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# The Role of Faculty Development in Online Teaching's Potential to Question Teaching Beliefs and Assumptions

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## **Abstract**

A literature review was conducted to investigate the adult education and faculty development literature and research to discover what is known about changes or transformation in teaching assumptions and beliefs when faculty prepare to teach online or when they are engaged in online teaching, and to uncover any gaps in research involving these changes. There were four primary themes that resulted from the analysis of the articles: moving from classroom practice to online teaching; changes related to online teaching, framing faculty development within adult education; and faculty development models. Critiques and implications are considered in regard to the possibility of faculty development for online teaching as transformative learning.

## **Introduction**

In institutions of higher education, there are an increasing number of faculty teaching online courses. While there is a recognized need for faculty development to prepare to teach online, there are many different faculty development models being implemented with differing foci on technology, pedagogy, and course content. Some faculty teach their first online course without any prior online teaching or learning experiences, with all of their preparation completed face-to-face. Other faculty participate in faculty development programs that occur partially or completely online, giving them opportunities for online experiences. Whether faculty development programs prepare faculty to teach online by providing realistic online experiences or not, it seems that most programs take faculty through a step-by-step training process (Diekelmann, Schuster, & Nosek, 1998; Hinson & LaPrairie, 2005; King, 2002). While there is evidence of faculty changes, there is little reporting of reflective thought, questioning of prior beliefs and assumptions about their classroom teaching, or rethinking their teaching philosophy. However, faculty preparations to teach online could provide a strong impetus to also implement changes in their face-to-face teaching with the inclusion of reflective activities. It would be interesting to try to determine what happens to faculty when they prepare to teach online or actually engage in online teaching.

The purpose of this literature review is to investigate the adult education and faculty development literature and research to discover what is known about changes or transformation in teaching assumptions and beliefs when faculty prepare to teach online or when they are engaged in online teaching, and to uncover any gaps in research involving these changes. The implications could inform faculty development for online teaching and also inform face-to-face teaching practices.

This review begins with an explanation of the literature review methodology, followed by a summary of the empirical studies' methodologies and themes. Then findings are organized around the key themes from the literature. Finally, critique and implications are considered in regard to the possibility of faculty development for online teaching as transformative learning.

## **Methodology of the Literature Review**

One of the challenges of the literature search was in the varied definitions of distance education. Distance education was typically defined as courses delivered or instruction that occurs when students are not present in the same room, which could occur synchronously or asynchronously. There is a difference in time, location, or both. This could include interactive TV, correspondence courses, teleconferences, courses using videotapes, or online courses (Conceicao, 2006; Tallent-Runnels et al., 2006). This differs from the definition of virtual classrooms as asynchronous learning networks with a minimization or absence of synchronous class meetings (Jaffee, 2003). Online courses are those delivered completely on the Internet (Conrad, 2004; Tallent-Runnels et al.). Web-based education includes those courses supplemented with Internet components and those conducted completely on the Internet (Tallent-Runnels et al.). Hybrid or blended courses typically combine elements of traditional classroom instruction with online components (Tallent-Runnels et al.). For the purposes of this literature review, the search was not limited to one particular mode of course delivery, but kept open by interchanging the terms *distance* and *online*. For future literature searches, *virtual* is an additional term that could be utilized. The search term *staff* should also be included in future searches. While some countries refer to higher education instructors as faculty, others refer to them as staff.

A search was conducted for empirical research articles on the changes higher education faculty make when learning to teach online or when teaching online, specifically searching for changes or transformation in teaching assumptions and beliefs. The ProQuest database was searched using combinations of the search terms faculty development, faculty training, faculty preparation, faculty transforma\*, transforma\*, online teaching, distance education, and teaching approach. These searches resulted in 93 dissertations and articles in 16 scholarly journals, 5 magazines, 3 trade publications, and 2 newspapers. After discarding papers and articles on transforming programs, effectiveness of online courses, virtual teams, student online experiences, and institutional policies, 57 remained for further review. Of these, 9 qualitative, 5 quantitative, 4 mixed methods, and 2 action research studies warranted further review. Another search was conducted in Education Abstract Full Text (Wilson) using combinations of the search terms faculty development, online, teaching change, change, technology, distance education, higher education, and adult education with 55 results. In addition, a search was conducted on ERIC using combinations of the search terms faculty development and online with 296 results, faculty development and higher education and online teaching or distance education with 48 results, and adult education and distance education and change with 206 results. These records were evaluated as to their applicability to this literature review. Seventeen empirical studies and 28 conceptual articles or books were chosen for their insights into faculty change.

