priority to be addressed in professional development sessions to prepare to teach in the online environment. It must be noted that classroom teaching is not always teacher-centered and online teaching is not always student-centered; this is a false dichotomy. In fact, in some cases faculty simply put their lectures online and call it online teaching.

A study of teachers who taught both online and face-to-face reported that 75% of the survey respondents indicated that teaching online had a positive impact on their face-to-face teaching [45]. They noted changes in their course design, fostering better communication, requiring more independent work, and building more reflection time into assignments. Another survey reported similar results of instructional transformation [46], but neither of these studies delved into the possibility of perspective transformation that would show a change in teaching assumptions and beliefs.

Changes highlighted in the faculty experience when preparing to teach online or actually teaching online, include the lack of spontaneity possible in the face-to-face classroom [14], the need for extensive planning and attention to detail [17], the lack of visual cues [47], and being held to a higher standard with programs like Quality Matters [48]. First-person accounts seem to reveal the effects that the integration of technology had on their thinking about their roles in the classroom and new perspectives on the learning process. Perhaps the process of writing about their experiences provided a unique opportunity for reflection that facilitated these insights. After all, it is not unusual for an interview participant to remark that a question posed by a researcher made him or her consider something anew. In one study, faculty survey responses reported less change in the classroom after integrating course Web enhancement than they reported in subsequent interviews [49]. Many of these study participants seemed to be unaware of the changes until they were specifically asked about the impact of their Web enhancements. More needs to be known about how this type of reflective practice could be integrated into faculty development programs.

C. Faculty Professional Development as Adult Education

Faculty professional developers work with adult faculty, therefore they should view the work they do from an adult learning perspective. However, there is little evidence that faculty professional development is actually being designed this way [4]. In faculty development's brief history dating back to the 1950s, few authors explicitly referred to adult learning theory in the related literature. The trend seems to be changing during the past fifteen years with authors beginning to recognize faculty as adult learners and faculty development as adult education [4, 28, 29, 50, 51].

Faculty members exemplify all six assumptions about the adult learner that Malcolm Knowles advanced in 1980 and 1984 [52]. Faculty members:

1. Are self-directed and independent learners.
2. Accumulate an ever-increasing reservoir of experiences that can be used within their learning.
3. Exhibit the readiness to learn associated with their social role as faculty members.
4. Are problem-centered learners with a desire to immediately apply what they learn.
5. Respond most powerfully to internal motivation to feel competent about their teaching.
6. Value relevance to their discipline and their perception in their learning's immediate usefulness.

These characteristics should have an impact on the design and development of faculty professional development programs.

Incorporating an adult learning perspective into faculty professional development can begin by using the

six strategies advanced by Lawler and King [53] as a rubric to guide the design and development of programming. The strategies are as follows:

1. The social and physical environment should reflect a climate of respect in order to allow faculty's independence and self-directedness to flourish. They need to feel accepted, respected, and supported [52]. This includes the recognition of the diversity of their teaching and learning orientations, their discipline's content, the institutional and departmental context, and their assumptions and beliefs about teaching [54].

2. Active participation needs to be encouraged to engage faculty in the learning event. This allows faculty to consider their needs and concerns, and plan learning activities and outcomes that are relevant to them. It builds intrinsic motivation for their learning and respects what faculty members bring to the program.

3. Professional development programming needs to build on faculty's varied experiences.

4. Collaborative inquiry should be used to bring faculty out of their isolated work conditions to investigate issues and concerns that are relevant to them. Faculty should be involved in the setting of their own goals, objectives, and outcomes of their professional development [8].

5. Learning for action and incorporating action plans helps faculty envision how they will implement their learning into their teaching practices.

6. The participants should be empowered for application. This could include examining the structures and processes currently in place at their institution to support or prevent them from implementing teaching changes, such as recognition (or lack of recognition) toward promotion and tenure, the local teaching culture, and the availability of continuing resources.

Strategic planning is necessary to design and deliver faculty professional development [23]. Gallant [11] suggests the use of four action principles that incorporate an adult learning framework and reflect the adult learning principles advanced by Mezirow. First, she considers responsiveness to the individuality of the faculty member to be essential. Second, training sessions offered only once are not as effective as those offered on an ongoing basis or those that build on each other incrementally. Third, building a community based on collegial sharing provides a necessary support structure. Finally, faculty should experience the teaching and learning conditions they plan to create for their own students through constructive activities, providing an authentic context for their learning.

The six assumptions about the adult learner advanced by Malcolm Knowles, the six strategies to incorporate an adult learning perspective into faculty professional development advanced by Lawler and King [53], and Gallant's [11] four action principles to incorporate an adult learning framework were reworked into a set of essential attributes for a faculty development program grounded in adult education. The twelve essential attributes [55] are as follows:

1. Recognition of faculty's needs, concerns, and goals (needs assessment and goal setting)
2. Individualized plan
3. Use of faculty experiences
4. Learning environment in which faculty feel accepted, respected, and supported
5. Active participation
6. Reflection
7. Collaborative inquiry
8. Observation of online courses
9. Authentic context in which to experiment and apply new skills (learn within the same context in which they will be teaching)
10. Action plan
11. Ongoing support

12. Evaluation and revision (continuous loop of offer, evaluate, revise)

This set of attributes was used to review fourteen different faculty development models described in the next section.

D. Faculty Professional Development Models to Teach Online

As we approach faculty development from the perspective of the adult learner, we need to take into consideration their characteristics, the context in which their learning is occurring, and the process we plan to use to deliver the education and training [29]. However, most faculty development models are designed as a one-size-fits-all solution. Few development models view faculty as adult learners and typically do not consider their prior knowledge, experiences [12], or uniqueness. These attributes were examined in a review of fourteen faculty development models. Seven models were chosen as recipients of the Sloan-C Excellence in Faculty Development for Online Teaching award as follows:

- State University of New York Learning Network,
- Illinois Online Network's Making the Virtual Classroom a Reality,
- University of Central Florida's IDL6543,
- University of Nebraska Lincoln's Summer Institute for Online Teaching,
- University of Massachusetts Lowell's Online Teaching Institute,
- University of Maryland University College's CTLA201 Teaching with WebTycho, and
- University of West Florida's Studioe.

An additional five models were brought to my attention through conference presentations and the literature review. These models include the following:

- University of Wisconsin-Madison's Distance Education Certificate Program,
- Penn State's World Campus OL2000,
- Louisiana State University's Professional Development Model for Online Course Development,
- University of Calgary's Institute, and
- Sloan-C's Online Teaching Certificate.

Two additional conceptual models were included for comparison purposes. The Four Quadrant Model for Professional Development [1] offers two dimensions of professional development activities, each with two components that need to be examined and addressed to support faculty's growth. The Adult Learning Model for Faculty Development [29] is the only model that is explicitly grounded in adult learning theory, making it especially relevant for this study.

The fourteen different faculty development models, while not necessarily representative of the multitude of faculty development models that exist within colleges and universities, do present quite a range of features that were taken into consideration for the design and development of the faculty development program designed for this research study. The common features that were explored included whether the program was mandatory or voluntary, the enrollment type (cohort or self-paced), whether or not a certificate was issued at completion, the length of the program (ranged from three weeks to over one year), whether or not participants paid a fee, the delivery mode (a mixture of online and face-to-face sessions, or completely online), the research base or conceptual/theoretical framework employed, the program's emphasis, and whether or not the program was evaluated.

Program components that implemented the essential attributes and were included in the model built for this research study are as follows:

- **Recognition of faculty's needs, concerns, and goals:** The needs assessment and objective setting in Louisiana State University's Professional Development Model for Online Course Development was the model for this essential attribute. The participants' individual needs were

considered in constructing their own personal learning objectives for their professional development within the one-year program.

- **Individualized plan:** A University of Calgary facilitator met with the participants prior to the beginning of the program to discuss and refine their project proposals to ensure that they had a reasonable mix of feasibility and challenge. At Louisiana State University, participants completed a needs assessment and set personal objectives for themselves. They linked their objectives to current research on best practices.
- **Use of faculty experiences:** At Louisiana State University, participants shared ideas, successes, and concerns, benefiting from the insights and experiences of their peers.
- **Learning environment in which faculty feel accepted, respected, and supported:** Although this is difficult to verify without personally experiencing it, the State University of New York's Learning Network offers a rich description of its program. In their program, each faculty member receives personal and community support for over one year, and one-on-one attention from an assigned multimedia instructional designer. The variety of discussion activities and face-to-face meetings help to establish this environment.
- **Active participation:** All of the programs have outcomes that require active participation from each participant. Examples include faculty working with instructional designers to design and develop their online course, creating a revised syllabus to use in an online course, creating an online portfolio, and creating an online lesson plan.
- **Reflection:** The University of Central Florida includes reflection on faculty's existing teaching strategies to determine their suitability for inclusion in an online course. The State University of New York's (SUNY) Learning Network (SLN) also includes reflective activities to determine classroom changes. For example, an early reflection activity involves discussing general issues about teaching and learning online. In an SLN study conducted within the SUNY system, 94% of faculty respondents agreed with the statement, "Development and teaching this online course provided me with an opportunity to reflect on how I teach in the classroom" [46, p.13]. The Four-Quadrant model, one of the two conceptual models included in the review, is the only one that offers more intentional and varied opportunities for reflection. This model is composed of an individual/public dimension and a reflection/performance dimension that, when connected, results in the four quadrants of individual reflection, public reflection, individual performance, and public performance. None of the models seem to reach the critical reflection state, although the Four-Quadrant model is meant to facilitate transformative learning.
- **Collaborative inquiry:** The SLN uses a Community of Inquiry framework and the University of Calgary uses an inquiry approach. Both models strive for the active collaboration of participants in constructing personal meaning and shared understanding.
- **Observation of online courses:** At the University of West Florida, participants view sample online courses, but at SLN, participants view live online courses. They have a list of approximately thirty live courses in which observers have received permission from the instructor and all students for entry into the courses.
- **Authentic context in which to experiment and apply new skills:** At the University of West Florida, participants first engage as an online student where they get to experiment and learn new skills, and then work within their own course as an instructor where they get to apply the same new skills. This is also the case at the University of Maryland University College.
- **Action plan:** None of the models had an action plan component for faculty to plan their ongoing professional development after the end of the program. These action plans could be used to determine the needs for their ongoing support.
- **Ongoing support:** The SLN has the most potential for ongoing support since they engage with their faculty participants for over one year, and new training opportunities are available for them each semester.

III.   METHODOLOGY

A. Action Research

Action research can be traced to the work of Kurt Lewin who believed that in order to gain insight into a process, the researcher needed to create a change and then observe the effects and new dynamics of the change [56]. The basic elements of an action research model are cycles of planning, acting and observing, and reflecting [57]. An action research project does not have planning at the beginning, data collection in the middle, and data analysis and results at the end of the study. These actions are continuous throughout its cyclical process. After each planning phase, data is collected during the acting and observing phase, and data is analyzed during the reflecting phase to inform the next planning phase of the next cycle of action research.

