Factors Contributing to Distance Learning Faculty Changing Their Teaching Practices

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This paper presents the results of a qualitative study that investigated factors contributing to distance learning faculty changing their teaching strategies, including course design, pedagogy, and assessment of student learning, to enhance student success in higher education. Using Kezar's (2001) typology of organizational change in postsecondary institutions, the findings of this study suggest that distance learning educators are encouraged to modify their teaching strategies in asynchronous online courses as a result of cognitive dissonance, a prominent feature of the socio-cognitive approach to change. Furthermore, this study found that exposure to three sources of information contributed to cognitive dissonance and modifications to teaching practices among the faculty participants. These information sources include: (a) student performance on assessments of learning, and assessment practices in an online environment; (b) formal institutional assessments of teaching effectiveness and course design; and (c) training received related to effective teaching, course design.

Keywords: Assessment, distance learning, online learning, teaching effectiveness

There was a time when the United States was the world leader in postsecondary degree attainment. However, today, many nations lead the U.S. in terms of college degree achievement. For instance, for the workforce population aged 25-34, Canada leads the United States in the percentage of adults with an associate's degree or higher, nearly 55% versus 38%, respectively (Kelly, 2005). Furthermore, in 2006, only 27% of American adults aged 25 and over held a bachelor's degree or higher (U.S. Department of Education, 2008). This statistic has remained relatively unchanged for a decade. Given the world's competitive economic environment, the impact of the recent Wall Street and real estate meltdown on the U.S. economy, and the continued loss of American manufacturing jobs, American adults without postsecondary credentials face formidable financial and employment challenges. The Bureau of Labor Statistics projects that over

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the next eight years, the shift in the U.S. economy away from goods-producing to service-producing will continue (U.S. Department of Labor, 2009). The manufacturing sector is expected to experience the greatest decline. However, by 2018 over 14 million new service positions will be added to the American economy and over half of the growth (i.e., 8 million jobs) will occur in healthcare, educational, professional, scientific, and technical services (U.S. Department of Labor, 2009). Many of these jobs will require a college degree.

Overall, occupations that require postsecondary credentials are expected to experience higher rates of growth than those that do not. For instance, jobs that demand an associate's degree for employment are projected to grow by 19%. Professions requiring a master's degree or a first professional degree are expected to increase by 18%, and careers requiring a bachelor's degree or a doctoral degree are expected to increase by 17% (U.S. Department of Labor, 2009). However, occupations requiring only on-the-job training are projected to grow by a mere 8%. It is clear that more Americans must achieve higher levels of academic and technical knowledge to remain employable in global knowledge-based markets (Krazis, 2007). Both President Obama's plan to restore the United States' leadership in higher education and the Lumina Foundation's "Big Goal" call for increasing the degree attainment of American adults to 60% over the next 10 years. To achieve this goal, postsecondary institutions can strategically use online education to enhance student access to college. Over 73% of chief academic officers at public colleges and universities reported that online education is critical to the long-term strategy of their institution (Allen & Seaman, 2009). However, research shows that retaining students in distance education programs and courses is a prevalent issue today (Allen & Seaman, 2009; Simpson, 2003). Research also indicates that teaching practices can impact a college's ability to retain students enrolled in distance learning courses and programs.

The use of conventional face-to-face teaching practices in online environments often leads to frustration for both students and faculty when these strategies are unsuccessful (Dasher-Alston, 1998). To teach online effectively, educators must become proficient in using online delivery technology, designing lessons that are student-centered, adapting to teaching in the absence of nonverbal feedback from students, and developing methods of communicating their content without synchronous lecturing (Schoenfeld-Tacher & Persichitte, 2000). To achieve these proficiencies, postsecondary institutions must challenge traditional approaches to teaching and facilitate the development of new pedagogical techniques to advance student success in online learning environments (Kazis, 2007; Moon, Michelich, & McKinnon, 2005).

Despite the need for different teaching tactics in distance education, changing pedagogical practices presents a formidable challenge because American colleges and universities are often slow and resistant to change (Kezar, 2001). However, if online education is to serve as an effective long-term strategy for postsecondary institutions, they must overcome resistance to change in order to advance student retention and success in distance education courses. Research that describes what motivates online faculty to change their teaching practices can help academic leaders encourage instructors to embrace the pedagogical practices that are needed for effective instruction in an online environment. However, virtually no literature exists on this topic. The need therefore

exists to understand what encourages online faculty to change their teaching practices. The purpose of this study is to identify factors that contribute to distance learning faculty changing their teaching strategies—including course design, pedagogy, and assessment of student learning—to enhance student success. In the context of this study, distance education is used interchangeably with online learning and e-learning.

This paper is organized as follows. In the next section, I review relevant literature to provide context for this study. I present a review of the literature related to the situational and demographic characteristics of online learners, the factors that influence dropout from higher education online courses and programs, and Kezar's (2001) typology of organizational change in postsecondary institutions. Next, I detail the methodology that guides this study. Data collection, analysis, and the results of the study are presented thereafter. The last section concludes the paper with a discussion of the study's findings, limitations, and implications.

Literature Review

The purpose of this study is to identify factors that contribute to distance learning faculty changing their teaching practices to enhance student success. To provide a context for this study, I reviewed three strands of literature: (a) the situational and demographic characteristics of online learners; (b) the impact of teaching practices on student success in online courses and programs; and (c) Kezar's (2001) typology of organizational change in higher education.

