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Planning and Implementing Online Instruction: Faculty Perceptions of One University

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PLANNING AND IMPLEMENTING ONLINE INSTRUCTION:
FACULTY PERCEPTIONS OF ONE UNIVERSITY

by
James M. Wright

A Dissertation

Presented in Partial Fulfillment of Requirements for the

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In

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Instructional Technology

In the

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Dr. T. C. Chan, Chair

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ABSTRACT

PLANNING AND IMPLEMENTING ONLINE INSTRUCTION: FACULTY PERCEPTIONS OF ONE UNIVERSITY

by

James M. Wright

To maintain a competitive advantage, many universities have expanded their online course offerings, and college faculty members are vital to the design, development, and delivery of online instruction (Allen & Seaman, 2007; Mitchell & Geva-May, 2009; Tabata & Johnsrud, 2008). In this study, a mixed-method approach is used to investigate faculty's perceptions about teaching online at one university. Understanding the factors that motivate and impede faculty to teach online provided the knowledge to plan future strategies to increase faculty participation with this instructional medium.

At a large suburban university in the Southeastern United States, 363 faculty members were surveyed and 14 faculty members were interviewed using the frameworks of Innovation Diffusion Theory (Rogers, 2003) and the theory of self-efficacy (Bandura, 1986). The findings showed flexibility and convenience were the primary motivators for teaching online, as well as, the ability to reach a wide range of diverse learners. However, the findings were inconclusive concerning the role of extra financial compensation as a motivating factor. The large amount of time and effort needed to teach online, concerns about academic integrity, intellectual property

rights, and tenure and promotion concerns proved to be the major obstacles for adopting online instruction. Additionally, the faculty had a negative opinion about the quality of online instruction.

In this study, future plans to stimulate more online teaching were discussed; moreover, these findings are beneficial to guide colleges, universities, or other organizations when adopting online instruction or other technology initiatives.

Keywords: distance learning, online learning, technology adoption, Diffusion of Innovation, self-efficacy, planning faculty development, faculty motivation, faculty adoption patterns

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This dissertation is based on the work of Seaman (2009), Tabata and Johnsrud (2008), and Zhen, Garthwait, and Pratt (2008). These scholars provided the intellectual foundation to craft my own research, and I am grateful to stand on the shoulders of others.

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CHAPTER ONE

INTRODUCTION

History contains numerous examples of technological innovations that spurred notable change (Rogers, 2003). Planning and implementation of an innovation is vital to the success of the initiative. Christensen, Horn, and Johnson (2008) propose that online learning is an innovation that has the potential to disrupt our current educational system. “Proper use of technology as a platform for learning offers a chance to modularize the system and thereby customize learning” (Christensen, Horn, & Johnson, 2008, p. 38). Distance learning is not a new concept in education; instructional courses have been delivered via the mail, the radio, and television for many years (Fred, 2003). However, the web-based course is becoming a common learning medium for the university student (Allen & Seaman, 2007). Adopting a new instructional delivery system has inherent challenges; therefore, understanding the motivators and barriers experienced by college faculty members as they adopt this new technology is the focus of this research study.

The volume of online course offerings is exploding on college campuses (Allen & Seaman, 2007; Ngai, Poon, & Chan, 2007; Seaman, 2009; Wilson, 2001). The Sloan Consortium (Sloan-C) reported that in the fall of 2006, approximately 20% of all college students in the United States had taken at least one online course. More importantly, during that time period the online course enrollment in the United States grew at a rate of 9.7%, while the higher education population only grew at a rate of 1.5% (Allen & Seaman, 2007). This dramatic increase in online learning is a disruptive change that is altering the landscape of higher education and directly impacts the role and function of the faculty members.

Many colleges and universities view online learning as an essential part of their viability (Allen & Seaman, 2007; Seaman, 2009). This is true for this case study; the university is making great efforts to develop and promote online learning (OL) across multiple disciplines. The growth and acceleration of distance education was established as a strategic goal in 2007, and the university views online learning as a vital component for continued growth and sustainability. To propel this initiative forward there are several new online degree programs, the establishment of a distance learning center, the adoption of a quality control framework, a new fee structure, and a faculty compensation model for teaching online. More importantly, to ensure success with online instruction, college faculty members must embrace this new medium and be willing to put in the time and effort to develop rigorous and engaging courses (Mitchell & Geve-May, 2009; Tabata & Johnsrud, 2008). Therefore, understanding the factors that lead to adoption of this instructional delivery method is vital to driving this initiative.

Problem statement

Not all faculty members have embraced online education (Jones, Lindner, Murphy & Dooley, 2002; Mitchell & Geve-May, 2009). Zemsky and Massy (2004) reported discrepancies and volatility between faculty and administrators' responses on the same items regarding expectations and attitudes about online learning. Faculty and administration have different perspectives regarding online instruction. Nonetheless, Shea, Pickett, and Li (2005) conclude, "if the benefits associated with online teaching are to be realized – especially those most clearly revered, such as increasing access to higher education – faculty participation and engagement is critical" (p. 2). Faculty members are the key to the successful design, development, and delivery of online instruction; consequently, it was imperative to understand the factors that promote and impede involvement in online instruction. The goal of this study was to examine the reasons why

some faculty members adopt online teaching, while others do not. The ultimate purpose of this study was to provide the evidence to further the faculty participation in online learning at this university.

Conceptual Framework

Self-efficacy and Social Cognitive Theory

The conceptual framework for this study is grounded in two major theories that are used to examine faculty adoption of online instruction. The first is Albert Bandura's psychological construct of *self-efficacy* that described a person's capacity to organize and implement a plan of action for adopting a new idea (1997). Self-efficacy is a central component of Social Cognitive Theory (SCT) that attributes changes in human behavior based on observation (Bandura, 1986). Social Cognitive Theory explains learning through observation, or modeling, of other people's behaviors in conjunction with a person's own belief in their ability to perform a particular action. According to Bandura, the concept of self-efficacy is a major prerequisite before change can occur. Fundamental to the adoption of online instruction, faculty must believe they will be successful before adoption can take place. Therefore, Bandura's Social Cognitive Theory, with a primary emphasis on self-efficacy, is a logical and appropriate conceptual lens for this study.

Essentially, one's attitude influences behaviors, and people engage in behaviors where they perceive they will be successful (Ormrod, 2007). Self-efficacy is an important aspect of technology adoption because it illuminates perceived capabilities that link to attitudes regarding adopting technology (Elgort, 2005; Straub, 2009). In general terms, the instructor must believe they will be successful teaching online before adopting a new instructional method; thus, self-efficacy regarding online learning will shed light on the likelihood of adopting online teaching.