### **Empirical Studies' Methodologies and Themes**

Sixteen empirical studies were reviewed. Of these, seven studies were mixed methods research, five were qualitative, two were surveys, and two were case studies. The studies are categorized by their methodological approach in Table 1.

Table 1

*Empirical Studies Categorized by Methodology*

Methodology	References
Mixed methods	Hinson & LaPrairie, 2005 King, 2002 King, 2004 Sunal, Hodges, Sunal, Whitaker, Freeman, Edwards, et al., 2001 Torrise & Davis, 2000 West, Waddoups, & Graham, 2007 Winguard, 2004
Qualitative	Conceicao, 2006 Conrad, 2004 Diekelmann, Schuster, & Nosek, 1998 Lawler, King, & Wilhite, 2004 Morris, Xu, & Finnegan, 2005
Surveys	Ali, Hodson-Carlton, Ryan, Flowers, Rose, & Wayda, 2005 Anderson, Varnhagen, & Campbell, 1998
Case studies	Pedersen & Liu, 2003 Pennington, 2005

Although a qualitative study seems best suited for determining change in faculty, one of the two surveys was used to obtain baseline data to help develop their university's technology integration plan (Anderson, Varnhagen, & Campbell, 1998). The second survey was a needs assessment to determine online faculty development needs (Ali et al., 2005).

The majority of the studies' populations were higher education faculty, with the exceptions being a study focusing on 175 teachers and teachers-in-training enrolled in graduate technology courses (King, 2002), and a case study focusing on 15 middle school science teachers (Pedersen & Liu, 2003). The remaining studies' populations were higher education faculty ranging in sample size from small qualitative studies of 5 (Conrad, 2004), or 10 (Conceicao, 2006) participants to large quantitative studies of 175 (King, 2002), or 557 (Anderson et al., 1998) participants.

In most of the empirical literature searched, the research topics compared traditional face-to-face teaching to online teaching or face-to-face courses to online courses. These comparisons included workload, course quality, and the pedagogies of distance education including instructional interaction, student attrition, and student academic confidence (Diekelmann et al., 1998). However, Pennington (2005) says that these comparisons are impossible because of the difference in contexts, and he does not believe that traditional classroom teaching should be used as the standard for both teaching environments. Most of the distance education research related to faculty who teach online has focused mainly on the changing role of the instructors, their teaching tasks, and the planning, design, and delivery of the online courses (Conceicao, 2006). Faculty's transformative experiences, and how these experiences have impacted their face-to-face teaching, have been largely neglected in this research.

The topics of the empirical studies selected for this review are summarized in Table 2. While the topics may seem quite varied, the element they had in common was a change in faculty, either as they prepared to teach online or resulting from teaching online. Due to the lack of research in this area, also included is

a study that looked at changes in faculty as they adopted a course management system (West, Waddoups, & Graham, 2007), and one that focused on faculty as they learned how to integrate educational technology components into their face-to-face courses (Winguard, 2004). None of these studies focused on how faculty changes impacted their face-to-face teaching in the classroom. One situational study interviewed 20 faculty who reported to have experienced benefits to their face-to-face teaching from their online teaching experience (Pennington, 2005). However, this researcher's focus was to better understand the differences and similarities between online and face-to-face teaching rather than to determine how those changes occurred.