Situational and Demographic Characteristics of Online Learners

In 2008, 4.6 million students in the United States were taking at least one online course; this number was nearly 17% greater than those enrolled in online courses in 2007 (Allen & Seaman, 2009). In the fall of 2008, online enrollment represented over 25% of the total postsecondary enrollment in American higher education institutions (Allen & Seaman, 2009). The demand for distance education can be partially attributed to the increased access it provides to non-traditional learners who juggle multiple situational responsibilities and find it nearly impossible to attend class in traditional face-to-face environments. Researchers found that 77% of distance education learners live over 50 miles from campus, with the majority living between 101 and 200 miles from campus (Gibson, 1998). Moreover, distance learners are generally older than traditional undergraduate students. Research conducted by Moore and Kearsely (2005) showed that most distance education learners are adults between the ages of 25 and 50. According to a study administered by the National Center for Educational Statistics, undergraduate students who were 24 years of age and over and were enrolled in U.S. higher education institutions were more likely to participate in distance education courses than students under 24 years of age (U.S. Department of Education, 2002).

Given the flexibility that distance education provides, several studies have illustrated that more women than men enroll in courses delivered at a distance (Gibson, 1998; NCES, 2002). The report by NCES (2002) indicated that older women with families and jobs participated in distance education programs and courses at significantly

higher rates than members of other groups. In a testimony to the U.S. Senate Committee on Health, Education, Labor, and Pensions, Ashby's (2002) report revealed that women represented about 65% of the undergraduate students who took all their courses through distance education. Despite the significant number of women pursuing education in an online environment, a study funded by the American Association of University Women found that women who took distance education courses faced more barriers than men because this delivery mechanism added a "third shift" to their workday (Kramarae, 2001). Female learners studied and engaged in online classes early in the morning, late at night, in their free time after working the first shift of a full-time job, and after the second shift of taking care of their children (Kramarae, 2001). Although these are trends for women, these trends cut across all distance learners.

Ashby (2002) reported that 85% of graduate students who took online courses also worked full-time compared to 51% of students who did not take distance education courses. Nearly 60% of undergraduate distance education learners worked a full-time job compared to less than 40% of undergraduates who took no distance education courses (Ashby, 2002). The study also showed that undergraduate students who worked full-time considered themselves employees first and students second. Research indicates that this type of student tends to participate in distance education at higher rates than their counterparts (U.S. Department of Education, 2002). In fact, distance education students are more likely to be part-time learners (Ashby, 2002). About 63% of the undergraduate students who took all their courses through distance education were part-time students, whereas about 47% of students who did not take distance education courses were part-time learners (Ashby, 2002).

The flexibility and convenience of online courses and programs has not only attracted a significant number of adults, women, and full-time employees, but also increased higher education access to minority learners (Cooper, 2008). In 2006-2007, four of the top five producers of African American doctorates in education were universities that offered primarily online or blended course options (Cooper, 2008). The leader in Black education doctorates is Nova Southeastern University, which produced nearly 20% of the 957 African Americans who earned doctorates in education in 2006-2007 (Cooper, 2008). Furthermore, the top 10 universities conferring master's degrees in education upon Blacks, mostly consist of postsecondary institutions that offer some online courses (Cooper, 2008). These institutions include the University of Phoenix Online, Walden University in Minneapolis, and American InterContinental University Online. Not only are more minorities participating in online education to achieve graduate degrees, but many are also pursuing bachelor's degrees in business, computer, and health fields in online environments (Cooper, 2008). With a 69% growth in online Black graduates in all disciplines since 2005-2006, the University of Phoenix is within two to three dozen degrees of surpassing Florida A&M University and North Carolina A&T, which rank first and second in conferring bachelor's degrees upon African Americans, respectively (Cooper, 2008).

Even with higher tuition and fees than public colleges and universities, for-profit online postsecondary institutions appear to be more effective than traditional public institutions in attracting and graduating minority learners (Kazis, 2007). Of the top 100 institutions conferring degrees upon people of color, the primary producer of minority

Bachelor of Science degrees in engineering-related technologies is ITT Technical Institute of California. The number two institution conferring Bachelor of Science degrees in computer and information services upon African Americans students is Strayer University (Berg, 2005). Both of these institutions offer primarily online courses. In 2007-2008, the average tuition and fees for full-time undergraduate attendance at a four-year public university in California amounted to $5,950 (U.S. Department of Education, 2008b); at ITT Technical Institute-San Diego, California, it was $15,600 (see also Integrated Postsecondary Education Data System [IPEDS] College Data 2009a). During the same year, the average tuition and fees to attend a four-year public institution in Washington, D.C. was $3,140 (U.S. Department of Education, 2008b); at Strayer University-Washington, D.C., it was $11,670 (see also IPEDS College Data 2009b). These numbers indicate that despite higher tuition costs to attend a for-profit postsecondary institution that offers online courses, a significant number of minorities are willing to pay more to achieve access to higher education, flexibility, and convenience through distance learning.

Impact of Teaching Practices on Student Success in Online Environments

Research indicates that distance education students tend to be adult learners who are female, full-time employees, and more racially diverse compared to students who primarily take courses in face-to-face environments. Historically, learners with these nontraditional characteristics have been excluded from traditional institutions of higher education; thus, it is apparent that distance education has increased access for learners who previously found postsecondary education inaccessible. However, despite the increased access to higher education that online learning affords adults, women, working professionals, and minorities, evidence suggests that retention rates in distance education courses have declined in the last two decades (Simpson, 2003). Given the preponderance of nontraditional learners taking distance education courses, this is not surprising; nontraditional students and adult learners are known to have lower persistence rates in college compared to traditional learners (Rovai, 2003). The National Center of Educational Statistics estimates that 50% of nontraditional undergraduate students will drop out of college without achieving a degree after three years compared to 12% of traditional students (Rovai & Downey, 2009).