“In the last twenty years, self-efficacy has been shown to have a significant impact on student performance, meaning that when confidence levels increase, performance levels increase as well” (DeTure, 2004, p. 23). Conversely, people avoid activities and situations where they perceive failure (Bembenutty, 2009). For example, Schunk (1994) found people “sustain learning efforts” based on self-efficacy or the belief in one’s ability to perform a task. Therefore, a major tenet of the conceptual framework for this study is self-efficacy.

Bandura (1986, 1997) concluded that much of human learning is a result of vicarious observation. Thus, a major accelerant of adoption is seeing other people teaching online. This is an important foundation when discussing technology adoption because, as the theory suggests, people will model and imitate the observed action or behavior. Of course technology adoption is more than a behavioral action, and SCT is considered a bridge between behavioral learning and cognitive learning (Straub, 2009).

Social Cognitive Theory stipulates that behavior, internal motivation, and external environment contribute to knowledge creation and cognitive understanding (Bandura, 1986). Bandura (2001) proposed that imitation builds a new schematic model that is an important component of learning. The new schemata are the key to the adoption of a new innovation. However, barriers and obstacles prevent change, so the environment must facilitate the adoption process. Bandura termed the interaction of observational learning, self-efficacy, and the influence of the environment *reciprocal determinism*. Human learning is complex and each of these factors determines and reciprocates on the other factors in the creation of new knowledge. Grounded in SCT, this study examined the dual roles of actions and attitudes of faculty members who teach online with a focus on self-efficacy, or internal belief, that change or adoption is possible.

Innovation Diffusion Theory

The second major theory used as a conceptual framework for this study is the Innovation Diffusion Theory (IDT). The scholar Everett Rogers in his seminal work *Diffusion of Innovation* (1962/2003) charts the adoption and diffusion process across a wide range of disciplines including public health, medicine, psychology, farming, business, engineering, technology, and education. Additionally, Rogers' work is the bedrock of multiple theories of technology adoption (Straub, 2009). *Diffusion of Innovation* examined the micro level adoption process, as well as macro level diffusion across organizations, systems, or processes. Ironically, it is important to note that diffusion of an innovation does not always have positive benefits for the adopters. For example, tobacco use is highly diffused in society, and the negative effects of smoking now are understood. Nonetheless, online learning presents many positive advantages and is a part of the instructional methods of many institutions of higher education (Allen & Seaman, 2007; Seaman, 2009).

To explain the process of adoption, Rogers (2003) outlines characteristics of innovations observed by the users. These characteristics include: (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability, and (5) observability. The innovation characteristics are discussed in more detail in Chapter II; however, these characteristics are perceived differently by individuals, and the difference in perception explains the degree of participation or rate of adoption of the innovation (Rogers, 2003). Using these characteristics is a valuable way to examine and explain the participation in online learning among faculty members and served as a conceptual framework for this case study.

One of the primary considerations for adopting an innovation is the relative advantage with observable results over an existing technology or method (Rogers, 2003). Clearly, online instruction provides many relative advantages to face-to-face instruction, including convenience, anytime instruction, and the elimination of geographic constraints. However, adoption details a change in a specific behavior of an individual while diffusion looks at the bigger picture of how an innovation, such as technology or medicine, is spread across a population over time (Rogers, 2003; Straub, 2009). This study examined both the individual adoption process and the larger diffusion of online instruction across the campus.

Rogers (2003) describes the adoption and diffusion process in unique stages. As faculty develop their skills as online instructors, they traverse through various stages of adoption. These stages provide a distinctive way to classify and categorize the different level of experience of the individual faculty members including no experience. The purpose of this research was to examine the motivators and barriers of the adoption of online instruction among college faculty. Therefore, Innovation Diffusion Theory was the ideal conceptual framework to examine faculty adoption of online teaching.

This study was grounded in two prominent academic theories: Social Cognitive Theory and Innovation Diffusion Theory. Self-efficacy and Social Cognitive Theory provided the psychological foundation to explain internal motivation and human behavior. Innovation Diffusion Theory provided a formal model to explain how and why people adopt or resist online instruction. These dual lenses serve as the concrete conceptual foundation to frame the discussion of technology adoption and diffusion. Furthermore, both theories are seminal works with solid pedigrees and used as the foundation for hundreds of educational studies.

Rationale of the Study

The rationale for this study was to capture a snapshot of the existing condition of online learning at one university. Ultimately, the information gained from this research will inform the future direction and function of online learning on this particular campus. There is a strong initiative to increase online course offerings as part of this university's strategic goals. College faculty are the lynchpin to propel this initiative forward (Allen & Seaman, 2008; Maquire, 2005; Seaman, 2009). Therefore, it was logical to examine the reasons why some faculty choose to participate in online instruction, while others do not. The identification of motivating factors and the barriers to adoption will better inform the future direction. Moreover, the knowledge obtained from this research will impact future professional development for college faculty.

An exploration of the factors that encourage faculty members to teach online shed light on the rate of the adoption of this new technology. Mitchell and Geva-May conclude that, "one key variable leading to implementation problems that is acknowledged in the literature is the resistance of actors in organizational systems to take up new initiatives and change the status quo" (2009, p. 72). This study responded to Mitchell and Geva-May's call to change the status quo by the examination of adoption and the identification of resistance patterns.

Resistance to an innovation is common within an organization or social system (Maguire 2006; Rogers, 2003). A myriad of reasons are discussed in the literature for faculty reluctance to teaching online (Clay, 1999; Dooley & Murphrey, 2000; O'Quinn & Corry, 2002). These reasons will be discussed at length in Chapter Two. However, Parisot (1997) and Berge (1998) found resistance to change was the primary reason faculty do not teach online. Natriello (2005) argued that "distance learning threatens core values" of faculty control by forcing traditional programs

and traditional delivery methods to be re-examined (p. 1889). Thus, understanding the faculty adoption process exposed the motivations and impediments to change in one university culture. This knowledge could be generalizable to other academic settings that are struggling to implement the adoption of online learning (Wiersma & Jurs, 2005).

The examination of the factors of resistance was crucial because the discovery of the roadblocks will aid in the removal of the obstructions. Berge (1998) articulated the need to examine faculty resistance to distance learning technologies and the reasons for non-participation. He concluded that the changes in universities often are small and measured, and these changes may not keep pace with the needs of students in a competitive marketplace (Berge, 1998). Online instruction exposed universities to new level of competition that is not bound by geographic regions. To maintain a competitive advantage, this university seeks to expand their online course offerings. Therefore, a major rationale for conducting this research study was to understand faculty adoption patterns in the hopes of creating a competitive advantage for the university (Dooley & Murphrey, 2000).