In the initial planning phase, the first step is problem identification. This study's problem was identified through a literature review. The second step is defining the details of the action research project including intervention strategies, when and how to begin, and how to involve the participants. These details were determined through a review of fourteen faculty development models, by incorporating the essential attributes needed in a faculty professional development program that is framed in adult education, and by integrating intervention strategies that could facilitate transformative learning. The intervention strategies needed to provide opportunities for faculty to critically reflect on and discuss their assumptions and beliefs about teaching, both individually and collectively. These strategies included individual pre- and post-interviews, and journal writing. Determining evaluation measures is completed in the third step, as well as deciding how long the study should run, and how the action and change will be observed and documented [58]. In this study, faculty participants were asked to share their perception of the value of the reflective activities, and to offer suggestions for changes to the faculty professional development program. They were asked to relate their learning about online teaching to their face-to-face teaching to determine if there were any changes in teaching practices. While the major portion of the study ended with the conclusion of the summer session, two other important evaluation activities were completed during the subsequent fall semester: a classroom observation, and the post-interview.

During each cycle's acting and observing phase, the action was implemented and data was collected. The methods of collection in this study included pre- and post-individual interviews that were audio recorded and transcribed, reflective journaling, researcher's journal and field notes, and classroom observations. Questions asked during this phase included: Am I staying true to the initial plan? Am I systematically collecting data and keeping close track of it? [58]. Data collection methods are detailed in a future section.

Reflecting is the main focus of the third phase of each action research cycle. During this phase, results are evaluated and outcomes are reflected upon. The data were analyzed for patterns and insights [57]. Each data collection and evaluation period in this study provided an opportunity to determine whether faculty participants had an opportunity to reflect on their previously held assumptions and beliefs about teaching. When little or no reflection occurred, the next cycle of action research was planned with a different activity or approach to provide a new reflection opportunity for the participants. Alternatively, when reflection did occur, then the possibility of repeating that action in the next cycle of research remained. As changes were made based on the learning from the research, new questions arose and a new phase of research began [57].

There is great flexibility in the design of an action research project. The design has even been described as a work of art that emerges over time through each repeated cycle [58]. Even though the research design is outlined at the start of the project, it is not completely predetermined and allows for modifications during the study [56, 60]. Additionally, one action research project will not look like another, as different problems lend themselves to different strategies and will also vary based on the researcher and the circumstances [58, 61]. Qualitative methods and action research have been linked with professional development, adult education research, and transformative learning by a number of authors (56, 60, 62, 63, 64, 65, 66].

The next sections provide details on the study's setting, participant selection, the design of the faculty professional development program, and approaches to data collection and analysis.

B. Background of the Researcher

As the researcher, but also as the person in charge of faculty professional development at this university's campus college, which is the research setting, the faculty participants were already familiar with me as a support person. It is possible that already knowing the faculty participants could have impacted their reporting of teaching assumptions and beliefs, and any changes resulting from the professional development activities to me, possibly trying to tell me what they thought I wanted to hear. However, it is also possible that an environment of trust, respect, and openness was established more quickly than in other research situations where the researcher and participants are unfamiliar with each other.

I shared with the study's participants my belief that professional development to prepare for online teaching presents a unique opportunity to rethink our assumptions and beliefs about traditional classroom teaching. The professional development activities were designed with the facilitation of these potential changes in mind. I invited the faculty participants to join me in opening ourselves to new possibilities about teaching as they prepared to teach online for the first time.

C. Setting and Sample

This study took place over two consecutive semesters, summer and fall of 2009, at Penn State Harrisburg, a campus college of a large Research I institution of higher education. All face-to-face professional development sessions were held on the campus, with additional sessions held online within an authentic online course context created in the university's course management system, ANGEL.

A purposeful sample was selected strategically in order to provide information-rich cases "from which one can learn a great deal about issues of central importance to the purpose of the research" [67, p. 46]. The criterion for participant selection included current employment by Penn State Harrisburg, limited or no prior experience teaching online, and at least two years of experience teaching at the university level in order to have accumulated some assumptions and beliefs about teaching in higher education that were later called into question during the study. In addition, the participants needed to be scheduled to teach at least one face-to-face course during the fall semester immediately following the study's summer professional development activities, and scheduled to teach either a portion of a course or an entire course online in the same fall semester. This provided the actual teaching experiences in which changes resulting from the action research could be implemented, observed, and reflected upon.

After securing IRB approval for the study, a recruitment email was sent to all tenured, tenure-track, and fixed-term faculty who were scheduled to teach in the fall semester immediately following the summer professional development program. Those who responded were individually contacted by email to assure that they met the criteria for the study, and to give them an opportunity to ask questions about the nature of the research.

The purposeful sample included six full-time and one adjunct faculty, teaching a mix of undergraduate and graduate courses in education, engineering, and public affairs. All had a desire to move toward online teaching by preparing a course for hybrid delivery, and they participated in a six-week summer professional development program. They will be referenced using the pseudonyms of Mick, Lou, John, Mary, Kay, Beth, and Ralph. The study continued through the following fall semester concluding with one face-to-face class observation per participant and a final post-interview. The professional development program activities and the resulting data collection methods are described in the following paragraphs.

D. The Faculty Professional Development Model: Activities and Data Collection

The faculty professional development model was designed using a framework of adult learning theory and transformative learning theory, recognizing faculty as adult learners and the program as adult

education, and with the intent to change assumptions and beliefs about teaching and learning. The faculty development models reviewed against the essential attributes (see previous section II.D.) provided rich examples of best practices from which to build this program.

A faculty development course was created in the university's course management system, ANGEL, to provide the participants with low stakes experiences in using its tools, and opportunities to experience portions of the course as an online student. The program's structure, including the folder organization within the course management system, is listed below. The data collection points are in bold font.

Individual Interviews (pre-interviews)

- Getting Started folder (ANGEL)
    a. Read Me First: Welcome; Explanation of how we would communicate with each other; Explanation of personal reflection journals; Description of program structure; Next steps
    b. How to participate in a threaded discussion
    c. Netiquette
- Technical Support Discussion Forum (for questions about using the course management system)
- "I don't understand" Discussion Forum (for questions about course content)
- Your Reflection Journal (each participant had a private reflection journal in ANGEL)
- Let's get to know each other Discussion Forum (for introductions)

Group Face-to-Face Session in Computer Lab (2 hours)

Module 1 Private Reflection Journal Entries (ANGEL)

- Module 1: Reflection and Conceptualization (ANGEL)
    a. Overview, objectives, and activities planner
    b. Readings folder
- Final Module 1 Discussion Forum: What questions remain?

Group emails and Individual Consultations

- Module 2: Student Interaction and Collaboration in Your Online Course (ANGEL)
    a. Overview, objectives, and activities planner
    b. Interaction and Collaboration Discussion Forum
        i. To ask questions to generate discussion with the other participants
        ii. To share effective interaction and collaboration activities they have experienced or read
    c. Readings Folder
    d. Resources for Interaction and Collaboration folder (resources added based on participants' expressed interests and needs)
    e. Final Module 2 Discussion Forum: What questions remain?

Module 2 Private Reflection Journal Entries (ANGEL)

Adobe Connect Session (1 hour synchronous web conference)

- Module 3: Learning Activities and Assessments in Your Online Course (ANGEL)
    a. Overview, objectives, and activities planner
    b. Learning Activities and Assessments Discussion Forum
    c. Readings Folder
    d. Resources for Learning Activities and Assessments (resources added based on participants' expressed interests and needs)

      e.   Final Module 3 Discussion Forum: What questions remain?

Module 3 Private Reflection Journal Entries (ANGEL)

Individual emails and Individual Consultations

- Module 4: Teaching and Managing Your Online Course (ANGEL)
    - **a.** Overview, objectives, and activities planner
    - **b.** Teaching and Managing Discussion Forum
    - **c.** Readings Folder
    - **d.** Resources for Learning Activities and Assessments (resources added based on participants' expressed interests and needs)
    - e. Final Module 4 Discussion Forum: What questions remain?

Module 4 Private Reflection Journal Entries (ANGEL)

- Resources folder (resources added to ANGEL based on participants' expressed interests and needs)
    - **a.** ANGEL resources folder
    - **b.** Course Planning Tools and Related Articles folder
    - **c.** Course Quality folder
    - **d.** Discussion Resources folder
    - **e.** Games and Simulations folder
    - **f.** Learning Object Repositories folder
    - **g.** Open Courseware (OCW) folder
    - **h.** Synchronous Meeting/Communication folder
    - **i.** TEACH Act (Copyright information) folder
    - **j.** Technology Tools folder
    - **k.** Other Course Resources folder

Classroom Observations

Individual Interviews (post-interviews)

After participant selections and the signing of each informed consent form, an individual pre-interview was scheduled with each participant and was the first data collection point for the study (details provided in next section). During the audio-recorded interviews, faculty participants shared their needs and concerns regarding teaching online. These concerns and needs were then addressed within the program by the choice of readings, the addition of resources, and the planned two-hour group face-to-face session. Faculty participants were given access to a group online discussion forum to ask questions, and a personal online journal with a beginning reflective activity. They also received several readings related to online teaching to be completed prior to the face-to-face group meeting. The remaining program activities interspersed throughout the four modules were not pre-planned, and were determined through the action research process. Classroom observations were scheduled toward the end of the following fall semester, with the individual post-interviews scheduled last.

IV. DATA FROM ACTION RESEARCH CYCLES

It is important to understand that each cycle of action research includes planning, acting and observing (data collection), and reflecting (data analysis). It is a cyclical process. Therefore, planning, data collection, and data analysis are described for each of the three action research cycles.

A. First Action Research Cycle: Planning, Acting and Observing, Reflecting

The first round of action research included comprehensive planning for the start of the research project, the pre-interviews, and the group face-to-face session. Acting and observing formally occurred during the group face-to-face session, after which some participants posted to their reflection journals. Email correspondence between the researcher and the participants was another component of acting and observing. The first cycle's data collection included the audio-recorded and transcribed pre-interviews and the Module 1 reflection journal postings. Data analysis of the pre-interviews and the journal postings was an ongoing activity.

1. Planning

During the planning stage, the framework for the faculty professional development program was built in the university's course management system. The participants were invited and interview questions were designed to elicit responses that would try to uncover their underlying assumptions about teaching. The purposes of these questions were to learn about participants' assumptions and beliefs about teaching, to learn about their teaching practices so I might determine changes later on, and to plan for the group face-to-face session by gathering information similar to a needs assessment. The questions were as follows:

- "Tell me how you came to the field of teaching in higher education." This explored the context, motivations, and assumptions that led them to this career.

- "What are the events and experiences in your life that made you the teacher you are today." This explored the various influences on their teaching practices.

- "Tell me about your students." "Tell me about your teaching practices." These questions were used to learn more about their assumptions and beliefs regarding teaching, and to gain a baseline understanding of their current teaching methods.

- "Tell me how you feel about teaching online." This question was used to learn of their concerns and learning needs related to online teaching. By listening for common needs, I was able to prepare for the group face-to-face session.