The challenge of retaining nontraditional students in college extends to the online environment. In a survey of 4,100 online learners, researchers found a dropout rate of 71% (Simpson, 2003). Although no national statistic exists that represents the proportion of distance learners who complete distance education programs and courses, many postsecondary administrators agree that course-completion rates are usually 10 to 20 percentage points higher in traditional courses than in online courses (Carr, 2000) and that retaining students is a greater problem in distance education courses than it is in face-to-face courses (Allen & Seaman, 2009). In Allen and Seaman's (2009) report of online education in the United States, only 13% of the chief academic officers surveyed at public institutions stated that retaining students is not a greater problem for online courses than it is for face-to-face courses.

Multiple factors influence a student's decision to drop an online course. Research indicates that a student's demographic characteristics, motivation, academic abilities, personality traits, social factors, isolation, alienation, and locus of control may impact their retention in a distance education environment (Dille & Mezack, 1991; Levy, 2007; Parker, 1999; Rovai & Downey, 2009). Bean and Metzner's (1985) student attrition model, which is grounded in Tinto's (1975) student integration model, attempts to explain attrition of nontraditional adult learners, whom they define as individuals 25 years of age or older who are commuters and/or part-time learners. Bean and Metzner (1985) suggest that nontraditional student persistence is based on student-institution fit. However, research also indicates that pedagogical practices can influence student success and retention in distance learning courses and programs (Levy, 2007). In a study conducted by Chyung, Winiecki, and Fenner (1998) that focused on adult students taking distance education courses, researchers discovered that students' satisfaction with the learning environment during the first two weeks of class predicted their dropout. Forty-two percent of the students who did not persist until course completion cited dissatisfaction with the learning environment as the primary reason for their voluntary withdrawal from courses (Chyung et al., 1998). In another study that investigated factors that contributed to student attrition in distance education courses, students who dropped out of an online course were asked what the institution could have done to retain them. The top seven responses were as follows: improving teaching quality (29%); more detailed feedback on assignments from instructors (17%); time management issues (13%); exam support (12%); greater empathy from academic staff (11%); greater provision of resources, such as lecture notes and personal computers (11%); and greater clarity about assignments (10%; Simpson, 2003). Most of the student responses fell into the categories of improving teaching, improving course design, and improving learning assessments.

Park and Hee (2009) conducted a study with 147 adult learners who either completed or dropped an online course, and their research findings indicated that learners were less likely to drop out when they were satisfied with their online courses and when the course content was relevant to their lives. Other research has supported these results. For instance, Levy (2007) found that learners' satisfaction with online courses and the relevance of such courses to their jobs were two significant factors that affected their decisions to either drop out or to persist. Students who dropped out reported significantly lower satisfaction with online learning than students who successfully completed an online course (Levy, 2007). Moreover, using survey data collected from 295 students enrolled in online courses at two public universities in Taiwan, Sun et al. (2008) evaluated 13 independent variables and their relationships to student satisfaction in an online course. The researchers found that out of all the variables evaluated, course quality had the strongest association with student satisfaction. Course quality includes the overall course design, teaching materials, and student-teacher and student-student interactivity (Sun et al., 2008). In a similar vein, Shea, Pickett, and Pelz (2003) studied the relationship between pedagogy and course design and students' satisfaction with online courses. The study's results indicated that student satisfaction in distance education correlated to issues related to instructional design, instructors' discourse facilitation, and instructors' direct interaction (Shea, Pieckett, & Pelz, 2003). Research

on student dropout and persistence in distance education indicates that the quality of online courses and teaching practices can influence student satisfaction and retention.

Part of the challenge associated with improving student satisfaction and retention in online courses is that for nontraditional adult learners, who represent the majority of online students, traditional postsecondary instructional methods, such as "chalk and talk" lectures, are ineffective teaching practices in online, hybrid, and face-to-face environments (Kazis, 2007). Adult learners are different from traditional college-age students in that they tend to be practical problem solvers who are autonomous, self-directed, and goal oriented (Howell, 2003). Adult learning theories and models have contributed to our understanding of adults as learners (Merriam, Caffarella, & Baumgartner, 2007). According to Knowles (1990), andragogy is based on the following assumptions: adults move from dependency toward self-direction as they mature; adults' experiences are rich resources for learning; adults are more problem-centered than subject-centered in learning; and adults must understand why they need to learn something (Merriam, Caffarella, & Baumgartner, 2007). In a similar vein, Jarvis's (1987) model of adult learning explains that teaching practices should integrate adults' social experiences. Several models and theories of adult learners thus illustrate the importance of adults' active engagement in defining learning programs and approaches to teaching. This includes instructional methods that highlight adult learners' personal and professional experiences and teaching practices that are structured in ways that align with work settings that emphasize skill practice, use of technology, and use of case method to extract lessons (Knowles, 1990). Adult learning theories and models illustrate the importance of utilizing teaching practices that reflect adult learners' unique attributes and learning styles in online courses.

The two strands of literature that I have reviewed indicate that the majority of distance education students are nontraditional adult learners. The literature also suggests that employing traditional face-to-face approaches to teaching and learning in online education environments is inadequate, as it can lead to student dissatisfaction and attrition. Given that studies have demonstrated that learner perceptions of the quality and appropriateness of teaching practices in e-learning environments contribute to student success and retention, teaching practices must improve in order to advance learner persistence. It is thus important to understand what motivates postsecondary institutions to change, as this information can help academic leaders facilitate the adoption of effective teaching methods in distance education courses and programs.

Kezar's (2001) Typology of Organizational Change in Higher Education

A barrier impacting the adoption of appropriate teaching strategies in online courses is that postsecondary institutions are slow and resistant to initiating change, including changes to pedagogy. Kezar (2001) states that since American colleges and universities have long-standing missions, values, and beliefs, they are less likely to change. Furthermore, if change does occur, it is prone to happen as a result of widespread debate among stakeholders inside and outside of postsecondary institutions and following the principles of the social-cognitive approach to change (Kezar, 2001).