Table 2

*Summary of Empirical Study Topics*

Topics	References
Faculty instructional roles in the online environment	Conrad, 2004 Morris, Xu, & Finnegan, 2005
Faculty development	Ali, Hodson-Carlton, Ryan, Flowers, Rose, & Wayda, 2005 Anderson, Varnhagen, & Campbell, 1998 Hinson & La Prairie, 2005 Sunal, Hodges, Sunal, Whitaker, Freeman, Edwards, et al., 2001
Faculty attitudes, perceptions, and experiences	Anderson, Varnhagen, & Campbell, 1998 Conceicao, 2006 Conrad, 2004 Diekelmann, Schuster, & Nosek, 1998 Torrisi & Davis, 2000
Improvement or change in instruction	Pennington, 2005
Teachers' beliefs	Pedersen & Liu, 2003
Critical reflection	Lawler & King, 2004
Perspective transformation	King, 2002
Faculty changes due to course management system adoption	West, Waddoups, & Graham, 2007
Educational technology integration	Winguard, 2004

A number of conceptual articles partially described the phenomenon of changes faculty experience when moving to online teaching and the impact it had on their face-to-face teaching practices (Barker, 2003; Cowham & Duggleby, 2005; Ellsworth, 1997; Gallant, 2000; Layne, Froyd, Simpson, Caso, & Merton, 2004; Meyer, 2004; Millichap, 2000; Tallent-Runnels et al., 2006; Taylor, 2003). The first-person accounts were especially rich in description (Alley, 1996; Cummings, 1998; Jaffee, 2003; Sener, 2005).

**Key Themes**

There were four primary themes that resulted from the analysis of the articles located in the literature review: moving from classroom practice to online teaching; changes related to online teaching, framing

faculty development within adult education; and faculty development models.

### *Moving from Classroom Practice to Online Teaching*

Many teachers' initial teaching model is born from that of their own teachers consisting of teacher-centered strategies in a traditional, on-site environment. They teach as they were taught (Gallant, 2000; Layne et al., 2004). Typically, they have no formal training for the teaching portion of their university responsibilities. In a first-person account, Alley (1996) shared how he had learned to teach in a traditional manner by observing his best professors, who had learned by observing their best professors. In this way, the teaching and learning environment had not changed much over the years. Most did not learn to teach by modeling online instructors. Jaffee (2003) describes the traditional teaching and learning classroom environment as a "pedagogical ecology" in which the physical space and social roles have been institutionalized and the lecture continues to be a common teaching strategy. It is a traditional higher education environment that is commonplace for the instructors and is expected by the students. Within this environment, instructors regard themselves as the content expert, responsible for course delivery (Conrad, 2004).

Learning educational technologies for teaching online may be a catalyst for teachers to reflect on and evaluate their current teaching practices as found in a phenomenology study by King (2002). It is a potential opportunity to develop new ideas about teaching and learning (Tallent-Runnels et al., 2006), and to restructure traditional classroom roles and relations (Jaffee, 2003). Diekelmann et al. (1998) found that distance education is a new specialty that prevents teachers from teaching in their familiar ways and having to rethink their teaching practices. What worked for them in the past in their traditional classroom may no longer be helpful or reliable in their distance education classroom. New views of teaching and learning may need to be cultivated for the online delivery (King, 2002).

As faculty prepare to move into online teaching or have their first experiences teaching online, they note that which is unfamiliar, different, or absent. One faculty member reported that "You can't just bump into somebody. You have to make a deliberate contact" (Diekelmann et al., 1998, p. 6). This faculty member also reported that "every handout you want to give them has to be ready the day class starts" (Diekelmann et al., 1998, p. 6) taking away the spontaneity possible in the face-to-face classroom (Conceicao, 2006).

Other faculty, in a study by Hinson and LaPrairie (2005), report the extensive planning and attention to detail often overlooked in traditional classrooms. The amount of advance preparation and organization equates to more development and design time which gives the online course a distinction of being known as labor-intensive (Conceicao, 2006). Instructors earning a certificate in online learning reported that online learning placed demands on them that were different from those encountered in the face-to-face classroom (Cowham & Duggleby, 2005).

In the online classroom, faculty cannot see their students. Concerns about the lack of visual cues are reflected by this online instructor's words, "I don't have a clue if I've connected with the distance course" (Diekelmann et al., 1998, p. 10). Faculty's dependence on visual cues is reflected in this quote: "Online, everybody is a mystery until they disclose something" (Conrad, 2004, p. 35). In fact, a common concern among distance teachers is the loss of face-to-face contact with their students (Diekelmann et al.).