Sample responses to these questions that provided insights into the participants' assumptions and beliefs about teaching are provided.

a. Participants' Assumptions and Beliefs about Teaching

Mick: Over the years of teaching the same course, Mick's focus has turned toward his students and he is asking himself what he can do to make his course a good learning experience for his students. He has realized that "people learn different ways and at different speeds, and is it really necessary for someone to physically come to every class to get the benefit for themselves, whatever that is, out of this class." He is looking at his students as individuals, which he shared is one of his motivations for participating in the faculty professional development program.

Lou: Lou shared his constructivist teaching philosophy in this way, "We share ideas. I tell them that everybody is a teacher in my class. I teach you and you teach me." He also has a caring philosophy learned from one of his own teachers in which he believes, "If you teach with care, students will also care."

John: The parts of teaching John enjoys the most are "the interaction with the students" and "helping students understand the process." He showed his concern for his students and was "very interested in making the students understood what was being taught." He also prided himself on being very thorough which seemed to explain his reliance on lectures, which he called "giving information." John thought that some of his students "basically want to be spoon-fed." His students seemed to expect to be given all of the information they needed in the lectures, but John expected them to be creative thinkers.

Mary: Mary believes that you cannot do online what you are used to doing in the classroom, and thinks that most online teaching "is a sequence of behaviors with no learning taking place." She believes that

you have to change your pedagogical understanding to teach online. She shared, "If you are really going to use that online culture the way it is and let 'it' be the context, you are not teaching like it is a classroom. I think as soon as you teach it like a classroom you have missed the point of online teaching." Mary also believes that interacting online will "take every waking hour to get it right."

Kay: Kay is looking for a way to use online technology to engage her students. She is concerned about the learning deficits students are bringing to college regarding reading comprehension and writing skills. She shared, "Our problem as teachers is to figure out how to engage these students. . . how do we get them to read." She has decreased the amount of required reading and does not "know that I should or could whittle it down any more." She thought that the online discussion forum held some promise to enable "the development of writing."

Beth: Beth taught a specialty field within education and felt as though she had too much content to cover and not enough time to get it all done. This situation forced her into the lecture mode more often that she was comfortable doing because it went against her constructivist philosophy. She believed that a hybrid course format would give students "more time to spend and read the material and reflect on it and incorporate what they learned in the classroom." This would allow her to reduce the amount of lecture and provide more time to do other activities during the classroom time in order to address students' different learning styles.

Ralph: Most of his graduate students have some relevant work experiences that he tries to incorporate into his classes. This is one way in which he is able to engage them in class discussions. However, Ralph did not view this type of learning as important as his lectures. He shared, "If I don't lecture about it, how do you learn about it?" Ralph believes that the lecture is an important learning component of his courses.

b. Participants' Teaching Practices

I learned about each participant's teaching practices during the pre-interviews with those results shared here.

Mick: His class meets in a computer lab for fifty minutes three times each week. He described a typical class as one in which, "I will do a little bit of demonstrating certain features that I want to expose them to. . . and then I'll let them work on things for the other twenty minutes of class." He walks around the computer lab and students interact with him by asking questions. He does not use ANGEL, and has students email him their assignments as attachments, but has found it to be time consuming to keep track of what he has received and what still needs to be turned in. Student presentations are supposed to generate discussion on each other's work, but Mick feels that students are not participating because they do not want to criticize their classmates' work.

Lou: He said that he does not stand in front of his students and lecture, but has "different classroom presentations, projects, exams, classroom participation, and group work all put together." He thinks it is more fun if his students come up with ideas and talk. Lou has them read a chapter in the textbook, and then they discuss the reading in class and view a video. He also tries "to encourage students to be themselves, and we can agree to disagree provided you are not too emotional." Students need to back up their statements with facts, not just opinions.

John: John's typical class includes a lecture in which he gives "them information as far as PowerPoints, handouts, follow along" and then gives them in-class and out-of-class exercises.

Mary: Mary shared what happens in her classroom by saying, "you have to allow for a lot of dialogue and a lot of reflection, personal reflection, collegial reflection, and group reflection. You've got to allow for that interaction to be taking place constantly or it becomes content on the side, disconnected, or I made the connections." She uses a lot of turning to your neighbor and discussing, asking her students to draw a representation of what they have just learned, and group work. She tries to have her students' learning be both reflective from their own perspective and also from that of their classmates.

Kay: Kay uses lectures to supplement what she has asked her students to read, and she does not summarize their readings since that is what students are supposed to do. She uses tests so her students will complete the readings. Her goal for her students is to read and "to think about what it is they are learning, and how to get there." She continued, "I don't want them to say to me, 'Tell me what I need to know.'" Her "style is that I want you to be able to ask the questions and to discover."

Beth: Beth includes many different learning activities including group activities, case studies, viewing of video clips, and discussion in her classes. However, she still feels a need to lecture because of the time constraints and the amount of foundational information she has to share with her students. This presents a dilemma for her because she does not consider lecture a good practice.

Ralph: Ralph's courses are predominantly lectures and consist of "sixty percent lecture and forty percent of the time I will have some sort of activity that will allow them to connect to something we discussed in class." Although his students complain that he lectures too much, he felt that in some of his classes "the content doesn't allow for too much activity. . . or group discussion."

c. Common Needs for Group Face-to-Face Session

The pre-interviews found the majority of participants were most focused on the technological aspects of online teaching in using ANGEL's grade book, drop box, quiz, and discussion forum tools. A few were also interested in synchronous online interaction through a tool like Adobe Connect Pro, for which we had a license. There was interest in locating online resources.

A concern that was mentioned by over half of the participants in response to the last interview question regarded the amount of time that would be involved in online teaching. Kay shared, "I wish administration would understand that running online courses is actually more work. I think it's more work because of the amount of time you are spending reading student material." Mary shared what she had seen with a colleague's experience teaching online, "She is on the computer 24/7. I mean her whole life gets totally taken over by that one course."

Finally, interest was shared for learning about different teaching techniques for online teaching and learning. Engaging students in discussion, both in and out of the classroom, was mentioned multiple times by the participants. Mary wondered what kind of activities would allow students to co-construct meaning online as well as it currently happens in her classroom. John shared, "I am trying to get a better handle as far as what the online can do differently from what I am doing now." Most participants expressed this openness to discovering the possibilities online teaching held for them, rather than duplicating their current classroom teaching practices online. The group face-to-face session was planned after compiling these learning needs and interests.

2. Acting and Observing

a. Group Face-to-Face Session

The acting and observing phase occurred during the two-hour group face-to-face session in a campus computer lab. After introductions, we reviewed the handouts that had been distributed as they arrived which included information on the course management system, various how-tos for discussion forums, faculty workload estimates, and an online course planning worksheet. Then we logged into the course management system and used our hands-on time together to become comfortable with the technology used in our faculty development program and the technology they would be using in their own courses. A lot of interest was expressed around the discussion forums concerning how to get students started, grading and monitoring discussions, determining the best online discussion group size, and various uses for a discussion forum.

As our two hours were coming to an end, we reviewed our program's first two learning modules, "Module 1: Reflection and Conceptualization," and "Module 2: Interaction and Collaboration in Your Online Course." We shared expectations and I asked about their learning needs and support to move forward. All were interested in one-on-one sessions with me to discuss their specific learning needs and

gain additional hands-on time with the instructional technology tools they might use. They were also interested in seeing what a hybrid and/or online course looked like, talking to an instructor who was teaching a hybrid or online course, and learning more about the university's web conferencing tool to explore its use for synchronous sessions or online office hours.

b. Personal Journal Reflection Posts

After each initial interview, they were enrolled in the faculty professional development program's course, "Preparing to Teach Online," in the course management system, gained access to readings to complete prior to our group face-to-face session, and encouraged to post to their personal reflection journal. Although they could write anything they wished, this writing prompt was provided to help them get started: "Reflect on our one-on-one meeting, and write about your thoughts on the things you shared with me: how you became a teacher, the events and experiences that have made you the kind of teacher you are today, your students, your teaching practices, and how you feel about teaching online. Is there anything that conversation brought to light? Do you have any new insights? Is there anything you have been thinking about since then that might add to what you initially shared?"

Four participants, Mick, John, Beth, and Ralph responded to the first reflection post. Mick shared, "As I have thought about and began preparations for this course – I have had a chance to reflect on the technology a bit and how to interact with it." He thought it would make sense to learn how to use ANGEL so he could "ultimately reduce the time I spend doing busy work and focus on the students needs." John was quite brief, and simply repeated what he had shared in the interview. However, Beth realized that she "had never taken time to purposefully reflect on the extent to which past events and experiences influence what I do in my classroom today." Her new "plan is to explore ways to limit required readings and incorporate more activities that promote active learning requiring students to collaborate with peers and take charge of their learning." She was already considering changes in her course. Ralph wondered how his participation in the program might change his teaching style, what challenges he might encounter, and how it would impact his students.

Participants were provided with their second reflective writing prompt after the group face-to-face session: "Reflect on our first face-to-face meeting. At what time during our session together did you feel most engaged? At what time during our session together did you feel most distanced/disengaged? What new insights do you have about your teaching and redesigning your course for hybrid delivery? What was the most significant learning for you? Were there any surprises?"

Two participants, Beth and Ralph, posted responses approximately one week after the group face-to-face session. Beth shared that the discussion during the session "provided the opportunity to reflectively think through why I teach the way I do." She realized, "I occasionally find myself resorting to some less effective strategies that were modeled to me as a graduate student." She was surprised by the number of different tools available "to facilitate student engagement with the activities and in the learning process." Her plan was to "incorporate technology tools that will present opportunities for prompt feedback and ongoing interaction with my students." Her surprise from the group session was that "there are many people. . . who are not very conversant with the different types of new technology."

Ralph felt most engaged during the hands-on time during the group session, and felt disengaged when other participants were asking basic technology questions with which he was already familiar. He was thinking carefully about his course, considering "what activities I can do online vs. in the class? What topic can I use for my discussion forums? What questions should I develop to lead the discussion online?" He was actively planning his next steps.

3. Reflecting

In the reflecting phase (data analysis) of this first action research cycle, I evaluated the results of the group face-to-face session in light of all I had learned during the initial interviews, and analyzed their reflection journal postings. The participants' interests pointed to talking to a colleague who had experienced teaching online and who would be able to take them on a tour of his online course, sharing

the design decisions he made and the rationale for those decisions. The initial interviews revealed an interest in the use of discussion forums that had been included in the group session, and Adobe Connect Pro for synchronous class meetings, which had not been demonstrated.

Most had mentioned an interest in potential changes and the new possibilities online teaching and learning could provide them. John said, "I am trying to get a better handle as far as what the online can do differently from what I am doing now." Mary felt that she would have to change her "pedagogical understanding to teach online." The initial interview session and reflection provided Beth her first time to "purposefully reflect on the extent to which past events and experiences influence what I do in my classroom today." She was considering changes that might generate more student self-involvement in the learning and reducing the amount of information she provided them through lecture.

Even after the group session, the time commitment and resulting workload of an online course continued to be a concern for the faculty participants. Speaking with an experienced colleague who could directly address those concerns based on his own experiences seemed to be a logical next step. This next step should also focus on the "how to" of online teaching since this was what most were interested in during the group session. It was time to begin the second cycle of action research.