The social-cognitive approach is one of six models in Kezar's (2001) typology of organizational change that attempt to describe what drives change in higher education. The socio-cognitive approach maintains that change in postsecondary organizations is a response to cognitive dissonance (Kezar, 2001). Social-cognitive models emphasize the importance of discussion, single-loop and double-loop learning, understanding, and sense-making in facilitating change in colleges and universities (Kezar, 2001). According to the social-cognitive approach, organizational change takes place not because of external environmental forces, continuous quality improvement, or conflicts between powerful and less powerful groups, but because people within a higher education institution experience cognitive dissonance in which contradictory values, beliefs, or behaviors collide. Change occurs at the point of collision, as people are motivated to eliminate dissonance by altering their actions, attitudes, and ideas (Kezar, 2001).

The remaining models in Kezar's (2001) typology are life cycle, teleological, evolutionary, dialectical, and cultural approaches to change. Each approach offers different explanations for what drives change in colleges and universities. For instance, the life cycle model attributes organizational change to predefined, progressive, and rational stages (Kezar, 2001). In reference to what drives change in higher education, the life-cycle approach asserts that organizations are born and then grow, mature, and cycle through stages of renewal and decline. Change occurs not because people see the necessity of it or even desire it, but because they must adapt to different life cycle stages, as transformations are natural phenomena that cannot be prevented (Kezar, 2001). In a dissimilar vein, the teleological model assumes that change occurs because individuals foresee and observe the necessity of it. People consciously decide to engage in continuous quality improvement, such as TQM or business process reengineering, to advance change in an organization. Research indicates that this approach has been successful in initiating change in higher education institutions (Elton & Cryer, 1994; Farmer, 1990).

Change is anticipated in the teleological model, whereas in the evolutionary approach, the necessity for change is unforeseen and occurs as a reaction to shifts in the external environment. External environmental shifts lead to organizational modifications that reestablish equilibrium between the outside world and an organization (Kezar, 2001). Researchers assert that increased accountability, assessment and accreditation demands, and declining state revenues are evidence that postsecondary institutions are changing as a result of external environmental factors (Gumport & Pusser, 1999; Kezar, 2001). Unlike the evolutionary approach, the dialectical approach ascribes change to conflicts in personal belief systems and values between dominant and non-dominant cultures in an organization (Kezar, 2001). The dominant culture transforms and retransforms an organization and thus dictates what, when, and how change will occur. Principles of the dialectical approach include the importance of coalition building, persuasion, influence, persistence, and mediation to facilitate and enable change in postsecondary institutions (Kezar, 2001; Simsek & Louis, 1994). Finally, cultural models demonstrate that change is a response to alterations in the human environment, as cultures are constantly shifting and adapting (Kezar, 2001). Research indicates that multiple aspects of the cultural environment in postsecondary institutions contribute to or militate against change. These

factors include the history and tradition of the institution, symbolism, and irrational and ambiguous factors such as emotive motivations, politics, and intuition (Kezar, 2001).

Purpose of Study

This study identified factors that contributed to distance learning faculty members changing their teaching practices, including course design, pedagogy, and the assessment of student learning, to enhance student success. To conduct this research, I used the semi-structured interview method of qualitative inquiry to obtain in-depth accounts of the experiences of distance learning faculty and instructional designers. The following questions guided this study: (a) What contributes to faculty changing their teaching practices, including course design, pedagogy, and the assessment of learning? (b) Under which conditions are faculty driven to change approaches to teaching in an online environment? (c) Using Kezar's (2001) typology of organizational change, which models best explain the factors that contribute to faculty changing their teaching practices in an online environment? (d) How do faculty members decide which teaching practices to use in online courses? (e) How do faculty formally and informally assess student learning in an online environment? (f) How do results from formal and informal assessments of student learning impact teaching practices in an online environment? These six sub-questions helped to answer the primary research question of the study: Which factors contribute to distance learning faculty changing their teaching practices to enhance student success?

Methods

Description of Participants

Six faculty members who teach both online and face-to-face courses, and two distance education instructional designers participated in this study. Both of the instructional designers and two of the six faculty members were white males. One faculty member was an East Indian male. The three remaining participants were white female faculty members. All of the participants in the study worked for the same public four-year higher education institution located in a small, rural, Midwestern town. The instructional designers held master's degrees in the education-related fields of curriculum and instruction or training and development. The faculty participants worked in three different departments: Business and Accounting, Criminal Justice, and Counselor Education. At the time of the study, three faculty participants held a master's degree in the field in which they were teaching; the remaining three faculty participants held a doctoral degree in the field in which they were teaching. Most of the participants in the study had been working at the institution for 10 years or longer. The university in question prides itself on being a teaching focused institution and offers undergraduate and graduate online degrees in the disciplines of business and accounting, criminal justice, engineering, and project management.

Procedure

Since the literature suggests that teaching in online environments requires different pedagogical and course design approaches than teaching in traditional face-to-face classes, it was important to select a college or university in which faculty members had significant experience teaching students in both online and face-to-face courses. I thus identified faculty members to participate in this study whose instructional load typically included teaching both distance education and face-to-face courses in the same semester. I asked 10 faculty members to participate in the study based on the above criteria, purposeful sampling, and the scores they received on the Fall 2008 student evaluation of faculty performance and course design. This survey is administered by the institution at the end of each academic term to assess online students' satisfaction with course content, course design, pedagogy, faculty engagement, course materials, and assessments of learning. Twenty percent or more of the students who responded to the Fall 2008 faculty and course survey rated half of the faculty members I identified as potential participants below average on their teaching ability. Ninety percent or more of the students who completed the survey rated the remaining half of the potential faculty participants as average or above average on their teaching ability. Although four professors declined to participate in the study, the balance between those who were rated as average or above average on their teaching ability and those who were rated below average on their teaching ability remained unchanged. I also identified two instructional designers to participate in the study because they had extensive experience working directly with the faculty identified for the study in designing, developing, and implementing online courses.