### *Changes Related to Online Teaching*

In rethinking their familiar ways of teaching when moving online, a change that is noted numerous times is a shift from teacher-centered instruction to student-centered instruction (Barker, 2003; Conceicao, 2006; Conrad, 2004; Gallant, 2000; Hinson & La Prairie, 2005; Jaffee, 2003; Tallent-Runnels et al., 2006). As faculty learn about alternatives to the transmission model of teaching, they are able to shift their instructional roles to place a greater amount of responsibility for learning on the students (Barker, 2003; Gallant, 2000) due to the increased opportunity for student participation in the online environment (Jaffee, 2003). In fact, in one survey research study (Ali et al., 2005) 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.

When moving from classroom practice to distance education, some faculty members might become aware of these altered roles (Ali et al., 2005; Barker, 2003; Jaffee, 2003) or have roles reawakened (Diekelmann et al., 1998). Online there exists the possibility to create different teaching and learning roles with a less hierarchical structure (Jaffee). Faculty can move away from their role as deliverers of content to constructivist-based facilitators (Barker; Conrad, 2004; Pedersen & Liu, 2003). New roles as instructional designer and interaction facilitator can also be taken (Morris, Xu, & Finnegan, 2005).

In a qualitative study of 13 online instructors, the faculty's perceptions of their online roles were compared to what they actually practiced within their online courses (Morris et al., 2005). The three primary roles in the online environment were perceived as course customization, course facilitation, and grading and assessment. Though most of the study's faculty perceived themselves to be facilitators in their online courses, their frequency and type of participation online varied widely. The frequency of postings among the 3 novice online instructors was lower than that of experienced online instructors, ranging from an average of 19 postings per course for novice instructors to an average of 193 postings per course by experienced instructors. The frequency of postings also varied widely among the 10 experienced online instructors ranging from 42 to 480 postings.

In another qualitative study with 5 online instructors, the role mentioned most often was as deliverer of content and had to do with managerial or technical tasks (Conrad, 2004). They were focused on how much and in what manner they could most effectively transmit their content to their learners. When these instructors talked about their online teaching roles, they connected most of their reflections to their previous face-to-face teaching and used these traditional teaching experiences as reference points. There was an absence of discussion in the study's interviews about social issues or collaborative learning in the online classroom, with none of the instructors assuming a social role to promote a sense of community.

Several authors mentioned that experienced teachers could find themselves as beginners again in the online environment (Diekelmann et al., 1998; Gallant, 2000; King, 2002; Lawler, King, & Wilhite, 2004). This challenges their self-concept as expert and could even result in resistance to online teaching because of this loss of identity. Ali et al. (2005) found that faculty who had not yet taught an online course perceived their online teaching expertise at the novice and advanced beginner levels. This new role as novice or beginner puts them into the role of an adult learner.

### *Framing Faculty Development within Adult Education*

It is only recently that faculty development has been addressed as adult learning (Cranton, 1994; King, 2002). 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 effective principles, practices, strategies, applications, and experience (Lawler, 2003). Within this adult education framework then, 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 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 (Lawler, 2003).

Lawler and King (2001) suggest that faculty development initiatives should address faculty as adult learners and provide them with opportunities to reflect on their practice. In fact, it has been noted that when learning to teach online, faculty will rely heavily on their past classroom teaching experiences (Conrad, 2004; Diekelmann et al., 1998). Building on past experiences is recommended and included in Lawler and King's (2001) six adult learning principles to guide professional development: 1) create a climate of respect, 2) encourage active participation, 3) build on experience, 4) employ collaborative inquiry, 5) learn for action, and 6) empower the individual. Additionally, they emphasize the importance of focusing on faculty's real life professional concerns to make their professional development activities immediately meaningful and relevant to them.