Flexibility and competitiveness in a dynamic marketplace are important considerations for any organization (Berge, 1998; Seaman, 2009). However, a parallel rationale for this study was to glean knowledge about faculty adoption practices. Uncovering new knowledge and constructing a theoretical understanding regarding faculty participation in online instruction will contribute to the emerging body of professional literature in the field of online instruction (Berge, 1998; Jones et al., 2002; Natriello, 2005). This research should assist other researchers, institutions, and organizations adopting a technological innovation.

Significance of the study

As previously discussed, one of the stated rationales for this study was to increase competitiveness in a fluid marketplace. Some colleges are more advanced in the delivery of online instruction, while other colleges are beginning the process. Therefore, one of the most significant contributions of this study was the establishment of a baseline of the current state of distance learning at one university. In essence, this study captured a snapshot of the rate of adoption of this instructional medium at one moment in time.

Additionally, this study was useful in building a profile of the characteristics that exist in faculty who teach online at this university. Grounded in the conceptual framework of Innovation Diffusion Theory, the examination of the patterns of adoption provided insight into faculty actions and attitudes regarding their decision to participate in online instruction. Shea, Pickett, and Li (2005) illustrated the significance of examining faculty motivations and concluded that, “understanding and responding to the concerns of professors is crucial to the further expansion of online teaching and learning opportunities” (p. 3). More importantly, this research explored the barriers and impediments to adopting this new innovation. Uncovering the barriers to adoption should pave the way to the removal of the obstacles at a various organizational levels. The research will inform the administration and policy makers on this campus (Schifter, 2000; Wilson, 2001). Tabata and Johnsrud (2008) synthesize the importance of examining faculty actions and attitudes as well as exploring the obstructions:

The growth of distance education in higher education relies upon faculty engagement to ensure the quality of instruction and learning. Faculty are a critical and core resource to the success of any distance education initiative and facilitating understanding of

university educators and policy makers as to the conditions that encourage or discourage faculty participation may assist in sustaining academic quality and integrity. (p. 626)

This study was significant in capturing the current condition of online learning at this university. The knowledge gained from this study should help other institutions that are transitioning to online learning or adopting other technology. The results of this study are valuable on multiple levels. For example, developing a user profile can inform future interventions, professional development, or the design of future research. More importantly, this study was significant because it created a baseline of motivating factors and perceived barriers for teaching online. Ultimately, this information will influence the future direction of online learning at this university.

Research Questions

Grounded in the conceptual framework and based on the stated purpose of this study, the following research questions guided this study.

RQ1. What are the demographic characteristics of faculty who teach online?

RQ2. What is the level of online teaching experience of faculty members?

RQ3. What factors motivate faculty adoption of online instruction?

RQ4. What barriers inhibit faculty adoption of online instruction?

RQ5. How do faculty members perceive the quality of online instruction?

RQ6. How do faculty members prepare themselves to teach online?

Operational Definitions

The term online learning, e-learning, and distance learning are used interchangeably in this study. Distance learning is a broader topic than online instruction and includes radio,

television, satellite, and correspondence courses (Fred, 2003). This study was limited in scope to web-based courses that is called online learning instruction. For the purpose of this study the following operational definitions were used.

- Asynchronous Instruction – Asynchronous educational activities and communication are time shifted so a student can engage in the instruction at their own schedule. The student does not have to be present at the time of the instructional content delivery, and thus can engage with the content or activities at various times.
- Distance Learning – was used synonymously with the term online learning for this study.
- Hybrid or Blended Course – A hybrid or blended course is a college course where 30% to 79% of the instructional material was delivered electronically via the World Wide Web usually through a learning management system (LMS), and used to augment the face-to-face course. For example, if the traditional class meets two times per week, a hybrid or blended course would meet face-to-face one day a week and online one day a week.
- Instructional Designer – An instructional designer is a technically skilled specialist who assists college faculty in the design, development, and delivery of online instruction.
- Learning Management System (LMS) – A learning management system is a software package, or a collection of software applications, used to deliver digital instructional content to online learners. Sometimes a LMS is called a Course Management System (CMS). The delivery of the course content can contain a wide variety of digital mediums and include synchronous and asynchronous instruction.
- Online course – Online learning refers to a college course where 90% or more of the instructional material is delivered electronically. The course is delivered via the World Wide Web and usually through a learning management system.

- Synchronous Instruction – Synchronous educational activities and communications happen in real-time. An example of synchronous instruction is a live webcast of a lecture. The student must be present at the time of the content delivery to engage in the learning activity.
- Traditional Course – A traditional or face-to-face course is a college course where 100% of instruction is taught face-to-face with no online augmentation or support.
- Web Facilitated Course or Web Enhanced Course – A web enhanced course is a college class where 1% to 29% of the instructional material is delivered electronically via the World Wide Web and used to support the face-to-face course. This may include using a learning management system to post the course syllabus, handouts, and/or assignments.

Summary

To maintain a competitive advantage, this university has expanded its online course offerings. The purpose of this research study was to identify the motivators and the barriers to help plan and propel the online learning initiative at one university. As previously stated, college faculty are the lynchpins to the design, development, and delivery of online instruction (Dooley & Murphrey, 2000; Maguire 2006; O'Quinn & Corry, 2002). Therefore, it was logical to examine the reasons why some college faculty adopt online instruction while others are resistant (Mitchell & Geva-May, 2009; Tabata & Johnsrud, 2008).

Grounded in the theoretical lenses of self-efficacy and Social Cognitive Theory (Bandura, 1986) and the Innovation Diffusion Theory (Rogers, 2003), identification of the factors that encourage a faculty to teach online sheds light on the rate of adoption of this technology. If the obstacles to teaching online are identified, this can inform future professional development for

the university. Moreover, this case study establishes a baseline of the current state of distance learning at one university.

In summary, this study responds to Mitchell and Geva-May's (2009) call to change the status quo by the examination of adoption rate of faculty members who teach online. Secondly, the identification of resistance patterns may provide the knowledge to remove the barriers to move the university forward with online instruction.