B. Second Action Research Cycle: Planning, Acting and Observing, Reflecting

This cycle began shortly after the group face-to-face session held on July 7th, and ended as classes for the fall semester began on August 24th.

1. Planning

The planning phase of the second action research cycle involved a synchronous activity using Adobe Connect Pro, a web conferencing tool that had been highlighted during the participants' needs assessment. An experienced online colleague used the web conferencing tool for a discussion and demonstration of his hybrid and online courses. Group email communications conveyed information about added resources to our program in our course management system, encouraged posting to the reflection journals, asked for their availability in scheduling the web conferencing session, and reminded them of the date and time of that session.

Individual consultations with three of the participants, Lou, Mary, and Beth, were also a part of this planning phase. Lou met with me to discuss the possibilities for his online course sessions. He had read the articles posted in our course, and they had boosted his interest in a hybrid course delivery. He found the articles' examples especially helpful. In discussing his course, we agreed to concentrate on a community service assignment that was not currently delivering the outcomes he had desired. We worked together to redesign the assignment for his hybrid course.

During my consultation with Mary, she shared that she liked control and realized that she might have to give up some control online. Because she believed in collaboration and reflection for learning, we looked at the possible use of wikis and blogs in her hybrid course.

The individual consultation with Beth was spent working on the logistics of the discussion forums she wanted to add to her courses, including the student instructions, and the types of questions she could pose to elicit thoughtful responses. She wanted to make sure that her students would have a good online learning experience.

I opened the last two modules of the program, "Module 3: Activities and Assessment in Your Online Course," and "Module 4: Teaching and Managing Your Online Course." I made sure that readings and resources were added to support the work that each participant was doing in their respective courses preparing for hybrid delivery.

2. Acting and Observing

During the acting and observing phase, the web conferencing session took place, I sent additional group emails, and conducted additional individual consultations. The participants were given their last two reflective writing prompts.

a. Web Conference Session

Four participants, Beth, John, Ralph, and Mary, were able to participate in the Adobe Connect Pro session. An experienced online colleague from another campus was the presenter. He did a great job of explaining his course design and showing the participants his course. As he gave a tour of his course, he took time to explain his rationale. The participants seemed most interested in how he had constructed his course content in ANGEL. Ralph asked, "So each folder contains what you will need for each class period?" The participants considered it a valuable learning experience and thanked me for the opportunity. One participant shared, "Thank you, this has given me many new thoughts."

b. Group emails

My group emails typically included a reminder to post to their reflection journals, since they seemed more likely to post after a reminder was sent. I usually included some new information and/or asked a related question. For example, in one group email sent after the Adobe Connect session, I included an article about actively engaging students by moving information delivery online and reserving classroom time for learning activities. I also encouraged them to be in touch as they worked on their course, preparing it for hybrid delivery. In a later group email, I shared a book recommendation on teaching online and provided a link to its companion website. I also emailed the group after a colleague agreed to give the participants access to his online course in ANGEL so they could see another course example. Although I tried to elicit possible meeting dates for another Adobe Connect session or another group face-to-face session, the group emails were not effective in eliciting communications from them, as I only received one response.

c. Individual Consultations

Almost all of my individual consultations concentrated on hands-on time with instructional technology tools such as blogs, wikis, and discussion forums, with a little time also spent on setting up grade books and writing clear directions for students for their use of the different technology tools.

I met with Mary to answer her questions on her use of blogs with her students. We reviewed settings, discussed the logistics of how to capture each student's posting on one screen, how to provide feedback, and how to tag students' postings for each aggregation. She was making decisions on peer comments, private instructor feedback and grading, and linking the learning activities to educational standards.

Lou met with me to get hands-on help with ANGEL. He was not at all familiar with its tools, and its navigation was not intuitive to him. He was quite tentative and uncomfortable with technology, and he was not comfortable exploring the tools on his own.

Beth scheduled a consultation to discuss her use of ANGEL quizzes and discussion forums. We also looked at the use of blogs, worked through the blog settings, and outlined the process students would need to follow to create their own blog. She explained the course schedule she was planning.

A few weeks later, I met individually with Beth and Ralph. Both were making final preparations for their courses and wanted to review what they had done with me to make sure everything was ready. We checked settings, discussed logistics of the discussion forums and online grade books, and I offered support and reassurance.

d. Personal Journal Reflection Posts

The participants were given a third reflective writing prompt: "Incorporating your readings and the web conferencing session, what new insights do you have about your teaching and redesigning your course for hybrid delivery? What was the most significant learning for you? Were there any surprises? Post your action plan progress - what's done and what still needs to happen?"

Mary posted her first three reflection posts within two days during the second action research cycle. In her first post, she found the recounting of her path to college teaching during the initial interview to be "a good reminder of my philosophy of and passion for facilitating learning both in myself and in others." She wondered how to make the online space "a learning space, not just an activity space, for all." Mary did not just want to engage her students online, but wanted to explore the online environment as "a space

of educational/intellectual conversation." Mary had an individual consultation with me and posted about that experience by saying, "The one-on-one time gave me the tools to not only explain the ideas I brought to the table but also provided time to actually begin to build these ideas." The next day she posted her third reflection and wrote about the Adobe Connect session and her plan for online teaching. She said that seeing and hearing what the faculty member had done with his courses reinforced two issues that she had been contemplating. First she shared, "technology is good at introducing glitches and with busy students this can add to their frustration in a way that may seem unnecessary to them." Her second issue was that "the up-front work necessary to make the online work go well is a bit overwhelming." Mary posted her online teaching plan for three of her courses. The online Adobe Connect session seemed to help Mary focus her thinking on an action plan and the steps she needed to take to prepare for teaching online.

In Ralph's third reflection post, he used the Adobe Connect presenter's course as an example against which to compare his course and shared that his next step was "the need to re-organize the course by class period or topic as it will make the transition to online/hybrid much easier." Seeing a colleague's course seemed to help provide Ralph with his next steps.

The first thing Beth mentioned in her third post was the helpfulness of the online Adobe Connect session. She tied together her learning from the readings and the Adobe Connect session as she shared, "the layout/format was very organized and easy to navigate. The course layout was an excellent example of ways in which an instructor can demonstrate cognitive and teaching presence in a course." She was wondering about the possibility of using Facebook to "promote formal and informal interaction." She shared her plan for using discussion forums, but was struggling with how to encourage her students "to reflect before contributing to the discussion."

Kay did not post until over a month after our initial interview. She apologized for being "tardy" and shared that "the summer has been too busy and I have had very little time to even think about this project."

The participants were given their fourth and final reflective writing prompt: "Look over your previous postings, and think about your progress so far with your hybrid course design. Is there anything you have read, heard, or done, that has given you pause to rethink any of your face-to-face teaching practices? What are the possibilities for change?"

Ralph posted his response sharing his excitement "about the possibilities of what online teaching provides." He planned to add four online sessions in his course, and planned "to use the discussion forums as a way to increase critical thinking and class participation among the students." He still had concerns about the time commitment, and about his students' reaction to the online assignments.

3. Reflecting

The group emails I sent tended to have a different impact than I had expected. They seemed to remind participants that they needed to do something, but I had no idea whether they actually read the message's content. Most replies I received had nothing to do with the original message's content. For example, after sending a group email trying to gauge interest in having another faculty presentation of an online course, the only reply I received was from Beth who requested a meeting with me to discuss her course redesign. As I neared the end of July, I had sent ten group emails to the participants and had received very few replies. This method of communicating with the participants was very ineffective in promoting dialogue. However, with most participants off campus during the summer months, email seemed to be the most efficient method of communicating with them. Based on this observation of the ineffectiveness of group emails, I decided to begin my next cycle of action research by sending individual emails to the participants, even if the messages being communicated were identical.

Faculty valued the one-on-one consultations as a time to discuss specific courses and provide hands-on time with the tools each planned to use. It was a time to recognize their individual needs, concerns, and goals, and to make their learning directly relevant to their courses. One participant shared that the one-on-one consultations gave her time to explain her ideas and then to begin to actually build them into her course.

For the most part, the participants' reflection journal postings gave me insights into their progress differently than what the one-on-one consultations provided. While the consultations tended to concentrate on specific tools, the reflections revealed a little more about their choice of tools. For example, through Mary's reflection posts, I learned that she planned to have students use a blog for weekly learning reflections, and then have the students end with a final summary. She also wanted to find a creative way for students to present their group research without using class time for their presentations. YouTube was one tool she was considering. For another course, she planned to use an online tool for students to share papers for peer review. Finally, she planned to use a wiki for students to collaboratively create an annotated bibliography. Reflections like Mary's gave more meaning to the hands-on work we did at the computer learning how to structure blog assignments, and determining which settings to select on discussion forums.

The reflection posts also provided me with additional feedback about the web conferencing session. Mary, Ralph, and Beth mentioned it in their posts and shared how it informed their online course plans. They seemed to find it valuable to have the opportunity to have an experienced colleague explain his course design decisions and to see the actual course structure within the course management system. Ralph learned "the need to re-organize the course by class period or topic as it will make the transition to online/hybrid much easier."

I was reminded from both the consultations and the reflection postings that deciding to teach online was a leap of faith for many of the participants. A number of them were anticipating failure in one shape or another. Ralph shared, "I find myself thinking about how much time I need to spend in this course and how much I have to do to make this class successful. How would the students react to the online assignment? Would they find it productive and beneficial?" He ended the post with "Time will tell." Beth had some concerns with her discussion forum activities sharing, "In the past I have had a few students who struggle and always wait until last minute to post – resulting into very shallow contributions despite clear guidelines and expectations that have been provided."

The data collected and analyzed in this second cycle of action research informed the planning of the third and final cycle in which classroom observations took place and post-interviews were conducted.

C. Final Action Research Cycle: Planning, Acting and Observing, Reflecting

The final action research cycle took place during the fall semester. Individual email communications, individual consultations, and classroom observations took place during October and November, with post-interviews occurring during December.

1. Planning

Because this was the final cycle of action research study, the only planning involved the scheduling of the classroom observations and the final individual interviews.

2. Acting and Observing

As much as the email communications were a part of planning, they were also a part of acting and observing during this phase.

a. Individual emails

Dealing with the inadequacies of group emails, I sent individual emails during this cycle, which elicited almost immediate responses. The emails helped determine and plan what actions were needed, and typically the replies from the participants provided insights similar to an observation. Their replies were like tiny windows providing me a glimpse into what the participants were thinking and/or doing. For example, I sent an individual email to all participants asking how their plans for their hybrid courses were working out, and whether they had integrated any of the changes they had been considering. John responded that he had lectured for the first three weeks of the course, and that the next three weeks would be online. He continued,

> They already have the topics and book chapters related to those class sessions. I will be sending them reading and exercise assignments for the entire week on Sundays which they must read, complete and submit to me by the following Saturday. I hope to give them feedback by the earlier part of the week. The assignments require them to write short answers so it will be hard to just copy someone else's answers. . . There is a mid-term test in week seven, and I will lecture for three more weeks, on-line for three weeks, and finish the class with lectures.