Prior to the interviews, all of the participants were informed of the purpose of the study. One participant requested and was sent the guiding research questions prior to their interview. All of the interviews were conducted between October 30, 2009 and November 18, 2009. The interviews were intended to gather information from each participant through the use of semi-structured and open-ended questions. This format allowed me to collect a significant amount of data, which enabled me to gain an understanding of factors that contribute to distance education faculty changing their teaching methods to enhance student success in online courses. The guiding interview questions were developed before the literature review was written, and professional colleagues working in distance education and academic peers in a qualitative methods course reviewed them.

Data Analysis and Interpretation

I conducted eight face-to-face, one-on-one interviews using both open-ended and semi-structured guiding questions. All of the interviews except one were audio-recorded with a digital recorder. All of the audio-recorded interviews were manually transcribed using Microsoft Word. The constant comparison method, in which data obtained through interviews is constantly compared to discover emerging themes and inform an encompassing theory (McMillan, 2008), was used to guide my analysis and interpretation of the data. Each interview was coded with a unique numeric identifier, and to ensure the

anonymity of the participants, any reference to their names was removed from the collected data. After each interview was transcribed, I re-read the data multiple times, looking for the word "change" or related synonyms, antonyms, explanations, ideas, and examples. This process assisted with the initial organization of the data and the identification of themes and categories that cut across all of the interviews conducted. I highlighted each direct or indirect reference to the concept of change in the transcripts using the "New Comment" function in Microsoft Word. I also coded each reference with a unique numeric identifier. Moreover, I coded each reference to a factor that contributed to faculty changing their teaching practices according to one or more of the change models identified in Kezar's (2001) typology of organizational change. I then compiled the categories and the related change models in a Microsoft Excel spreadsheet. Next, I refined the categories to more concisely illuminate and capture patterns that spanned across the data collected from the participants. To identify meaningful and emerging themes, I continually reviewed, compared, and analyzed the transcribed interview data and compiled, reorganized, and refined the categories.

Credibility

Credibility, which is defined as the extent to which data, data analysis, and conclusions are trustworthy, is the primary standard for evaluating qualitative studies (McMillian, 2008). To establish the credibility and plausibility of the themes and patterns that emerged from my data analysis and interpretation, I triangulated the data. Triangulation was achieved by using multiple data sources, including faculty course evaluations, faculty interviews, instructional designer interviews, and an interview with the chair of an academic department. Several participants were sent their transcribed interviews. This member-checking procedure provided the participants with the opportunity to confirm the content of the transcribed interviews and clarify the data provided (McMillan, 2008). The data were reviewed and discussed with faculty members and peers familiar with qualitative research and distance education.

Reliability in qualitative research is defined as the extent to which recorded data accurately represent what truly occurred during an interview. It also applies to the interpretations and conclusions of a study (McMillan, 2008). I enhanced the reliability of this study by using a digital audio-recorder to capture the content of the interviews with the participants, integrating participant quotations in the results to support my interpretations of the data, sharing my analysis and interpretation of the data with the participants, and using member checking.

Results

The purpose of this study was to identify factors that contributed to distance learning faculty members changing their teaching practices. The following questions guided this study: (a) What contributes to faculty changing their teaching practices? (b) Under which conditions are faculty driven to change approaches to teaching in an online environment? (c) Using Kezar's (2001) typology of organizational change, which models best explain the factors that contribute to faculty changing their teaching practices in an

online environment? (d) How do faculty members decide which teaching practices to use in online courses? (e) How do faculty formally and informally assess student learning in an online environment? (f) How do results from formal and informal assessments of student learning impact teaching practices in an online environment?

The data I collected from the participants in this study illustrated that what contributes to and the conditions under which distance learning faculty are encouraged to modify their teaching practices. To do this, I used Kezar's (2001) typology of organizational change, which highlights cognitive dissonance. Cognitive dissonance is triggered when conflicting pieces of information collide and challenge an individual's established values, practices, and beliefs (Kezar, 2001). For the faculty members in this study, cognitive dissonance was triggered when they were directly confronted with new sources of information that significantly differed from their established understanding of teaching and learning in an online environment. These new information sources caused faculty participants to question their values and beliefs about how to teach effectively in an online environment. More specifically, cognitive dissonance and change occurred when faculty participants were exposed to information that illuminated substantial discrepancies between the desired impact of their teaching practices on student learning and success and its actual effectiveness in promoting these things. Furthermore, change ensued when faculty participants were exposed to information that illustrated better approaches to teaching in an online environment. This study identified three sources of information that contributed to cognitive dissonance and modifications to teaching practices among faculty participants: (a) student performance on assessments of learning; (b) institutional assessments of teaching effectiveness; and (c) training related to course design and teaching in an online environment. The following discussion explains how these information sources facilitated cognitive dissonance and changes to teaching practices among the distance learning faculty who participated in this study.

Student Performance on Assessments of Learning

In response to the guiding question about how do faculty formally and informally assess student learning in an online environment, the participants in this research identified multiple tools that they use to evaluate student learning in distance education courses.