CHAPTER TWO

LITERATURE REVIEW

Online learning threatens many core values and assumptions in higher education (Mitchell & Geva-May, 2009; Maguire, 2006; Schifter, 2000). This chapter examines the current body of literature pertaining “to the conditions that encourage or discourage faculty participation” teaching online (Tabata & Johnsrud, 2008, p. 626). The literature review established the foundation to support this study and the exportation of faculty attitudes towards online learning (Machi & McEvoy, 2008; Pan, 2007). The review begins with an examination of adult learning theory and several change models. The bulk of the literature deals with faculty involvement in online learning and focuses on the themes of adoption, acceptance, resistance, and barriers to adoption (Allen & Seaman, 2008; Maguire, 2005; Tabata & Johnsrud, 2008). Additionally, the literature is rich with studies of effective practices of online instruction (Clay, 1999; Means et al., 2009). This review examines the scholarship dealing with faculty attitudes and perceptions towards online learning to establish a solid foundation for this study.

The literature categorizes several factors that address adoption or resistance to online learning. For example, the technological skills of the faculty member, the volume of work load, issues of quality and pedagogical differences are discussed. Another major theme in the literature was the value the institution places on distance learning with regard to compensation, and tenure and promotion rewards.

The review of literature provides the links to the underlining research for conceptual understanding. It was important to systematically explore the literature to provide the background knowledge to support the research questions (Pan, 2007). More importantly, an

examination of the research identifies potential gaps in the literature and also identifies important research questions for the future.

The study seeks to answer the call for more research investigating factors of faculty participation in online learning put forth by Mitchell and Geve-May (2009).

[W]e propose that further research be conducted touching on: (a) interests, values, and beliefs, affecting the OLI [online learning implementation] process (b) attitudes toward different context variables in the OLI process and (c) the affect of attitudes on OL implementation outcomes. p. 86

The review of literature explores the foundational roots of human motivation, technology, and online learning. The literature in education and information management was reviewed because both disciplines have an interest in online learning. Adult learning theory and change theory are important to consider in a discussion of faculty adoption patterns. The literature review explores the seminal theory of adult learning and examines the nature of motivation as an agent of change.

A specific emphasis was placed on Bandura's Social Cognitive Theory and self-efficacy as a primary source of motivation. A fundamental part of social cognitive theory is the concept of self-efficacy. Other theories of change are discussed as well as the literature discussing motivating factors for adopting online learning. The major theoretical lens for this study was the Innovation Diffusion Theory and great detail was used to explain the stages of adoption. Further factors that influence motivation and the barriers to online learning, that include professional development, are also explored.

Motivation Models to Influence Faculty Behavior

Adult Learning Theory

Knowles (1980) described a powerful theory of adult learning and motivation. Rooted in the humanistic perspective, Knowles puts forth the concept of *andragogy* that explains adult learning based on several suppositions. The primary concept of adult learning theory is a desire for learning that is socially relevant with application to the learner's past experiences. Because of the volume of life experiences, adult learners are more competent and self-directed with things of interest, and more importantly, possess more internal motivation. Maturity facilitates better problem solving skills; however, adults want to solve meaningful problems. Do faculty members perceive online instruction as a meaningful issue, or does the level of complexity of the technology or other barriers discourage the adult learner?

Adult learners have a history of experiences including pedagogical or technical techniques (Knowles, 1980). Ironically, past experiences may prejudice and even blind adult learners to entertaining new ideas or new instructional methods. Conversely, if adults have a positive experience in the past with technology, the chances of adoption are increased (Betts, 1998; Maguire, 2006; Moster, 2007). The past experience was a key variables examined in this study. If college faculty are motivated to adopt online instruction, then andragogy provides insight into adults' motivation and rationale for acquiring new information about this instructional delivery method.

ARCS Motivation Model

Knowles (1980) acknowledged that adult learners are internally motivated. Keller (1983) used the ARCS model to explore this internal motivation. The ARCS model stands for attention, relevance, confidence, and satisfaction. Keller asserts that these four elements must be built into

a situation before the learner is engaged. Moreover, the college professor and adult learner must experience aspects of the ARCS model in the online learning environment. Given the hectic schedules of most college faculty members, how much attention is given to teaching online? Relevance and confidence are important concepts in adult motivation and self-efficacy. The amount of relevance is often shown as the amount of concern for a topic. Ultimately, what is the relevance and level of concern for online learning? Moreover, does the college faculty member feel satisfied teaching online?

Concerns Based Adoption Model

The Concerns Based Adoption Model (CBAM) (Hall & Hord, 2001) measures the behavioral and affective aspects of a process-driven change model (McLean, 2005). Hall and Hord stated, “The composite representation of the feelings, preoccupation, thought, and consideration given to a particular issue or task is called concern” (2001, p. 61). This model can illuminate the faculty’s level of concern regarding online learning.

CBAM has been used in many educational studies and was developed in the 1970s as a tool to measure, describe, and explain the process of change. CBAM is made up of three key components: the *Stages of Concern (SoC)*, *Levels of Use (LoU)*, and *Innovation Configuration (IC)*. Stages of Concern has seven dimensions that describe the level of involvement in the innovation. These stages or levels include: awareness, informational, personal, management of tasks, consequence, collaboration, and refocusing (Hall & Hord, 2001). The levels of concern are very similar to those presented by Rogers’ (2003) characteristics of innovations. CBAM addresses the affective domain and the behavioral domain that directly tie to the motivation factors discussed by Knowles (1980), Keller (1983), and Bandura (1986).

Self-efficacy and Social Cognitive Theory as a motivator

Bandura's seminal work in social learning provides a solid rationale for the adoption of online learning. Most learning comes from observation of a vicarious experience (Bandura, 1986), and seeing a colleague who is successful teaching online may instill confidence in their own ability to teach online. The level of confidence is primary factor in the ARCS motivation model (Keller, 1980). Therefore, one may try the innovation. Observational, vicarious learning is the key element that directly addresses the research question regarding faculty preparation.

Like Knowles (1980), Bandura (1986) asserts intrinsic motivation such as satisfaction and pride are driving factors for adults. Moreover, Social Cognitive Theory stipulates that behaviors, internal motivation, external environment, and self-efficacy are reciprocal determinants. Modeling is a powerful way to induce change. So, it is important to see how adult faculty model behavior and the effects of this modeling on the change process.

Building self-efficacy with technology

Fundamental to success in any endeavor is the basis of one's ability to organize and execute a plan that is determined by self-efficacy. Bandura (1986, 1987) explains self-efficacy is instrumental in deciding to adopt any innovation or learning. Therefore, it is important to examine the faculty member's self-efficacy as a major component of motivation. Adoption of an innovation is often driven by motivating factors, and self-efficacy provides insights and clues into the motivation.