Kay replied that she had been projecting the online discussion forums in class and using them as a basis for in-class discussions. She added, "although I had prepared a power point, I felt that it'd be better if we started with their comments and questions. I liked that format better."

The email responses often gave me pause for reflection too. John's post made me wonder how essential the lecture was if his students were able to learn without it for the online portion of the course, which was half the course.

b. Classroom Observations

The purpose of the classroom observation was to have an opportunity to provide context and visual cues in determining how each participant's teaching practices matched their assumptions and beliefs about teaching shared during the pre-interviews in the first action research cycle. In the same way, I wanted to determine how well the teaching practices they had shared matched what actually happened in their classrooms. If I observed any differences, I would try to determine whether or not their online teaching experiences and/or transformative learning could explain these changes, realizing that only one observation would not provide proof of change, but only evidence of possible change. While there was some mismatch between the assumptions and beliefs shared during the pre-interviews and my classroom observations, the teaching practices that had been described to me were very close to what I experienced. However, there were two classes in which I saw changes. Both Beth's and Kay's classes used to rely heavily on PowerPoint presentations and lectures. When I observed their class sessions, neither used lecture, and both used PowerPoint only briefly. Beth used a slide or two to make a point, and another slide to project the questions the student teams were to answer. In both cases, the online discussion activities they had added directly impacted what happened in the classroom by bringing those discussions into the classroom and eliminating the lecture.

A reliance on lecture provided both a conflict with teaching beliefs and, in a few cases, a change in the classroom. John wanted his students to be creative thinkers, yet his use of lecture created passive learners during the first part of his class. Ralph believed that he needed to lecture in order for his students to learn; yet, he was concerned about their lack of skill in reading comprehension and writing. Kay also held Ralph's concerns about her students, but she had decreased the amount of time she spent lecturing and relying on PowerPoint presentations to move toward more classroom and online discussion. The addition of online discussion had also decreased the amount of lecture in Beth's classroom. The pressure to cover the content through lecture was lessened by an increase in learning outside of the classroom.

c. Post-interviews

The post-interviews ranged in length from fourteen minutes to fifty-eight minutes, almost identical to the range for the pre-interviews. The average length for all 7 interviews was thirty-four minutes, also similar to the pre-interviews. The post-interview questions were designed to elicit answers that might explain which aspects of the professional development program were most effective in helping the participants reflect on their assumptions and beliefs about teaching, to document changes in the participants' assumptions and beliefs in teaching since the pre-interviews were conducted, to try to recognize whether any changes could be attributed to their online teaching experiences, and if there were changes, to determine how transformative learning might explain those changes. These are the questions that were used, along with a summary of the findings.

- **Tell me about your preparations to teach online. What did you do?** It was obvious from the

post-interviews that some faculty had spent much more time preparing to teach online than others. A number of them mentioned attending the group face-to-face session and/or the Adobe Connect session, scheduling individual consultations, and browsing through the online course that had been provided as an example. A few mentioned returning to our faculty professional development ANGEL course to use the templates, instructions, and samples provided there. Mick also mentioned the pre-interview as being helpful in prompting him to think about new things. Kay relied on her husband, an instructor teaching online, as a model for online teaching, and her main source of information. She never re-entered our course in ANGEL after the group face-to-face session.

John, Beth, and Ralph talked about reviewing their course and considering what might be best suited for online and what would be more appropriate for the face-to-face sessions. They all tried to schedule the online sessions evenly throughout the semester.

Many learned how to use new tools in order to teach online. Mick, Lou, Kay, Beth, and Ralph learned how to use a discussion forum. Mick familiarized himself with other ANGEL tools including mail, drop boxes, and the grade book. Lou learned how to make pages in ANGEL. Mary learned how to create blogs and wikis. Beth moved her quizzes online. Each made decisions on tools based on what they thought would work best for their class, or what would be support the kind of learning they wanted in their students. Mick and Beth were also considering efficiencies they could create through the use of ANGEL tools.

- **Tell me about teaching online. Was your experience different than what you expected? How?** All of the participants decided on different schedules for the online portions of their classes. With five participants learning how to use the discussion forum, this was an activity used by most. The use of the discussion forum allowed Kay "to see more of what they were thinking about" and Beth similarly felt that she gained better insights into her students' understanding. Ralph noticed a different level of interaction in the online discussions than the in-class discussions, and a different level of learning. He felt that the online discussions provided his students with time to think before discussing, and they were able to pull together their learning from the readings, online resources, and personal experiences into the discussions.

  Beth's use of online quizzes created efficiency with faster grading, and she regained valuable class time for other learning activities. Another efficiency was the drop box, for students to submit assignments electronically. She also used the drop box for grading and providing feedback.

  Mary was surprised by her students' use of their blogs. She felt that their writing had better quality than her previous semester's students' writing.

- **Did adding the online components change what happened in the classroom?** There was quite a variance in the changes the faculty noticed in their classrooms. John, Mick, and Lou noticed no or only slight changes. However, the four faculty members who had the heaviest use of the discussion forums or blogs were the ones who noticed changes in their classrooms. Mary felt that her students' use of the blogs made their class conversations seem more connected. Also, students reported that they felt more connected with other students as a result from the blogs and from working in groups. In class, Kay used the online discussion forums "as a jumping off point" for classroom discussion which became more student-driven. Beth reported something very similar in that the online discussions gave her "useful insights in refocusing some of my class activities." Ralph tied the online discussion to the next topic in class.

- **Thinking about the faculty development program, what did you find most helpful? Do you have any suggestions for its next offering?** A number of faculty development aspects were considered helpful. Talking to their colleagues, seeing examples of online courses, and responding to reflection prompts seemed to be most effective in helping them rethink their teaching activities in order to provide an online experience for their class. Mick shared "that

whole process is really what has challenged me to think more creatively and more thoughtfully about how I present things to the students, and what I want those students to get out of the material, and I think that's been very good." Lou considered the hands-on portions of the group face-to-face session and individual consultations to be most helpful. Sitting at the computer and building his online assignment together was essential in making it a reality. John liked "talking to my colleagues about what they were doing and their experiences – what worked, what didn't work, suggestions." He also liked having resources available online that he could "tap into" as he had time. Mary explained, "One-on-one is always going to be the best for me, because I need hands on. I need to be able to see it and hear it, and we did it more than once obviously." Beth also liked the interaction with her colleagues as a chance "to hear other people's perspectives and what they were doing. I was able to, like they say, borrow, beg, and steal, from what other people were doing and figure out how it fits into my course."

Suggestions for the program's next offering included having more opportunities to interact with colleagues. Mick would have liked "a time for brainstorming with other faculty." Ralph thought a helpful addition would be having a faculty member come and talk about their online course, including "what they have done, what kind of challenges they have faced, what king of things they see different from being online." In this way, Ralph thought that they "would know a little more about it before getting into it." In regards to the group face-to-face session, he thought it would have been helpful to create something by the end of the session. Beth suggested the addition of a group face-to-face session at the end as "an opportunity for people to share specific changes that they are going to make and get insights from their peers." She thought that the best way to do this would be to talk about it at the beginning of the program so the participants would be aware of it and could work towards it.

- **The reflection journal had varied use. What are your thoughts on the use of a journal for reflection?** No one mentioned the reflection journal as a helpful aspect of the faculty development program. However, when specifically asked, most recognized its value, but also shared excuses for not using it more because of lack of time, lack of posting deadlines, and complicated lives. Those who shared its value said that it challenged them to think about what they were doing and why. Beth and Ralph suggested reducing the number of reflections to just pre- and post-reflections. Kay and Mary would have preferred an opportunity to talk things through rather than write it down.

  It is interesting to note that Beth and Ralph are the two participants who responded to all four reflection prompts. They are the same two who I perceived as being most engaged in the faculty development program based on their number of reflective posts, attendance at the group face-to-face session and Adobe Connect session, the volume of their email communications, and their individual consultations. Their journal postings were more than a restatement of facts. Beth questioned why she taught the way that she did, and Ralph shared that his reflection posts helped him to understand the process he was going through as he prepared to teach online. Kay, John, and Mick only responded to one reflection prompt, while Lou and Mary responded to three.

- **Consider your experiences with online teaching this semester. Using an amusement park's rides and activities, choose a metaphor that reflects you as teaching. Teaching is. . . or I am. . . Would this metaphor have been the same or different at the beginning of the semester?** The metaphor activity was a new strategy for me, and it was used as an opportunity for the participants to think differently about their experiences with online teaching. Mick suggested "weightlessness" since he felt as though he was "floating along." Lou considered himself to be "arriving" and working on a "journey" of moving toward the target of using technology. John thought of himself as a "lift rider" where you cross high above the amusement park, secure, flexible, open, and able to see different things. He was the "steady ride" that provided information. Mary considered herself to be "cotton candy" and also a "basketball arcade." Cotton candy is "enjoyable and it sticks to you." In a basketball arcade, you have to pay attention to the

differences in order to be effective. Kay and Ralph both selected a "carousel." Kay said that the carousel provided steadiness along with highs and lows, while Ralph mentioned the ride's cyclical nature, similar to his course with the same format for each online session. At the beginning of the semester, Ralph thought he might have chosen the "roller coaster" because he feared going down hill fast. Beth simply chose an "adventure" because she had set off at the beginning of the semester without knowing what direction things were going to take. She also would have chosen a different metaphor at the beginning of the semester because she was all set and expected things to be done in a certain way, but ended up changing her plans and moving away from lecture.

- **Did your prior beliefs or assumptions about teaching and learning change at all from your online teaching experience?** Mick did not think anything had changed "as much as it reinforced and strengthened this notion of constantly evaluating what you do and the impact on students." John did not notice any changes either. He felt that he still needed face-to-face time for interacting with his students, and was willing to consider a synchronous online tool such as Adobe Connect for this. Mary really did not think that she had experienced any changes. However, she still had many questions that needed answering including, "Who am I inside of this new platform as a teacher whose goal it is to facilitate learning?" She wanted to continue "dabbling" in the online environment. She had experienced successes online and was impressed with the work her students created online.

  Kay felt that she had not experienced any changes, even though she had previously shared how she had changed what she did in the classroom by using the online discussion forums as her starting point for a more student-driven in-class discussion. She felt that the online discussion had given students more ownership of the course and opportunities to "do some processing themselves." Perhaps this was not a change in her beliefs, but a strategy to finally put her previously held beliefs into action.

  Lou was surprised that the online assignment was not as time consuming as he had expected, and it was more rewarding than he had anticipated. He was also surprised by his students' lack of resistance. He thought his students' learning through the online assignment was broader and had a greater impact on their initial ideas on the topic area of urban schools.

  Beth was immediately aware of the changes she had experienced. In the past, she had been "more rigid, not willing, and reluctant to try" anything new. She would have her lesson plans set for the course at the beginning of the semester and that is what she would follow. Now she was "more open and more flexible to exploring and experimenting." She allowed herself to refocus some of her class activities to respond to the insights she gained through reading her students' discussion forum posts, and was able to take advantage of "many teachable moments." Students had opportunities "to talk about everything they wanted to talk about" and "everybody got an opportunity to share."