Faculty's past experiences with professional development can influence their motivation for future

participation. Sometimes their past professional development experiences are less than positive. These experiences can be due to a mismatch between teaching and learning styles (Lawler, 2003) or a mismatch between their expectations and the training that was actually offered. Although there is no single best way to design and deliver effective faculty development, strategic planning is necessary (Ali et al., 2005), and Gallant (2000) suggests the use of four action principles that incorporate an adult learning framework. First, she considers responsiveness to the individuality of the faculty member to be essential. This includes their preferences for teaching and learning, prior experiences, and attitudes toward change. 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.

Other recommendations have been made for professional development that prepares faculty to teach online. One study (Hinson & LaPrairie, 2005) noted the need for faculty to have opportunities to experiment and apply their online skills within the context of their own curriculum. Along those same lines, one author (Barker, 2003) recommended that an instructor should be added to an online course as an observer to gain a better understanding of how online teaching and learning occurs. Others (Tallent-Runnels et al., 2006) shared faculty's preferences for training that could be used right away, provided scaffolded learning, fit into their schedules, matched their learning styles, and included support from their administrators and faculty support staff. Accounting for the uniqueness of each individual faculty member is mentioned repeatedly within the adult learning literature (Ali et al., 2005; Cranton, 2006; Gallant, 2000; King, 2002). Have all of these recommendations been captured in a comprehensive faculty development model for teaching online?

#### *Faculty Development Models*

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 (Lawler, 2003). 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 (Layne et al., 2004), or uniqueness. Two faculty development models were considered in this literature review, the Professional Development Model for Online Course Development (Hinson & LaPrairie, 2005) and the Adult Learning Model for Faculty Development (Lawler, 2003).

The Professional Development Model for Online Course Development was adapted from face-to-face and technology integration models and includes the five stages of planning, instruction, implementation, refinement, and evaluation. This model was implemented in a study to provide insight into the type of professional development activities needed to help 16 community college faculty make the transition from traditional face-to-face teaching to Web-based teaching. During the planning stage, a needs assessment was conducted and the participants set personal objectives. Then they were divided by content area to share ideas for course development and link course learning objectives to research-based best practices. In the instruction stage, the faculty participants learned basic skills for online course delivery and developed their first online lesson plan. The implementation stage provided them with opportunities for modeling, coaching, collaborative projects, and group discussions. Participants shared their learning experiences, successes and concerns with each other during the refinement stage. In the final evaluation stage, the focus was on determining the program's effectiveness by the participants' growth over time, and identifying areas where the model needed modifications.

The interview findings indicated that the model's supportive environment, including monthly meetings and biweekly online discussions, allowed the faculty to share ideas and examples which encouraged them to try new things. They noticed their instruction becoming more student-centered as they incorporated more technology components into their courses. Although the context was authentic, the greatest difficulty encountered was trying to develop online course components at the same time as they were teaching the course. This was the greatest change they noted for future iterations of the model, recommending that course components be developed in the semester prior to their use in a live course.

In contrast, the Adult Learning Model for Faculty Development was deliberately designed to incorporate adult learning principles and adult education program planning concepts. This model has the four stages of preplanning, planning, delivery, and follow-up. Each stage checks for compatibility between the learning objectives and corresponding activities and adult learning principles. During the preplanning stage, the purpose of the professional development initiative is described along with its fit in the culture, mission, and goals of the organization. Available resources are identified. The faculty development activities are determined in the planning stage, along with who will be involved. This is also when the scheduling, promotion, and program delivery are set. In the delivery stage, planned tasks are reviewed and plans to monitor the program are scheduled. As the program ends, the follow-up stage begins with assurance that the proper processes are in place to support the faculty members' new skills and learning. Additionally, the faculty developers reflect on their role in the program in order for their own learning to inform their planning for future events. A cornerstone of this model is the faculty participation throughout the planning, delivery, and evaluation stages, and the incorporation of their experiences and needs. This model addresses the faculty as adult learners, their characteristics, and their motivation to learn and change (Lawler & King, 2001). It acknowledges that faculty's work does not occur in a vacuum by accounting for the organizational context in the preplanning stage. The model begins with the faculty's needs and experience and includes their voice throughout all of the model's processes. Although some attempt is made to support faculty after the program has been completed, there is little known about how much faculty development efforts actually lead to improved teaching and learning. However, faculty development that encourages reflective practice has the potential to increase these efforts toward improvements (Layne et al., 2004).