Self-efficacy is a major component of motivation and a conceptual foundation for this study (Bandura, 1986; Parker, 2003). Bembenuddy (2009) reported the importance of peer encouragement in developing self-efficacy. Seeing a colleague who is a successful online teacher increases the likelihood that the faculty member may try the innovation, thus stimulating the

change process. This is a fundamental component of Social Cognitive Theory (Bandura, 1997; Schunk, 1994; Ormrod, 2007). Fullan (2007) termed this idea *learning in context* that is an important part of motivation. Vicarious learning is often the primary learning method for many people (Ormrod, 2007). Observing other faculty members, or peers, is fundamental in the development of confidence and a major element in the adoption of new ideas (Bembenutty, 2009; Valentine, 2002; Zhen, Garthwait, & Pratt, 2008). Faculty collaboration and illustrating the importance of technology with relevant examples should also inspire change.

Hsu and Huang (2006) found in a study of 235 vocational-technical and university students that confidence and interest were primary factors of motivation and had a direct effect on technology self-efficacy. Fagan and Neill (2004) echo Bandura's conclusions that positive experiences and peer support are important in building computer self-efficacy. Fagan and Neill discovered that the more experience a user has with technology, the higher the level of self-efficacy. However, anxiety and frustration negatively impacted the level of technology self-efficacy (Fagan & Neill, 2004). It is important to reduce faculty anxiety and frustration as they transition to this new medium. Providing readily available technical support is one way to reduce faculty frustration in the adoption a new technology.

Furthermore, a significant aspect of adopting a new technology is the belief, or self-efficacy, the faculty member will be successful teaching online. Essentially, one's attitude influences behaviors, and people will engage in behaviors where they perceive they will be successful (Ormrod, 2007). This supposition holds true for faculty in higher education, and the belief that a high level of self-efficacy will influence the level of adoption and increase the levels of performance. People will engage in behaviors where they perceive they will be successful. As a result, this study is grounded in the theory of self-efficacy.

Technology Adoption Models

Technological Pedagogical Content Knowledge - Teaching with Technology

One of the primary factors of resistance to teach online is frustration with technology (Zhen, Garthwait, & Pratt, 2008). Traditionally, technology professional development focuses on acquiring technical skills (Mishra & Koehler, 2006). However, little attention is paid to how the teacher will teach with the technology in their courses. There is an assumption that teachers will naturally know how to integrate and teach with technology. Moreover, Mishra and Koehler concluded, “merely knowing how to use technology is not the same as knowing how to teach with it” (2008, p. 1033).

TPACK is a powerful theoretical framework for teacher integration of technology into their pedagogy. The framework addresses *technological pedagogical content knowledge* (TPCK) that illustrates the complex interactions while highlighting the contradictions and tensions of teaching in a dynamic, technology-rich environment.

Shulman (1986) outlines a powerful theory that teachers possess content knowledge (C) and pedagogical knowledge. Over time teachers develop ways to teach and integrate content skills and pedagogy. This intersection is the pedagogical content knowledge (PCK). The framework emphasizes that knowledge about content (C), pedagogy (P), and technology (T) is vital for good teaching (Mishra & Koehler, 2006, p. 1025). This model looks for the intersection of the three domains to create a fourth category, technological pedagogical content knowledge (TPCK). There may be different intersections in teaching like content, (C) and pedagogy (P) or content (C) and technology (T) that produce good instruction.

Unified Theory of Acceptance and Use of Technology – Technology Adoption Model

The Unified Theory of Acceptance and Use of Technology (UTAUT) model is built on the principles on Social Cognitive Theory and self-efficacy and incorporates many ideas of Roger's Innovation Diffusion Theory. More importantly, UTAUT explains the adoption process.

Venkatesh et al. (2003) examined eight theoretical models of technology adoption and empirically tested 32 constructs from the different models to derive the UTAUT. From the 32 constructs used in other models, Venkatesh et al. (2003) define the four major constructs of performance expectancy, effort expectancy, social influence, and facilitating conditions. Likewise, the authors define four moderating variables of gender, age, experience, and voluntariness of use as the predictors of technology adoption. Figure 1 diagrams the different constructs and the relationships to the individual behaviors and the individual intentions as a way to explain the faculty adoption process.

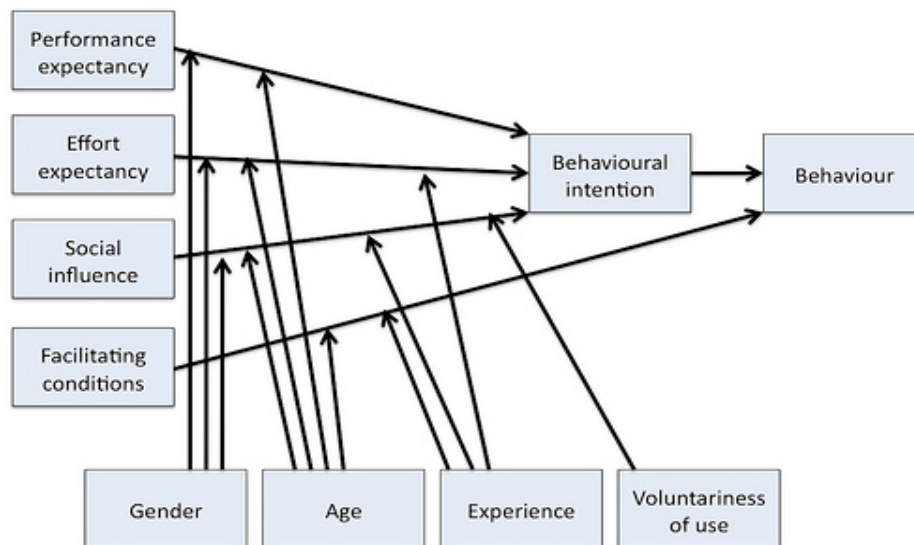


Figure 1. Unified Theory of Acceptance and Use of Technology. Reprinted from “User acceptance of information technology: Toward a unified view,” by V. Venkatesh et al., 2003, *MIS Quarterly*, 27, p. 447.

The UTAUT model presents one of the strongest technology adoption models in the literature (Oshlyansky, Cairns, & Thimbleby, 2007; Straub, 2009). Venkatesh et al. (2003) postulates:

UTAUT is a definitive model that synthesizes what is known and provides a foundation to guide future research in this area. By encompassing the combined explanatory power of the individual models and key moderating influences, UTAUT advances cumulative theory while retaining a parsimonious structure. (p. 467)

Theories of Change

Theories of motivation and technology adoption are vital components to understanding how and why college faculty members teach online. Ultimately, these issues focus on the common tenet of change. Change theory offers a systematic model to examine this dynamic process of acceptance or rejection of new ideas like online learning.