  Ralph thought teaching online would mean more work and being available 24/7. However, he made a conscious decision not to be like that, and set a schedule that would work for him and his students. Originally, he thought his students had to be in class to learn. In fact, he said, "If I don't lecture about it, how will they learn it?" Through the online discussions, he found that his students experienced more learning, were able to make connections between their readings, online resources, and their own experiences, and shared more personal aspects of their lives than they did in class.

Learning to teach online and then actually teaching online were the reasons for changes, and transformative learning can explain some of these. What actually happened online was different than what Beth and Ralph had expected. However, the preparation and support provided through the faculty development program made positive experiences possible, which opened new possibilities for the participants, expanding their worldviews. Something that had previously been unavailable to them, online

teaching, was now a new skill they had developed and used, spurring new ideas and trying new tools.

Changes were noticed in some of the classrooms as a result of online teaching. Mary reported more openness and connectedness among the students. For Beth, Kay, and Ralph, there was a move to more learner-centered classes and less reliance on lecture. With the use of blogs and discussion forums, students had more opportunities to participate in discussions, and everyone got an opportunity to share. Because of this, faculty reported understanding more about their students' learning, and the creation of teachable moments.

D. Action Research and Data Analysis

The data analysis began as soon as the first interview was completed. Each transcribed audio recording was coded by emerging themes and initial insights were recorded in my field notes. Participants' core assumptions and beliefs about teaching were the major focus. I was looking for changes to their assumptions and beliefs about teaching as we moved through the professional development activities to prepare them to teach online.

Moving through each successive professional development activity chronologically, data were collected from the journals to look for any kind of change in teaching assumptions and beliefs associated with specific action research activities, searching for categories, patterns and themes. Comments that suggested a change were coded as to the type of change taking place (assumption, belief, practice, etc.), the activity that preceded/recorded the change, and when it occurred chronologically. As categories emerged, I compared the data within each category, and constantly worked and reworked the categories throughout the analysis, to finally reduce them to a smaller number. This reduction process was captured and became part of the study's audit trail. The categories, or themes, were named using words from the participants' data, and rich descriptions including quotes directly from the participants were used to fully illustrate each category's meaning.

Keeping true to the action research process, I reviewed the data gathered from the participants each week, and reflected after each professional development activity to determine the next action. This reflection stage determined the professional development activities to be included, modified, or eliminated in the next planning phase. The number of action research cycles, and the beginning and ending dates of each cycle were not predetermined. Rather, the design emerged as the study continued. This required a review of the data as it was happening since the process did not pause to allow periods of time for reflection, and it required a continual "thinking on my feet" to keep the process moving forward. In reality, planning, acting and observing, and reflecting happened on a continual basis after the group face-to-face session, and overlapped and intertwined with each other throughout each cycle.

V. THEMES OF THE ACTION RESEARCH RESULTS

A. Connections with Colleagues

Within the faculty professional development program, opportunities for faculty to talk to experienced online colleagues, explore examples of online courses, and reflect on their preparations to teach online were perceived by the faculty participants to be most effective in supporting change.

During this study, the experiences of talking to online colleagues, exploring online course examples, and reflecting on preparations to teach online were provided by a group face-to-face workshop held in a computer lab, a synchronous web conferencing session with an experienced colleague who explained and gave a virtual tour of his course, and access to a completely online course that resided within the course management system the participants were using. A number of the participants met with me individually during their preparations to teach online, and continued to communicate with me via email or face-to-face meetings throughout the study. Reflection journal writing prompts provided opportunities to consider what they were doing and why. The literature confirms the importance of dialogue, access to examples, and reflection within professional development programs, and the participants in this study recognized them as effective in supporting the changes they made for teaching online. During the post-interviews as

faculty shared their thoughts on talking with their colleagues, they used terms that included "bounce some ideas," "hear other people's perspectives," "figure out how it fits into my course," and "things they see differently from being online." The value of dialogue in considering alternate perspectives and trying them on was evident in these conversations.

Participating in discussions with colleagues can generate an interest in new approaches [68], and dramatically increase the possibility of finding new and richer meanings [38]. John found talking with his colleagues beneficial to his beginning online course planning. Beth had shared during the post-interview that she would have valued an opportunity to talk with faculty again at the end of the six-week professional development program as a way to share the changes they had planned and to get constructive feedback.

Dialogue can be considered a public form of reflection [1]. Both Mary and Kay shared that they would have preferred talking rather than writing about their thoughts. Mary said that she "would have much rather been able to reflect by just sitting down and talking about it." Kay felt opportunities to talk through things would have had more value for her. For Beth, the face-to-face discussion provided in the group workshop "provided the opportunity to reflectively think through why I teach the way I do." She realized that she was resorting to teaching strategies that had been modeled to her as a graduate student but that were not effective and did not match with her current constructivist beliefs about teaching and learning.

Brookfield [10] has shared that while planning an online course, it is helpful for faculty to have access to similar courses taught by experienced online instructors to see examples of course organization and teaching activities. Ralph, John, and Beth actually based their own course organization on examples provided in this study's professional development program.

B. Preparation through Reflection and Discourse

Reflective writing and discourse about preparing to teach online and teaching online provide the possibility for changes in previously held assumptions and beliefs about teaching.

Transformative learning is the "process by which we transform our taken-for-granted frames of reference (meaning perspectives, habits of mind, mind-sets) to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so that they may generate beliefs and opinions that will prove more true or justified to guide action" [34, p. 7-8]. In this faculty professional development program, reflective writing and dialogue about preparing to teach online, and teaching online, were used to create awareness of and to question previously held assumptions and beliefs about teaching. Reflective activities around preparing to teach online and teaching online opened up the possibility for changes in previously held assumptions and beliefs about teaching. Beth illustrated this in her first reflection post responding to a discussion prompt asking about the pre-interview, sharing that it was the first time she had "taken time to purposefully reflect on the extent to which past events and experiences influence what I do in my classroom today." For this process to actually be transformative, the "reflection has to involve and lead to some fundamental change in perspective" [28, p. 79-80]. This process was most evident with Beth.

Initially, Beth believed that she had no option but to lecture to her students because "most students come to me with very wide gaps in the foundational knowledge they are expected to have prior to taking this course." However, preparing to teach online and teaching online provided a new perspective from which she was able to examine her long-held beliefs about teaching. She realized that she had provided too many resources to her students resulting in information overload. She shared her excitement at the new possibilities available to her through online teaching and the related tools. She became engaged in revising assignments to more actively involve her students in the co-construction of knowledge and meaning. Her examples show that by experiencing something unexpected, such as online teaching, and taking advantage of opportunities to write and/or talk about it, we might call into question our previous beliefs and can revise our perspectives based on our new experiences. In this way, transformative learning can explain some changes that faculty experience.

C. Reflections on Assumptions

Reflective writing and talking about classroom changes resulting from online teaching help faculty members become aware of changes in previously held assumptions and beliefs about teaching.

Faculty may be unaware of their assumptions and beliefs about teaching, even though it is those very assumptions and beliefs that guide the teaching decisions they make in the classroom [74]. They may not have had opportunities to reflect on them, or to connect their practices to their beliefs [12]. It is this lack of reflection that often find faculty unaware of changes in their classroom until they are specifically asked about the impact of online teaching on their practices [49]. Reflective activities around classroom change resulting from online teaching helped faculty become aware of changes.

Ralph, Mick, Lou, John, and Beth found themselves thinking about what they were doing rather than mindlessly following the same steps they took in a previous semester. Beth realized that previously she had the entire semester planned before it even began, and strictly followed her lesson plans with very little deviance. Now she found herself being more open and flexible than she would have been if she had not engaged in this faculty professional development program. She was able to transform a problematic perspective, the need to lecture, to change the way she taught to a method that better matched her constructive teaching philosophy. Preparing to teach online was the catalyst for her to reflect on and evaluate her teaching practices.

D. Changes to Face-to-Face Teaching Practices

Learning to teach online with the intent of change impacts face-to-face teaching practices.

Faculty lean heavily on their past experiences in the face-to-face classroom [13]. Therefore, a number of authors view the move from teaching face-to-face to online as an opportunity for change [17, 19, 32, 45, 49, 75]. It is recognized that online technologies require different ways of teaching [14]. When moving from face-to-face teaching to online teaching, teaching styles can change [11, 19], and instruction tends to become more student-centered [13, 17, 18]. Other changes noted in the move to online teaching include enhanced interaction and greater learner responsibility [11, 18, 19]. However, these reported changes do not describe resulting changes in face-to-face teaching practices, which are typically missing in the literature on online teaching and faculty professional development for online teaching. Learning to teach online and actually teaching online can impact face-to-face teaching practices. There seemed to be a move from teacher-centered to more learner-centered teaching with less reliance on lecture. Faculty participants learned more about their students' understanding and were able to change what happened in the classroom as a result.

A recent Department of Education study observed that the advantage of blended and online learning is a product of redesigning the learning experience [76]. Some authors also suspect that this higher level of effort in developing an online course could offer opportunities for reflection that would also have a positive impact on face-to-face teaching [46]. In the Department of Education study, over eighty percent of faculty respondents reported that the development of an online course had a positive impact on their classroom teaching.

Mick came to the faculty professional development program looking for new ideas, and with an interest in differentiating instruction for his students. Lou's main motivation to participate in the program was to catch up with technology, and he even had hopes of retiring some day and teaching courses online. John wanted to learn what "the online can do differently from what I am doing now." He wanted to learn about different teaching techniques. Mary believed that one has "to change your pedagogical understanding to teach online." Kay was anxious to try online discussion activities similar to those her husband was using, and learn about other online techniques. Beth and Ralph were both interested in moving away from lectures. All had differing levels of intent to change. Feeling prepared for online teaching and open to new possibilities creates a wider opportunity for change in the classroom.

E. Time and Level of Engagement in Professional Development and Reflection

Faculty's amount of time and engagement in professional development activities that include focused reflection may be proportional to their movement toward transformative learning and resultant changes in teaching practices.

Faculty members often cite a lack of time as a barrier to their participation in professional development activities [38, 77, 78]. They report that they are working longer and harder than ever before with a larger course load, more advisees, committee service, meetings, research, and publications (21, 69). Authors also report on faculty complaints about the increased amount of time required to prepare and deliver online courses [14, 75]. Therefore, it is no surprise that some faculty in this study reported a lack of time as a barrier to participate more fully in the professional development program. Lack of time is one of the greatest barriers to faculty's participation in professional development and, therefore, also a barrier to change.

Two faculty participants who participated the least in the program shared that their lack of time was a major constraint. John felt challenged by the time needed for his classes, administrative duties, and preparations for an accreditation site visit. Kay shared in her only reflection journal post that she had been too busy to think about the faculty development program and her course changes. This same faculty participant did not have time to consider changes, and her online experience was not all positive. She had felt anxious during the online portions of her course, and felt that something was missing when she could not see her students. She was not prepared for the online discussions, did not provide her students with timely feedback, and simply had not thought through how it was all going to work. She considered her students from a deficit perspective, and felt that they had poor reading comprehension and writing skills. Kay seemed to be trying to use the online environment as a way to "fix" these deficits without giving any real examination to her teaching practices, or by learning new strategies, all of which would take more time, of course.