Table 1

Tools Used in Online Learning

Assessment Tool	Assessment Type
Virtual water cooler area (online open forum discussion board) – student questions/responses	Informal
Discussion board and/or discussion forums – Student responses to instructor's questions posted online	Formal/Informal
Timed online exams and quizzes – multiple choice, true/false, essay questions	Formal
Written assignments – e.g., research paper, case study analysis papers, responses to exercises in textbooks	Formal
Group exercises and projects submitted using PowerPoint Presentation	Formal
Student questions to instructor via email, phone etc. about assignments and/or course content	Informal

Table 1 above illustrates that the faculty members in this study primarily evaluate student learning through their written communications. The virtual water cooler, discussion board posts, timed online exams and quizzes, written assignments, and group exercises are tools that online instructors used to assess student learning by examining students' ability to articulate their knowledge and understanding of the course content and objectives through the quality of their writing. This finding supports the instructional design methodology for online courses adopted by this institution. In response to the guiding question about how faculty members decide which teaching practices to use in their online courses, one participant stated:

> We ask the faculty when they go through our training that they identify the objectives of the course, the unit and lesson outcomes. We present them with a process based [on] behavioral objectives in [that] the objective itself says that a student will do something and that's normally described with a verb from Bloom's Taxonomy and then there's usually a conditional component to that, for instance, using the textbook or closed book. Whatever, just something that kind of sets the condition. Then the last piece defines how they are going to do it. For example, "the student will demonstrate their understanding or their knowledge of the topic by producing a research paper using library resources" or something along those lines. Then that objective points to a finished product, a finished action. I just gave an example of the finished product being a research paper. It could be a presentation. In some more advanced online models than what we are using, the students might actually get up in front of a camera.

Another participant supported the behavioral approach to learning with the following statement:

> I use authentic assessments on my tests. I don't know whether or not that's the correct terminology, [but] I give them a one-page case. So, it's a scenario that I found out of a textbook somewhere along the way. They read the case and then there are test questions that they have to pull from their notes - the concepts. They have to be able to identify those concepts in this case. If they're not in the case they have [to explain] how they

would use them for the case. Then they have to tell me why it is a good identification or why it's a good usage. So, what I'm after here is could you apply the knowledge; can you identify the knowledge - not can you memorize it; do you understand why this is a good example; and do you understand why this is a good usage because then I know that they can transfer that knowledge to something else. So, what I'm looking for is not memorization but can they think critically or, in an application setting, can they can apply this knowledge.

Many of the participants stated that the assessment tools used in their online courses were based on behavioral objectives and parallel the methods used in their face-to-face classes. However, when I asked the participants the guiding question about how do results from formal and informal assessments of student learning impact their teaching practices, several faculty members expressed concern about their inability to comprehensively gauge student learning in online classes because of the lack of face-to-face and synchronous communications. For instance, one participant stated:

You know, teaching on campus is different because obviously I have the social aspect and I know, you know, that Ryan has not been in class for weeks so when he comes in I say, "You know Ryan, you know where have you been…I have been really worried about you." [Whereas] online I have to email and I don't see [the student's] expressions, I don't know honestly what's going on but, you know, on campus I can see him come in and I can obviously see that he's distraught, that he's not been doing well, he's been sick or whatever. So that feel is different. But assessment is the same. I still basically assess based on points so final grades are based on points. It is based slightly [more] on participation in the online environment because if they don't do it, I don't award them participation points and on-campus I don't give participation points. But on-campus and online, [the assessments are] the same.

Along similar lines, another participant stated that the lack of face-to-face interactions and relationship building between the faculty and learners in online environments may have a negative impact on student learning and the effectiveness of their teaching practices:

I get all the nonverbal stuff [in face-to-face courses] and that's so important. So part of it is, in my field, nonverbal stuff is so important. I mean, it's more important than the verbal, probably. So, yeah, I watch their body language, especially as they're learning counseling skills. So, but the other part Shenita, is the relationship. You know, I know that this is kind of qualitative but truly, if you put two equally minded, equally talented, equally professional professors [and] one has good people skills and interacts [with the students] and is flexible and has accessibility to the students [in face-to-face environments] and the other does not [like in online environments]. Likely, person A is going to be more successful with the students because the students [want] to do more. They want to seek that person out [and] they want to model after that person. So I think it goes beyond the classroom and that's what I think is different in the online [environment].

The professor also raised concerns about the amount of time she has to spend grading assignments in online courses compared to face-to-face classes. She stated:

There are so many [more] assignments in the online class [than in face-to-face classes]. I feel like I'm [always] correcting assignments and this is time-consuming because there are so many more in that way but I definitely find the face-to-face much more time consuming because I'm always building professional relationships with my students.

Additionally, in response to the inquiry about how do results from formal and informal assessments of student learning impact faculty members' teaching practices, the data collected from the participants illustrated that students' performance on exams, assignments, or discussion board posts also contributes to cognitive dissonance and changes to teaching practices in an online environment. For instance, one faculty participant asserted that when students' performance on an assignment or an exam indicated a lack of understanding of the course concepts, they reassessed their approach to teaching in an effort to identify the root cause of the problem. The professor stated:

So, I first go to me as the problem and I kinda do that with my classes here [on campus] too. I mean, I rewrite tests, I change questions, I do an assignment a different way. So, I first look to me, especially if it's not just one person, but if it's a core of people in a course, then I'm like, "Maybe I didn't explain it that well" or "Maybe I didn't give them enough time to really study the material" or "They were too quick, one after another, as far as an assessment piece, they didn't build on each other well."

The professor also stated:

[S]o I noticed that when I read their papers… and I was like, "Oh, it's very obvious…that I haven't done a good job teaching how to formulate…kinda how to really think through situations and kinda what's behind, you know, criminal behavior or what's behind mental health behavior…I haven't done a good job with that."