Fullan (2007) suggests that successful change is the result of personal motivation. For example, seeing a colleague who is a successful online teacher should increase the motivation of that faculty member to try the innovation. Observing success from other faculty members should propel the adoption process. Fullan (2007) and Bandura (1986) termed this idea *learning in context* which is an important part of motivation. Vicarious observations of other online instructors are a powerful method of learning new techniques and the primary learning method for many people (Fullan, 2007; Kotter, 1996; Ormrod, 2007). Fullan explores the personal motivation for change.

Kotter (1996) describes the importance of change fostered from a common mission and vision for the organization. A fundamental part of systematic change is getting all members of the organization to accept and perpetuate the mission and vision. Getting faculty in sync with a

common mission and vision is a much harder proposition. Front line faculty often feel detached from the decisions made higher up and less likely to buy into these ideas (Maguire, 2005; Wilson, 2001).

Resistance to top down directives may negatively influence the decision to teach online. A faculty survey at Western Kentucky University illustrates this perspective. “Faculty perceives that upper administrators value instructional technology more than those at the departmental level, such as their heads or chairs and their colleagues” (Wilson, 2001, p. 71).

Additionally, the faculty were “feeling under supported by the university infrastructure,” “unconvinced about personal involvement,” and “underprepared in areas related to online instruction” (Wilson, 2001, p. 71). There are many barriers to adopting change; to overcome them, it is important to have all stakeholders share a common vision.

Reigeluth (1994) suggests that change needs a systematic design approach to be successful. Like Kotter (1996), Reigeluth expresses the need for a common vision but also calls for the systematic approach to change. Fundamental to this perspective is the big picture and eventually this is broken into smaller parts called the *elaboration*. Therefore, all parties must comprehend the big picture strategy before understanding the individual pieces. Much like Bandura, this is *learning in context*, and understanding the context of the organization is vital in the change process. Like other theories discussed, the faculty member must see and experience successful examples of online learning to spur adoption. All of these factors influence the motivation process, and adult learning theory suggests that motivation must come from inside. Therefore, do the faculty accepting the vision of change put forth from the administration. According to Reigeluth, adoption of the common vision is the key to organizational change.

Nonetheless, Reigeluth and Kotter suggest that successful change must be directed in a systematic method.

The Seminal Theory of Change

Innovation Diffusion Theory

A groundbreaking theoretical perspective used to analyze faculty motivations to adopt online instruction and primary conceptual framework for this study is Rogers' (2003) Innovation Diffusion Theory (IDT). IDT is a model used to explain how and why people adopt a new innovation. This model is used as part of the theoretical framework for this study. The speed at which an innovation is adopted within an organization is called the rate of adoption. The decision making process travels through several stages that includes: (1) knowledge, (2) persuasion, (3) decision, (4) implementation, and (5) confirmation (Rogers, 2003, p. 164). Furthermore, IDT explains the rate of adoption and provides a wide lens to address systematic change at the institutional level and a fine lens to view the change within an individual. IDT is a flexible framework to examine both the formal adoption initiatives and the informal adoption processes (Straub, 2009).

For an individual to adopt an innovation, the benefits of the innovation must be communicated to the adopter. Rogers (2003) describes the communication channels as the primary vehicle of influence in the decision making process. If college faculty members are going to adopt online instruction, they must have knowledge about teaching online, see the benefits to the students and instructor, and understand the expectations about the resources needed to be successful.

The knowledge acquisition process can be formal or informal, and the communication process can be verbal or nonverbal. Moreover, knowledge of innovation is transmitted in a variety of methods over different communication channels. For example, a policy shift within the university may be enough impetus to spur change. Vicarious learning from peer-to-peer is one of the most powerful types of learning (Bandura, 1986), especially with adult learners. The information, recommendations, and knowledge provided by a peer is one the strongest communication channels (Parisot, 1997; Rockwell, Schauer, Fritz, & Marx, 1999). Rogers (2003) suggests that, “social modeling can occur in interpersonal networks or by a public display by some with whom one is unacquainted” (p. 305). There is a natural connection between IDT and Bandura’s (1983) Social Cognitive Theory and Knowles (1980) Adult Learning Theory.

Rogers (2003) describes five elements that persuade the user to adopt or reject a new technology. The first element is an innovation must present a *relative advantage* over existing technologies. As previously discussed, online learning provides many advantages such as convenience and the removal of time and space barriers. Yet, traditional face-to-face instruction has worked well for thousands of years and may be the only method experienced by the faculty member. Faculty that are steeped in traditional thinking may not see a relative advantage to online instruction because they are successful face-to-face teachers. More importantly, if they see colleagues who are successful online teachers, than there is a greater likelihood that may adopt. Nonetheless, the user must see a relative advantage before being persuaded to adopt.

The second element discussed by Rogers (2003) is *compatibility* with existing systems, values, past experiences, and the needs of the adopters. Compatibility exists on multiple levels, for example, college faculty have voiced concerns about instructional effectiveness of online

courses (Seaman, 2009). If a faculty member views online instruction as inferior to face-to-face instruction, than there is incompatibility on a philosophical level.

The third element that influences adoption is *complexity*. Many faculty members are willing to try online instruction but do not have the technical skills and expertise to teach online (Betts, 1998; Maguire, 2006; Seaman, 2009). This is a reoccurring theme in the literature and Rogers emphasizes that adoption will not happen when an innovation is extremely complicated.

The final two elements that influence the persuasion process are *trialability* and *observability*. One of the key variables for success with online learning is previous experience (Tabata & Johnsrud, 2008, Venkatesh et al., 2003; Zhen, Garthwait, & Pratt, 2008). Adult learners are more mature and want to experiment in a purposeful manner with the ultimate goal of applying the gained knowledge to a new context (Knowles, 1980). Being able to experiment with the technology in a non-threatening environment is a key element in the adoption process (Rogers, 2003). Additionally, most college faculty seek out a colleague and peer who has demonstrated proficiency (Moster, 2007). Observability dovetails with the vicarious learning model presented in SCT (Bandura, 1986). Furthermore, Rogers (2003) states that, “social modeling permits the observer to extract the essential elements from an observed behavior patterns in order to create a similar behavior” (p. 304). Observing success from a peer is a fundamental component in the adoption process (Parisot, 1997; Rockwell et al., 1999).