On the other hand, Beth and Ralph seemed to be the most active participants in the faculty professional development program and were the only two to respond to all four reflection journal writing prompts. It is possible that the time they spent engaged in the program, and the assumptions and beliefs considered in their reflective writings, contributed to making the greatest impact on the changes to their face-to-face teaching practices. Both actively considered changes, reflected on them, engaged in the readings, used the program's resources, met with me in one-on-one consultations, and spent the time to prepare to teach online. It resulted in changed habits of mind for both of them, no longer believing that they had to lecture in order for their students to learn.

F. Design of Faculty Professional Development Programs

Faculty professional development programs for online teaching should be designed to intentionally inform and change faculty's face-to-face teaching practices.

Although it seemed that it is often difficult for faculty to put their teaching beliefs into practice in the classroom, the move to online teaching provided them with new opportunities to do just that. Exploring different tools and strategies gave them a chance to step away from the old "tried and true" teaching strategies that they may have experienced during their years as a student, and their earliest years as a faculty member.

When I think about Kay who participated the least in the program, I wonder how differently her outcomes might have been if she had been more engaged. She knew something had to change to help her students learn differently and better, and she really seemed to hope that online teaching held the key. If she had allowed herself the time to reflect on her teaching, her students' learning, and on her prior understandings implicit in her behaviors, perhaps a new understanding would have emerged. Perhaps if the faculty professional development program had more structure with dates for deliverables it would have helped to keep her on track and engage in the program, rather than having her cite the lack of time as her barrier to engagement.

Brookfield [10] writes about the importance of responsiveness in contributing to the success of discussion-based online classes, and this is what I saw happen with Beth's class. One of the advantages realized with discussion forums in her class was that all students had an equal opportunity to contribute and have more time to compose thoughtful responses (10, 38]. She had a new opportunity to understand more about each student's learning and respond to that learning in the classroom.

VI. IMPLICATIONS FOR PRACTICE

When I think about the faculty's preparations for online teaching, I wholeheartedly agree with Torisi and Davis [31] that it must be conceptualized as a process of transformation rather than simply translation. Not only is the magic in the redesign [76], but more magic occurs when faculty themselves are open to change and can devote some portion of their time to seriously consider changes. A number of study participants came to the faculty development program with intent to change and spent a lot of time rethinking their teaching.

An important aspect of faculty development involves reflection on teaching experiences [71], and this is a vital component in a process of transformation that must be included in a faculty development program for online teaching. It was in their reflecting that the participants recognized their changes. However, not all faculty members are willing to reflect on their beliefs and practices, and there is a time barrier to participation and engagement. Time must be intentionally built into the professional development agenda for reflection to provide the opportunity for faculty willing to do so.

Moving to online teaching provides a new way of seeing practice, and often becomes a disorienting dilemma. While the pre-interview questions tried to get to the origin of faculty's beliefs about teaching, their origin was not critically examined. However, just bringing those origins into their consciousness was a good start. Opportunities for discourse were given, but need to be increased among the participants and with experienced online colleagues. An assumption was made that by agreeing to participate in the faculty development program, the participants were ready for change, but that condition might have to be made more explicit for potential faculty participants. With time as a constraint, it is not possible to free faculty from all of their barriers. Support was, and continues to be, available. Finally, the online classroom provides an alternative way of being that can be extended to the face-to-face classroom.

Ettling [79] recognized that more work was needed to provide educators with strategies for putting transformative learning into practice. This article was written for other faculty professional development practitioners and administrators in a language that can be widely understood. It offers a model that can be replicated in, and adapted for, other higher education venues.

Numerous studies have been conducted to determine the more superior method for teaching and learning, comparing face-to-face, hybrid, and online contexts. Many look to affirm or dispute the "No Significant Difference Phenomenon" [80] popular in much of the literature. However, knowing that teaching in higher education has not changed very much in spite of our changing student populations, booming technologies and Internet growth, and increasing pressures from our stakeholders, I am reluctant to hold traditional face-to-face teaching as the superior model on which to base all other comparisons. Additionally, the more important questions to ask include how our students learn best no matter the delivery method, the kind of affordances the online context provides that could make learning even more effective, whether faculty members are prepared for online teaching, and the kinds of professional development and online support that are provided.

Future research might consider faculty's prior experiences in new media use, attitudes toward technology, or the role they envision for technology within their classroom to determine how that impacts their willingness to engage in professional development for teaching in the online environment, and how that impacts transformational learning. Another possibility would be to consider differences within disciplines. I would also recommend a longitudinal study to determine how lasting the changes are, whether changes continue, and what those changes constitute. Finally, during the post-interviews, a few faculty described changes they had noted in their students as being more open or knowing more about each other. These changes or student perspectives could also be explored.

The quote that defined this study and gave it deeper personal meaning is translated from the writings of Marcel Proust, "The only real voyage of discovery. . . consists not in seeing new landscapes but in having new eyes." This is the opportunity online teaching gives all of us. It is a new landscape, different from our physically rooted classrooms, although many seem to try to simply move what happens in the classroom to the online environment. The Internet brings us new resources, new tools, new ways of being together, new ways of thinking about teaching and learning. We cannot afford to miss this opportunity to look at education through new eyes, to envision new possibilities, deeper and more effective learning, personalized learning, enriched and meaningful teaching experiences, and to provide wider access to learning. The magic is in the redesign of learning experiences, including faculty professional development programs.

VII. ABOUT THE AUTHOR

Carol A. McQuiggan is the manager and senior instructional designer of the Faculty Center for Teaching and Instructional Technology at Penn State Harrisburg. Dr. McQuiggan specializes in faculty professional development, and has a special interest in their professional development for online teaching.

VIII. REFERENCES

1. **Langley, D., O'Connor, T. W., and Welkener, M. M.** A Transformative Model for Designing Professional Development Activities. In: Wehlburg, C. M., and Chadwick-Blossey, S. (Eds.), *To Improve the Academy,* 22, Bolton, MA: Anker Publishing Company, Inc., 145-154, 2004.
2. **Diamond, R. M.** The Institutional Change Agency: The Expanding Role of Academic Support Centers. In: Chadwick-Blossey, S., and Robertson, D. R. (Eds.), *To Improve the Academy,* 23, Bolton, MA: Anker Publishing Co., 24-37, 2005.
3. **Jones, S. M., Mally, W., Blevins, L. A., and Munroe, J. E.** The U. S. Marine Corps Distance Learning Program. In: Moore, M. G., and Anderson, W. G. (Eds.), *Handbook of Distance Education*, Mahwah, N.J., Lawrence Erlbaum Associates, Inc., 641-654, 2003.
4. **King, K. P., and Lawler, P. A.** (Eds.). New Perspectives on Designing and Implementing Professional Development of Teachers of Adults. *New Directions for Adult and Continuing Education,* 98. San Francisco: Jossey-Bass, 2003.
5. **Lezburg, A. K.** Accreditation: Quality Control in Higher Education. In: Moore, M. G., and Anderson, W. G. (Eds.), *Handbook of Distance Education*, Mahwah, N.J.: Lawrence Erlbaum Associates, Inc., 425-434, 2003.
6. **Sorcinelli, M. D., Austin, A. E., Eddy, P. L., and Beach, A. L.** *Creating the Future of Faculty Development: Learning from the Past, Understanding the Present*. Bolton, MA: Anker Publishing Company, Inc., 2006.
7. **Swail, W. S.** Higher Education and the New Demographics: Questions for Policy. *Change,* 34(4): 15-23, 2002.
8. **Lawler, P. A., and King, K. P.** *Planning for Effective Faculty Development: Using Adult Learning Strategies*. Malabar, FL: Krieger Publishing Company, 2000.
9. **Allen, I. E., and Seaman, J.** Online Nation: Five Years of Growth in Online Learning. Needham, MA: The Sloan Consortium. 2008. http://www.sloanconsortium.org/publications/survey/pdf/online_nation.pdf.
10. **Brookfield, S. D.** *The Skillful Teacher: On Technique, Trust, and Responsiveness in the Classroom*. San Francisco: Jossey-Bass, 2006.
11. **Gallant, G.** Professional Development for Web-based Teaching: Overcoming Innocence and Resistance. In: Burge, E. J. (Ed.), *New Directions for Adult and Continuing Education,* San Francisco: Jossey-Bass, 69-78, 2000.
12. **Layne, J., Froyd, J., Simpson, N., Caso, R., and Merton, P.** *Understanding and Improving Faculty Professional Development in Teaching*. Paper presented at the 34th ASEE/IEEE Frontiers in Education Conference, 1C, Savannah, GA, 15-20, 2004.

13. **Conrad, D.** University Instructors' Reflections on their First Online Teaching Experiences. *Journal of Asynchronous Learning Networks (JALN),* 8(2): 31-44, 2004.

14. **Conceicao, S.** Faculty Lived Experiences in the Online Classroom. *Adult Education Quarterly,* 57(1): 26-45, 2006.

15. **Morris, L., Xu, H., and Finnegan, C.** Roles of Faculty in Teaching Asynchronous Undergraduate Courses. *Journal of Asynchronous Learning Networks (JALN),* 9(1): 65-82, 2005.

16. **Cowham, T., and Duggleby, J.** Pedagogy and Quality Assurance in the Development of Online Learning for Online Instructors. *Journal of Asynchronous Learning Networks (JALN),* 9(4): 15-27, 2005.

17. **Hinson, J. M., and LaPrairie, K. N.** Learning to Teach Online: Promoting Success through Professional Development. *Community College Journal of Research and Practice,* 29: 483-493, 2005.

18. **Barker, A.** Faculty Development for Teaching Online: Educational and Technological Issues. *The Journal of Continuing Education in Nursing,* 34(6): 273-278, 2003.

19. **Jaffee, D.** Virtual Transformation: Web-based Technology and Pedagogical Change. *Teaching Sociology,* 31(2): 227-236, 2003.

20. **Tallent-Runnels, M., Thomas, J., Lan, W., Cooper, S., Ahern, T., Shaw, S., et al.** Teaching Courses Online: A Review of the Research. *Review of Educational Research,* 76(1): 93-135, 2006.

21. **King, K. P.** Educational Technology Professional Development as Transformative Learning Opportunities. *Computers & Education*, 39: 283-297, 2002.

22. **Lawler, P. A., King, K. P., and Wilhite, S. C.** *Living and Learning with Technology: Faculty as Reflective Practitioners in the Online Classroom.* Proceedings of the 45th Annual Meeting of the Adult Education Research Conference, Victoria, British Columbia, 328-332, 2004.

23. **Ali, N., Hodson-Carlton, K., Ryan, M., Flowers, J., Rose, M., and Wayda, V.** Online Education: Needs Assessment for Faculty Development. *The Journal of Continuing Education in Nursing,* 36(1): 32-38, 2005.

24. **Palloff, R. M., and Pratt, K.** *Lessons from the Cyberspace Classroom: The Realities of Teaching Online.* San Francisco: Jossey-Bass, 2001.