This excerpt suggests that faculty members view student performance on assessments of learning as an indicator of the effectiveness of their teaching practices. Students' low performance on formal assessments of learning contributes to faculty reflecting on their teaching practices to identify changes that would enhance both student success and the effectiveness of their teaching and assessment strategies.

One faculty member stated that when their online students were no longer responding to an assignment as expected, they modified their assessment techniques. The following is an excerpt from the interview:

I [Interviewer]: When do you make updates…like changes to them…like when…what triggers that decision to make changes to your courses?

R [Respondent]: If I find something which is beginning to fail, and I've never figured out why that happens.

I: Do you have any examples of that?

R: I just know that it happens…that a piece of your course will begin [to fail], and it may be technology. It may be something else that…the project that I had isn't working anymore…it isn't doing what I want it to do…that's when I begin to change. I always monitor whether …for instance, I used to…I used to give a project, and I would start the project out asking for, "How do you feel this course is going to fit into your life?" and stuff. And the project sort of fell through after two or three years, and so I dropped it.

I: What do you mean by "fell through?"

R: It just didn't do what I was after. The students tended to give sort of, what I consider, answers that are meaningless. The first couple of times that I did it, the students were right on top of it, and I don't know whether it was a change of students.

It is evident from this excerpt that student performance on assessments of learning plays an important role in encouraging faculty to modify their teaching and assessment practices. The data from this study indicates that faculty use information from multiple assessment sources, such as papers, exams, and assignments, to reassess and modify their teaching practices.

Formal Institutional Assessments

Many of the participants in this study stated that the results of the faculty and course evaluation survey helped shape changes to their teaching practices. The survey is intended to measure student satisfaction as it relates to course design, faculty teaching practices, and the assessment of student learning. The results of the survey are distributed to faculty members and program coordinators at the end of each semester. Examples of statements on the survey include the following: the course objectives were clearly defined; the course was challenging and of appropriate rigor for the level of study; the instructor communicated with me effectively; the instructor provided timely responses to questions within two working days; and the individual assignments were relevant to the course. Several faculty participants stated that the results of the survey compelled them to reflect on and reevaluate their instructional strategies to determine if pedagogy, course design, or assessment changes were necessary. One participant stated:

[T]he feedback [from the faculty and course evaluation survey] was almost like a disappointment. So student feedback [on the survey], some new technology, and my agreement with it [that] it was not a good final exam for the students and it wasn't for me either…You know, just the feedback from the students made me change that and from myself, I thought it was kinda lame too. When I look back at it, I'm like, "That was kinda lame."

In a similar vein, another instructor stated that the feedback received from students on the faculty and course evaluation survey resulted in changes to course assignments and assessments of student learning:

I guess, how I overall assess too their feedback…Early on, when I first took the course, there were lots of abstracts and critiques and every week the assignment was, "Write an

abstract and critique it," and that's how the previous instructor had run the course. That's why I asked [the program director] if I could go ahead and change that and she let me change those. So I pulled those out because literally in the feedback students were saying, "This is so boring, this is so monotonous, it's basically testing to see if we've read that material…it's just not interesting."

The instructor continued:

[O]ne semester I got an eval [results from the faculty and course evaluation survey] that had said one of the books was dated, which it really is, but they didn't come out with a new edition of that book, but it had some really good pictures, for example, of different stages of bruising on kids, different burn patterns that people have submerged kids in really hot water. So, it was a good book in terms of visuals, but people [students] had said that it was kinda dated, so I did take a book out and substituted in new material…So I would say that I really do weigh those evals [surveys] very heavily.

These excerpts indicate that faculty members were persuaded to change pedagogical practices, assessments of learning, and course materials based on data collected from students via formal evaluations of online faculty and courses. The data from these formal evaluations serve as another information source that challenge faculty members' perceptions of the effectiveness of their online teaching practices. To resolve the cognitive dissonance triggered by the results of these surveys, some of which indicated student dissatisfaction with teaching practices, study participants elected to alter their instructional approaches.

Training

Prior to teaching online at the institution in question, most of the faculty interviewed for this study had no formal training in developing and designing online courses. Several participants thus stated that the one-on-one training and support they received from distance education instructional designers when developing or revising an online course helped shape their teaching practices. This training became more formalized after an important initiative was implemented at the institution in 2008. The initiative required that all online courses undergo substantial improvements to enhance student learning and course design by integrating technologies such as audio, video, and flash presentations into the course content, assessments, and lectures. Also included in this initiative was one-on-one training for faculty who were developing or revising an online course.

The instructional designer explained that faculty training focused on effective online teaching, learning, and course design as well as the use of hardware and software that supported the technologies integrated into the course. This training served as a source of information that contributed to cognitive dissonance and changes to teaching practices among the faculty participants. One professor stated that the meetings she had with the instructional designer when revising an online course helped her think differently about how to teach and assess students. She affirmed:

So, when the [distance learning initiative] thing came up…the primary goal is let's infuse more technology and current technology in the course. So in my meeting, my initial meeting [with the instructional designer], I said, "Well, the one thing that students are struggling with that may be technology and might be helpful is that case conceptualization," and so out of that became born, and then we had a whole dialog, and then [the instructional designer] threw out how about doing something with video vignettes… and so, the assessment piece then was me just, when I graded those assignments, I'm like, "It's clear the deficits," and I'm thinking, "Can I really penalize these people if I haven't done a good job…?" Could I really penalize them as far as their grades? Or should I do a better job teaching that and finding a way to capture that through a distance learning environment? Because I can't sit down and have that conversation. You don't see me like kinda of practice one in front of them, you know, it's like…you know, this kid came today, and this is what I did and why I did it. I mean, they [online students] don't get that…that interaction with me on a weekly basis like the students in this program do.