IDT outlines the stages and the elements that influence the adoption process that include: (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability, and (5) observability. These characteristics are perceived differently by individuals, and this difference in perception explains the degree of participation or rate of adoption of the innovation. As faculty transition to

online teaching, they will traverse through Rogers' stages. To further describe the diffusion process, Rogers (2003) identifies five categories of adopters.

The first category of adopter is the *Innovator*. This group of adopters is a small minority, about 2.5% of the population, who are risk-takers and comfortable being on the cutting-edge (Rogers, 2003). Moster (2007) describes the innovators as “venturesome, cosmopolitan, [and] technology-driven” who are motivated by individual goals but also may not be burdened by institutional restrictions (p. 68). The innovators are open to new ideas and willing to suffer the pains of the bleeding edge of technology because they can see the benefits of the innovation. However, a level of status and prestige is gained from this risk taking. Although, the innovators are a small group of people, they lead the way for the rest of the adopters.

The *Early Adopters* comprise the second category in the diffusion process. This group is larger than the innovators and encompasses about 13.5% of the population (Rogers, 2003). These people are often well respected leaders who recognize the innovation and the potential benefits to the larger group. More importantly, this group is viewed as role models for the rest of the population, and are often sought out by change agents and evangelists to provide their opinion about the innovation to the larger group (Rogers, 2003). The early adopters build their reputation with the larger group based on the quality of the feedback they provide colleagues about the innovation. The value and quality of the assessment of the innovation is a key element to the vicarious learning that is fundamental to Social Cognitive Theory (SCT) (Bandura, 1986). If the quality of the innovation provided by the early adopter is not accurate, the majority will abandon the early adopter as a reputable source of information. Schopieray (2006) concludes that, “traditionally, those faculty involved in online teaching have been the *early adopters* of technology on campus” (p. 5).

The third category of adopters is the *Early Majority* that makes up 34% of the population (Rogers, 2003). These adopters are careful, deliberate, and willing to adopt but do not want to take the initial risk. They are more comfortable waiting to see the results of others before taking the leap. Cautious, this user does not want to be on the cutting-edge but also does not want to be left behind. The early majority has strong interactions with the innovation leaders, but do not occupy a leadership position. However, Rogers (2003) points out the unique position of the early majority as, “an important link in the diffusion process. They provide interconnectedness in the system’s networks” (p. 249).

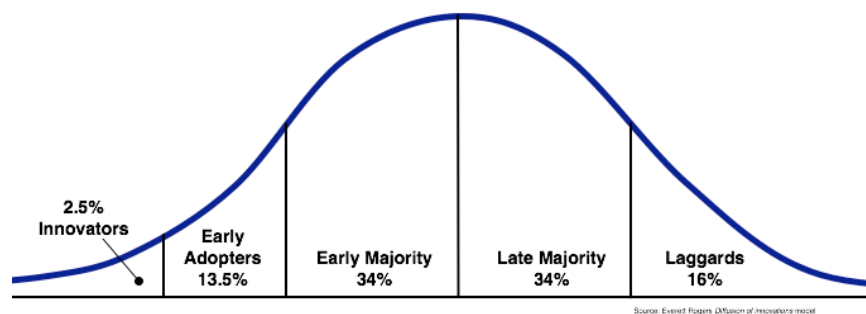


Figure 2. Categorization of Adopters. Reprinted from *Diffusion of Innovation*, by E. Rogers, 2003, p. 247.

The fourth category is the *Late Majority* that also makes up 34% of the population (Rogers, 2003). Rogers terms this group as skeptical and cautious about change and adoption of an innovation. The late majority may adopt an innovation after the majority but only after pressure from external sources. For example, this group may adopt the innovation in the face of financial pressures, social norms, or peer influences. The late majority is not involved in leadership decisions and may reluctantly adopt a new practice or technology (Rogers, 2003).

The fifth and final category of adopters is a relatively small 16% percentage of the population known as *Laggards*. Rogers (2003) categorizes this group as traditional and the most localized in their perspective on change and adoption. Often this group will look to the past as a guide in the decision making process regarding an innovation. Laggards maybe skeptical, superstitious, and even hostile to change and new ideas. Therefore, they very rarely adopt an innovation and have little participation or leadership in the process. Rogers (2003) contends that, “most individuals in a social system are looking to the road of change ahead, the laggard’s attention is fixed on the rear-view mirror” (p. 250). Figure 2 diagrams the five different categories of adopters.

Resistance to change

Resistance to change is a relevant theme in the literature especially regarding the adoption of online learning (Mitchell & Geva-May, 2009). Essential to removing barriers and adopting change is a belief that faculty members can be successful online teachers. Technology can be complex and intimidating (De Simone, 2006); therefore, what is a faculty member’s motivation to change their instructional practice? This is a complex question, and Seaman (2009) suggests student-centric reasons like convenience and flexible schedules, while Parker (2003) suggests intrinsic motivation as the change agent. Regardless of the reasons, the ability of a faculty member to handle change may influence the decision to teach online.

Motivators and Barriers

As previously discussed, online learning is exploding on college campuses (Allen & Seaman, 2007; Wilson, 2001). The Sloan Consortium reports that in the fall of 2006 over 20% of all college students had taken an online course. This dramatic shift to online instruction is

radically changing the nature of college education. Regardless of the reasons for the proliferation of online learning, it is important for college faculty to adopt and ultimately master this new medium of instruction (Mitchell & Geva-May, 2009). For example, Holbein (2007) proposes a model to help college faculty transition from traditional to online instruction. Nevertheless, some college faculty members are resistant to teach online (Fullan, 2007; Rogers, 2003). Wang, MacArthur, and Crosby (2003) concludes that despite all the opportunities offered by the World Wide Web many faculty members have not converted to online instruction. Therefore, it is important to understand why some faculty members have converted while others maintain the traditional instructional methods.

Seaman (2009) surveyed 10,700 faculty members from 69 institutions of higher education in the United States. This is one of the first nationwide, cross-institutional measurements of faculty experience and attitudes regarding online learning. It was conducted by the Association of Public and Land-Grant Universities (APLU) and the Sloan National Commission. The findings are detailed and create the literature foundation for the research questions of this study.

It is important to understand the demographic composition of those who teach online. For example, the demographic make up is more likely to be a woman teaching online instead of a man (Seaman, 2009). Also, veteran teachers, those with more than 20 years' experience, are teaching online at the same rate as less experienced faculty members (Seaman, 2009). Experience with the medium appears to makes a difference to the adoption process. For example, Ulmer, Watson, and Derby (2007) found a statistically significant difference of perceptions of online learning between faculty members with and without experience in the medium.