## **Critique**

Several of the studies utilizing survey research presented a few concerns. The needs assessment survey conducted by Ali et al. (2005) was supposedly targeted to faculty who teach online but was sent to all faculty. As a result, of those who responded to the survey, only a third actually taught online. Another concern with this study is that they determined that their faculty development should occur in groups or teams. However, faculty ranked partnerships lowest in their survey responses.

The survey instrument used by Anderson et al. (1998) was used as a self-assessment for faculty to report their information technology competency. As the only measure of technology competency, there was no method in place to determine whether faculty's self-reports rated their own skills accurately. Their skills could have been quite competent, but their perception of their skills could have caused them to answer otherwise. A similar inaccuracy could be true for those with low technology competencies self-reporting that their skills were high.

A survey instrument was also used as one measure in a mixed method study by Sunal et al. (2001). This survey instrument was modified for their use, but only its initial test-retest for reliability was reported. However, once a survey instrument has been modified, the test-retest for reliability needs to be redone for the modified instrument. There was no evidence of any testing on the modified survey for reliability.

Another limitation included the lack of explanation of the sample selection procedures in the qualitative study by Conrad (2004). In this study, the choice of the Collins and Berge framework for faculty roles was not explained, and the study's results seemed to be forced to artificially fit within this framework. The faculty in the Hinson and LaPrairie (2005) study struggled to develop online course materials while simultaneously trying to manage their course in the midst of the semester. Fortunately, one of the recommendations for the future use of the professional development model used in the study was to have faculty develop the online components of their courses first and then implement them during another semester. Finally, although King (2002) found a number of the educators in the graduate adult education courses reported a perspective transformation, it is not known whether this transformative learning effected change back in their own classrooms.

A final critique is that while there was acknowledgment of the importance of reflective practice in faculty development, few strategies were shared to actually implement this in one's practice. One might recommend the use of a journal but then would not share its actual implementation within a professional development program. Diekelmann et al. (1998) even spoke of forcing faculty to reflect. This seems to



go against adult learning principles and addresses the lack of effective facilitation strategies for faculty developers.

### **Implications for Transformative Learning and Practice**

While there was a focus on online teaching and not necessarily transformative learning in particular, there are some implications for transformative learning in teaching online. It has been reported that as faculty participate in faculty development to prepare to teach online, and as they actually teach online, they find themselves as beginners again (Diekelmann et al., 1998). Their teaching role has changed, there is a lack of physical presence in the online classroom, everything they “say” must be written, they are presented with different demands, and they are often utilizing unfamiliar technologies. As faculty have to prepare and present content differently, as they have to communicate, connect, and engage with their students differently, and as they have to forge new partnerships with media specialists and instructional designers, they begin to rethink their assumptions about teaching and learning (Diekelmann et al.; Jaffee, 2003). Reconsidering their teaching practices can begin with something as simple as realizing that they now have different opportunities to communicate with their students (West et al., 2007).

Often the changes faculty experience online give them an unsettled feeling. Some faculty reported feeling bewildered and overwhelmed (Alley, 1996), or disembodied and disempowered (Cowham & Duggleby, 2005). One must consider the faculty members who believe that face-to-face instruction in the traditional classroom is the best and only way for students to learn (Meyer, 2004). They have empirical evidence to support their beliefs and have colleagues who hold similar beliefs. When faculty members display a resistance to online teaching, it may be because it threatens their identity as professors and experts (Meyer, 2004). This could impact their online teaching experience.

While changes in their teaching practices may occur in the online classroom, they do not automatically lead to “reflection and identifying and naming the meaning of experiences after they had been lived” (Conrad, 2004, p. 41). Faculty’s assumptions, beliefs, and expectations about teaching and learning can limit their ability to change their teaching practices (Sunal et al., 2001). In fact, “some of the most critical barriers to change in educational processes are personal ones” (Taylor, 2003, p. 76). Changes in teaching practices must be considered over time with “reflection being the crucial driving force for continued evolution” (Torisi & Davis, 2000, p. 171). However, faculty rarely reflect on their own learning as a way of understanding their teaching beliefs and assumptions (Lawler, 2003), often citing the lack of time. Faculty who self-reported benefits to their face-to-face teaching from their online teaching experience did not report a substantial change in their theoretical teaching orientation (Pennington, 2005). Would they have reported differently if reflection had been a part of their transition to online teaching?