This excerpt shows that the training that the instructional designer provided to the faculty member contributed to the professor rethinking her approach to teaching, learning, and assessing in an online environment. It was through ongoing dialogues with the instructional designer that the faculty member was confronted with information that challenged established methods of assessing and teaching students in an online environment. The passage also illustrates that the professor's sudden awareness of deficiencies in her teaching practices was triggered when the instructional designer provided information about how to facilitate effective teaching and learning in an online environment. This suggests that to advance effective teaching practices among educators teaching online courses, ongoing training and support from instructional designers is important.

Discussion

The results of this study support prior research that indicates that change in postsecondary institutions can be explained through socio-cognitive models (Kezar, 2001). These organizational change models demonstrate the importance of discussion, acquiring new information, learning new approaches, and building on previously acquired knowledge to facilitate cognitive dissonance and change in organizations (Kezar, 2001). The factors that this research identified as contributing to faculty changing their teaching strategies, including course design, pedagogy, and assessment of student learning, are reflective of the notion that change is directly linked to learning and acquiring new information (Kezar, 2001). The findings of this study suggest that distance learning educators are encouraged to modify their teaching strategies in asynchronous online environments as a result of participating in one-on-one training with instructional designers, reviewing the results from formal assessments of teaching practices, and evaluating student performance on assessments of learning. These factors underscore the importance of using training and data to advance faculty learning and establish conditions for cognitive dissonance and change in postsecondary institutions. They also indicate that to create and sustain change in postsecondary institutions, faculty

should be exposed to ongoing training and multiple sources of institutional and student data that illustrate the necessity of changing their teaching practices.

This study found that the majority of the changes that the faculty participants made to their teaching practices were primarily first-order changes. This finding is similar to the results of other studies that describe change in higher education as first-order (Boyce, 2003; Kezar, 2001). First-order changes are incremental adjustments and improvements made within the framework of the organization. They occur at an individual level and are characterized by evolutionary and linear change (Boyce, 2003: Kezar, 2001). The changes that faculty participants made to their teaching practices were not transformational, multi-dimensional, or multi-level, and they did not cause the institution or the department to change their core missions, cultures, or modes of functioning (Kezar, 2001). On the contrary, faculty changes to teaching practices were incremental and focused on enhancing instructional effectiveness by modifying strategies and altering procedures and practices to resolve discrepancies between desired performance and actual results. This finding aligns with Boyce's (2003) assertion that improving and enhancing effectiveness is an illustration of both first-order change and single-loop learning when organizational inquiry discovers a mismatch between desired performance and results.

The institution in question in this study has yet to achieve second-order change, which is described as transformations that involve changing the organization's underlying mental models, assumptions, and values (Boyce, 2003). However, the initiative that the university implemented in 2008, which mandated that all online courses undergo improvements to enhance student learning and course design by integrating a variety of technologies into courses, has positioned the institution to advance transformations in its underlying culture, mission, and values as they relate to distance education teaching and learning. Research indicates that transformational change is facilitated when multiple stakeholders across a university come together through an organized initiative to change how an institution is structured and oriented (Boyce, 2003). Huff and Huff (2000) created a four-state model to promote transformational change in organizations. The model illustrates that incremental adaptations (i.e., first-order change) occur before the process of deciding to consider second-order change (Huff & Huff, 2000). In accordance with Huff and Huff's (2000) model, the university in question in this study has taken the first step towards transforming the organization's mental models, assumptions, and values concerning distance education teaching and learning. Increased stress on the institution, the inability of postsecondary stakeholders and leaders to continually ignore reoccurring problems, the allocation of resources, or an ineffective decision-making process can enhance the possibility of considering second-order change (Huff and Huff, 2000).

Conclusion

Limitations

The focus of this research was to understand what contributes to distance learning faculty changing their teaching practices in online instructional environments,

thus limited attention was devoted to investigating the similarities and differences between face-to-face and online teaching. Additional limitations of this study include the lack of a representative sample of participants across multiple academic institutions and the small number of participants. Furthermore, since participants were chosen partially based on purposeful sampling, the results may be biased. Researcher bias is also a possible limitation of this study. The lead researcher had prior professional relationships with many of the participants before the research was initiated.

Implications for Institutional Policy and Practices

The results from this study indicate that postsecondary leaders can encourage distance learning educators to modify teaching strategies in online courses by exposing faculty to several information sources: (a) training related to effective teaching practices in an online environment; (b) data collected from formal assessments of teaching effectiveness and course design; and (c) information gathered from student assessments of learning. These findings indicate that to advance student success and retention in online courses, college and university leaders should develop institutional policies and practices that promote increasing faculty members' access to ongoing training courses or programs related to effective online teaching practices. The training should focus on enhancing student learning by helping faculty learn how to successfully teach nontraditional learners in an online environment. Furthermore, the training policies should reflect adult learning theories and models, as research has illustrated that experiential and problem based teaching practices help adult learners connect curricular concepts to relevant knowledge and skills (CAEL, 2005). Moreover, ongoing training for postsecondary educators who teach distance education courses should be the focus of university-wide initiatives to advance student learning and success through more effective teaching methods.

In addition, institutional policies and practices should reinforce collecting, analyzing, disseminating, and discussing the findings associated with informal and formal assessments of student learning, teaching practices, and course design at all levels of an organization. Although most colleges and universities have established processes to collect this data, greater emphasis must be placed on using these information sources as tools for faculty and other institutional leaders to gain a better understanding of how an organization must change to improve student success. Cognitive dissonance and first-order change can be triggered when stakeholders across a university come together to engage in discussions about the results of assessments that evaluate student learning and teaching practices. Institutional leaders should thus implement policies and practices that encourage ongoing discussions about data collected related to student success, teaching, and course design among stakeholders who directly and indirectly influence student success in online courses.

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