25. **West, R., Waddoups, G., and Graham, C.** Understanding the Experiences of Instructors as They Adopt a Course Management System. *Education Technology Research & Development,* 55(1): 1-26, 2007.

26. **Cranton, P.** *Understanding and Promoting Transformative Learning: A Guide for Educators of Adults*, Rev. ed., San Francisco: Jossey-Bass, 2006.

27. **Abel, R.** *Achieving Success in Internet-Supported Learning in Higher Education: Case Studies Illuminate Success Factors, Challenges, and Future Directions,* 2005. http://www.a-hec.org/IsL_orig_study.html.

28. **Cranton, P.** *Professional Development as Transformative Learning: New Perspectives for Teachers of Adults.* San Francisco: Jossey-Bass, 1996.

29. **Lawler, P. A.** Teachers as Adult Learners: A New Perspective. In: King, K. P., and Lawler, P. A. (Eds.), *New Directions for Adult and Continuing Education*, 15-22, 2003.

30. **Shafer, D. W.** *Outcomes of Faculty Participation in Distance Education.* Proceedings of the Eastern Regional Adult Education Research Conference, Penn State, University Park, PA, March 16-18, 2000: 198-202, 2000.

31. **Torrisi, G., and Davis, G.** Online Learning as a Catalyst for Reshaping Practice – The Experiences of Some Academics Developing Online Learning Materials. *The International Journal for Academic Development*, 166-176, 2000.

32. **Whitelaw, C., Sears, M., and Campbell, K.** Transformative Learning in a Faculty Development Context. *Journal of Transformative Education,* 2(1): 9-27, 2004.

33. **Mezirow, J.** *Transformative Dimensions of Adult Learning*, San Francisco: Jossey-Bass, 1991.

34. **Mezirow, J.** Learning to Think Like an Adult: Core Concepts of Transformation Theory. In: Mezirow, J., and Associates (Eds.), *Learning as Transformation: Critical Perspectives on a Theory in Progress*, San Francisco: Jossey-Bass, 3-33, 2000.

35. **Cranton, P., and Wright, B.** The Transformative Educator as Learning Companion. *Journal of Transformative Education*, 6(1): 33-47, 2008.

36. **Kane, R., Sandretto, S., and Heath, C.** Telling Half the Story: A Critical Review of Research on the Teaching Beliefs and Practices of University Academics. *Review of Educational Research,* 72(2): 177-228, 2002.

37. **Cranton, P., and King, K. P.** Transformative Learning as a Professional Development Goal. In: King, K. P., and Lawler, P. A. (Eds.), *New Directions for Adult and Continuing Education, 98*, San Francisco: Jossey-Bass, 31-38, 2003.

38. **Fink, L. D.** *Creating Significant Learning Experiences*. San Francisco: Jossey-Bass, 2003.

39. **Lucas, A. F.** Reaching the Unreachable: Improving the Teaching of Poor Teachers. In: Gillespie, K. H. (Ed.), *A Guide to Faculty Development: Practical Advice, Examples, and Resources*, Bolton, MA: Anker Publishing Co., Inc., 167-179, 2002.

40. **Robertson, D. L.** Professors' Perspectives on their Teaching: A New Construct and Developmental Model. *Innovative Higher Education,* 23(4): 271-294, 1999.

41. **Brancato, V. C.** Professional Development in Higher Education. In: King, K. P., and Lawler, P. A. (Eds.), *New Directions for Adult and Continuing Education,* 98, San Francisco: Jossey-Bass, 59-66, 2003.

42. **Schön, D. A.** *The Reflective Practitioner: How Professionals Think in Action.* New York: Basic Books, Inc., 1983.

43. **Keeton, M. T.** Best Online Instructional Practices: Report of Phase I of an Ongoing Study. *Journal of Asynchronous Learning Networks (JALN),* 8(2): 75-100, 2004.

44. **Samuelowicz, K., and Bain, J. D.** Revisiting Academics' Beliefs about Teaching and Learning. *Higher Education,* 41(3): 299-325, 2001.

45. **Lowes, S.** Online Teaching and Classroom Change: The Trans-classroom Teacher in the Age of the Internet. *Innovate,* 4(3), 2008. http://www.innovateonline.info/index.php?view=article&id=446.

46. **Shea, P. J., Pelz, W., Fredericksen, E. E., and Pickett, A. M.** *Online Teaching as a Catalyst for Classroom-Based Instructional Transformation*. The State University of New York, 2001. https://urresearch.rochester.edu/retrieve/6493/Catalyst+for+Classroom+Transformation.pdf.

47. **Diekelmann, N., Schuster, R., and Nosek, C.** Creating New Pedagogies at the Millennium: The Common Experiences of University of Wisconsin-Madison Teachers Using Distance Education Technologies. *Distance Education Systemwide Interactive Electronic Newsletter*, 5(7), 1998.

48. **Maryland Online**. *Quality Matters Program*, 2006. http://www.qmprogram.org/.

49. **Winguard, R.** Classroom Teaching Changes in Web-enhanced Courses: A Multi-institutional Study. *Educause Quarterly,* 1(2004): 26-35, 2004.

50. **Brookfield, S. D.** *Becoming a Critically Reflective Teacher*, San Francisco: Jossey-Bass, 1995.

51. **Palmer, P.** *The Courage to Teach*, San Francisco: Jossey-Bass, 1998.

52. **Merriam, S. B, Caffarella, R. S., and Baumgartner, L. M.** *Learning in Adulthood: A Comprehensive Guide,* 3rd ed., San Francisco: Jossey-Bass, 2007.

53. **Lawler, P. A., and King, K. P.** *Refocusing Faculty Development: The View from an Adult Learning Perspective.* Paper presented at the Pennsylvania Adult and Continuing Education Research Conference, Indiana, PA, 2001.

54. **Daly, B. J.** A Case for Learner-Centered Teaching and Learning. In: King, K. P., and Lawler, P. A. (Eds.), *New Directions for Adult and Continuing Education,* 98, San Francisco: Jossey-Bass, 23-30, 2003.

55. **McQuiggan, C. A.** *Preparing to Teach Online as Transformative Faculty Development*. A dissertation in adult education. 2011. https://etda.libraries.psu.edu/paper/11670/.

56. **Merriam, S. B., and Simpson, E. L.** *A Guide to Research for Educators and Trainers of Adults,* 2nd ed., Malabar, FL: Krieger Publishing Co., 2000.

57. **Kincheloe, J. L.** *Teachers as Researchers: Qualitative Inquiry as a Path to Empowerment*, 2nd ed., New York: Routledge, 2003.

58. **Kuhne, G., and Quigley, B. A.** Understanding and Using Action Research in Practice Settings. In: *New Directions for Adult and Continuing Education,* 73, San Franciso: Jossey-Bass, 23-40, 1997.

59. **Reason, P., and Bradbury, H.** Introduction: Inquiry and Participation in Search of a World Worthy of Human Aspiration. In: Bradbury, H., Reason, P. (Eds.), *Handbook of Action Research*, Thousand Oaks, CA: Sage Publishing Company, 1-14, 2001.

60. **Quigley, B. A.** Action Research. In: English, L. M. (Ed.), *International Encyclopedia of Adult Education*, New York: Palgrave Macmillan, 19-21, 2005.

61. **Peters, J. M.** Reflections on Action Research. In: *New Directions for Adult and Continuing Education,* 73, San Francisco: Jossey-Bass, 63-72, 1997.

62. **Gravett, S.** Action Research and Transformative Learning in Teacher Development. *Educational Action Research,* 12(2): 259-272, 2004.

63. **Lange, E. A.** Transformative and Restorative Learning: A Vital Dialectic for Sustainable Societies. *Adult Education Quarterly,* 54(2): 121-139, 2004.

64. **McNiff, J.** *Action Research for Professional Development: Concise Advice for New Action Researchers*, 3rd ed., 2002. http://www.jeanmcniff.com/booklet1.html.

65. **Taylor, E.** An Update of Transformative Learning Theory: A Critical Review of the Empirical Research (1999-2005). *International Journal of Lifelong Education,* 26(2): 173-191, 2007.

66. **Ziegler, M.** Improving Practice through Action Research. *Adult Learning,* 12(1): 3-4, 2001.

67. **Patton, M. Q.** *Qualitative Research and Evaluation Methods*, 3rd ed., Thousand Oaks, CA: Sage Publications Inc., 2002.

68. **Baker, M. B., Boggs, R., and Arabasz, P.** Student and Faculty Perspectives on e-Learning Support. *Educause Research Bulletin,* 16, Boulder, CO: Educause Center for Applied Research, 2003.

69. **Brookfield, S. D.** *The Power of Critical Theory: Liberating Adult Learning and Teaching.* San Franciso: Jossey-Bass, 2005.

70. **Cranton, P., and Carusetta, E.** Developing Authenticity as a Transformative Process. *Journal of Transformative Education,* 2(4): 276-293, 2004.

71. **Hampton, S. E., Morrow, C. D., Bechtel, A., and Carroll, M. H.**A Systematic, Hands-on, Reflective, and Effective (SHORE) Approach to Faculty Development for New and Seasoned Faculty. In: Wehlburg, C. M., and Chadwick-Blossey, S. (Eds.), *To Improve the Academy,* 22: Bolton, MA: Anker Publishing Company, Inc., 156-172, 2004.

72. **King, P. M., and Kitchener, K. S.** Reflective Judgment: Theory and Research on the Development of Epistemic Assumptions Through Adulthood. *Educational Psychologist,* 39(1): 5-18, 2004.

73. **Kreber, C.** An Analysis of Two Models of Reflection and Their Implications for Educational Development. *International Journal for Academic Development,* 9(1): 29-49, 2004.

74. **Pedersen, S., and Liu, M.** Teachers' Beliefs about Issues in the Implementation of a Student-Centered Learning Environment. *Educational Technology Research & Development,* 51(2): 57-76, 2003.

75. **Bender, T.** *Discussion-Based Online Teaching to Enhance Student Learning: Theory, Practice, and Assessment.* Sterling, VA: Stylus Publishing, LLC, 2003.

76. **U.S. Department of Education**, Office of Planning, Evaluation, and Policy Development. *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies.* Washington, D.C.: U.S. Department of Education, 2010. http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf.

77. **Frantz, A., Beebe, S., Horvath, V., Canales, J., and Swee, D.** The Roles of Teaching and Learning Centers. In: Chadwick-Blossey, S., and Robertson, D. R. (Eds.), *To Improve the Academy,* 23: 72-90. Bolton, MA: Anker Publishing Co., Inc., 2005.

78. **Maguire, L. L.** Literature review – faculty participation in online distance education: Barriers and motivators. *Online Journal of Distance Learning Administration (OJDLA),* 8(1), 2005. http://www.westga.edu/~distance/ojdla/spring81/maguire81.htm.

79. **Ettling, D.** Ethical demands of transformative learning. In Taylor, E. (Ed.), *Teaching for Change: Fostering Transformative Learning in the Classroom,* San Francisco: Jossey-Bass, 59-67, 2006.

80. **Russell, T.** *The No Significant Difference Phenomenon*. Raleigh, NC: North Carolina State University, 1999.