If the goals of faculty development remain the dissemination of information or the development of specific skills, then their prior attitudes, beliefs, and assumptions will not be challenged. The new information they receive will be assimilated wherever it will fit into their meaning perspectives and, if it does not fit, it could be ignored. Without reflective practice to learn new ways of thinking about teaching and learning, they will resort to what they already know and consider familiar and continue their current practices (Layne et al., 2004). One strategy to make faculty’s attitudes, beliefs, and assumptions visible to them is to have them write their personal philosophy of teaching and then match that against what they actually do in their teaching practices.

Critically reflective thinking is an integral component in transformational learning. Transformational learning theory describes the process in which adult learners “critically examine their beliefs, assumptions, and values in light of acquiring new knowledge and correspondingly shift their worldviews to incorporate new ideas, values, and expectations” (Cranton, 1994; Mezirow, 1994, 2000, as cited in King, 2002, p. 286). Several authors use this theoretical framework in which to consider faculty development as a way to facilitate transformative learning. Cranton (1996) has done much to develop transformative learning’s potential within faculty development and has recommended strategies to facilitate it. If teaching online brings inherent changes that challenge our old assumptions about teaching and learning, then perhaps it is time to rethink everything about face-to-face teaching practices (Ellsworth, 1997). Reflective thinking within faculty development might be the strategy to promote this

kind of transformative learning in faculty.

Numerous changes have been highlighted in the faculty experience when preparing to teach online or actually teaching online. It seems that more faculty first-person accounts 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. Could it be that the process of writing about their experiences for publication 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's survey responses reported less change in their classroom after integrating course Web enhancements than they reported in subsequent interviews (Wingard, 2004). 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 is needed to be known about how this type of reflective practice could be integrated into faculty development programs.

Some faculty reported change as a process over time and with increased experience (Diekelmann et al., 1998; King, 2004; Wingard, 2004). This suggests a need for more longitudinal studies of faculty as they prepare to teach online and also to capture their experiences teaching online over time. If reflective practices are implemented, their impact and effects over time would also inform faculty development models.

Redesigning a course for online delivery produces deep reflection about teaching and learning (Jaffee, 2003), but we rarely see faculty reflecting on their own learning (Lawler, 2003), and there is a lack of reflection by faculty (Conrad, 2004). One study considered the creation of cognitive conflict with faculty members' conceptions of teaching as an important goal for successful professional development (Sunal et al., 2001). Would it not then be ethically responsible to also provide adequate support for faculty to deal with this conflict? There seems to be a great need to learn how reflection occurs, how reflection by faculty can be encouraged and supported, and how that reflection can inform their teaching, both online and face-to-face. Lawler et al. (2004) agreed that new faculty development initiatives are needed to include strategies to facilitate critical reflection in a contextual environment.

## **Conclusion**

This literature review was conducted to discover what is known about changes or transformation in teaching assumptions and beliefs when faculty prepare to teach online or when they are engaged in online teaching, and to uncover any gaps in research involving these changes. While many changes were noted when faculty move to the online environment, no studies were found that focused on how those changes impacted face-to-face teaching in the classroom. What was lacking was how faculty development, through reflective activities, could facilitate these changes in the online environment and have them, in turn, also benefit face-to-face teaching.

Distance learning administrators responsible for the design and implementation of faculty development for online teaching need to address faculty as adult learners and provide a faculty development model that captures adult learning principles within an authentic online teaching and learning context. Opportunities for reflection on faculty's teaching beliefs and assumptions need to be provided within this model. Faculty development for online teaching designed in this way has the potential to cultivate a reflective practice among higher education faculty members that could lead to new possibilities for teaching and learning online and face-to-face.

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