Time and complexity are listed as the major reasons for not participating with online learning. For example, Rockwell et al. (1999) cited that faculty members felt online instruction displaced the time dedicated to research or other scholarly activities. The complexities of the technology along with a lack of tech support are cited barriers in the literature (Berge, 1998; Bonk, 2001; Jones, Lindner, Murphy, & Dooley, 2002; Seaman, 2009). The issues of tech support and technical complexity are cited repeatedly as impediments.

Lewis (2007) examined the preparation of faculty for teaching online at institutions of higher education. This study identified the faculty development approaches and activities that were provided at universities to assist in the preparation of faculty to teach online. This study also identified the faculty development programs and activities in which faculty participated most frequently at institutions of higher education. For example, Lewis (2007) found that faculty attended a wide range of technical workshops and training to learn specific computer skills like how to use a LMS. However, a major gap that Lewis identified was the lack of pedagogical and technical integration for teaching online. The faculty were not taught how to pedagogically teach online.

Tenure and promotion concerns

One issue that is prominent in the literature is the external motivation of tenure and promotion. Because of different paradigms used by OL, there is a call to change tenure and promotion guidelines to reflect work in the virtual environment (Betts, 1998; Bonk, 2001; Dooley & Murphrey 2000). Wolcott (1997) suggested that teaching online has a peripheral status in the tenure and promotion process and is not highly valued as the scholarship. The value of the distance learning activities hinged on the academic departments' commitment to the promotion

of online instruction. Schifter (2000) concludes, “without clearly articulated specific instructional support, faculty participation in distance education efforts will be compromised at research universities” (para. 5).

Concerns about quality

One issue expressed in the literature is the concern that online classes are not as effective as traditional classes. This is one of the research questions for this study. For example, “critics of online education have questioned the value, effectiveness, and quality of online education” (Bolliger & Wasilik, 2009, p. 104). Bolliger and Wasilik (2009) found the student’s academic performance impacted the faculty’s satisfaction teaching online and factored in faculty burnout. Furthermore, college faculty have voiced the same concern about instructional effectiveness of online courses (Seaman, 2009; Zhao, Lei, Yan, Lai, & Tan, 2005; Romiszowski, 2004; Wilson, 2001). Whether this concern is real or perceived, it is a major obstacle to teaching online.

To examine the issue of quality, Tucker (2001) studied students who were enrolled in a traditional or online version of the same business communications class. He found no statistical significant differences between the final course grades, homework scores, or the research paper grades. Summers, Waigandt, and Whittaker (2005) also found no statically significant differences between the test scores of online and traditional sections of an undergraduate statistics class. Olson and Wisner (2002) examined the effect size, methodological characteristics, and course characteristics of 47 studies from 1996 to 2002. They established three criteria: traditional face-to-face, web-based instruction, and computer-based instruction. The authors express concern but concluded that, “On the basis of a limited number of empirical studies, Web-based instruction appears to be an improvement over conventional classroom instruction” (p. 11).

In a larger meta-analysis, Russell (1999) created a firestorm with his extensive annotated bibliography, *The No Significant Difference Phenomenon*. After examining over 300 studies, he concluded there was no significant difference in learning outcomes between distance and traditional courses. Russell's seminal meta-analysis is over ten years old and catalogs the formative research of the online learning field. The U.S. Department of Education (Means et al., 2009) continued to examine the question of quality with a large scale meta-analysis of over 1000 empirical studies of online learning. Like Olson and Wisner (2002), the primary method of analysis examined the effect size of the different studies. The report concludes, "Students who took all or part of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction. Learning outcomes for students who engaged in online learning exceeded those of students receiving face-to-face instruction, with an average effect size of +0.24 favoring online conditions" (Means et al., 2009, p. xiv).

Although the research evidence is not complete or definitive, the literature presents a strong validation of the effectiveness and quality in online instruction. The field has matured in the last two decades, and the question of quality still lingers. Both sides of the debate use the *no significant difference phenomenon* to perpetuate their perspective that online learning is better or worse than traditional face-to-face instruction (Russell, 1999). The U.S. Department of Education advises against more studies that directly compare online courses to face-to-face because the pedagogy, approach, and delivery are different for each format (Means et al., 2009). Nevertheless the debate continues suggesting that online instruction is not inferior to face-to-face instruction.

Similar studies

Shea, Pickett, and Li (2005) examined 913 professors across 40 campuses in the State University of New York Learning Network. Rogers' (2003) *Diffusion of Innovation* was used as a theoretical lens to examine the adoption of online learning and to identify the barriers to adoption. They found that the level of technical support, a positive experience in teaching and developing the course, the level of interaction in the course, and the content discipline affected faculty attitudes to teach online.

Mitchell and Geva-May (2009) explored faculty attitudes about online learning with 363 faculty members at five university-colleges in British Columbia, Canada. The study triangulated an attitude questionnaire, follow-up interviews to elaborate the questionnaire findings, and a content analysis of institutional documentation regarding the use of online learning. The study outlined four major themes and variables that manifest changes in faculty behavior. The authors contend that faculty attitudes associated with intellectual reluctance, technical and instructional support, willingness to change, and cost-benefit influence the adoption or rejection of online learning.

Zhen, Garthwait, and Pratt (2008) in a study of 400 college faculty members found that the role of self-efficacy and faculty educational philosophy impacted the rate of adoption in faculty member's decision to teach online. They conclude, "the innovation rate of adoption whether relatively slow or rapid is determined by many factors such as the individuals' perceptions of and experiences with the advantages of the innovations, the difficulties and limitations for potential uses, and the need for social understanding" (p. 3).

The six themes described by Zhen, Garthwait, and Pratt (2008) provide a grounded foundation for this study. For example, they discuss experience, time, peer-pressure, and self-efficacy as factors that influence the decision to teach online. Additionally, they discuss the importance of philosophy and pedagogical style as a predictor of use. For faculty members to transition to the online medium, it is important to know where they are in relationship to Rogers' diffusion model and celebrate successes to encourage the slow adopters.

Tabata and Johnsrud (2008) from the University of Hawaii propose a conceptual model for faculty participation with distance learning in a study similar to this study. Tabata and Johnsrud focus on the entire field of distance learning, this study is limited to the sub-field of online learning. Tabata and Johnsrud's model asserts that four major factors influence faculty participation in online learning: (1) demographics, (2) experience with OL, (3) attitudes towards OL, and (4) the adoption and use of technology. The examination of these four major elements served the conceptual model for this study and Figure 3 outlines the relationships between the variables and the behaviors. This model is a major influence on the design of this study.

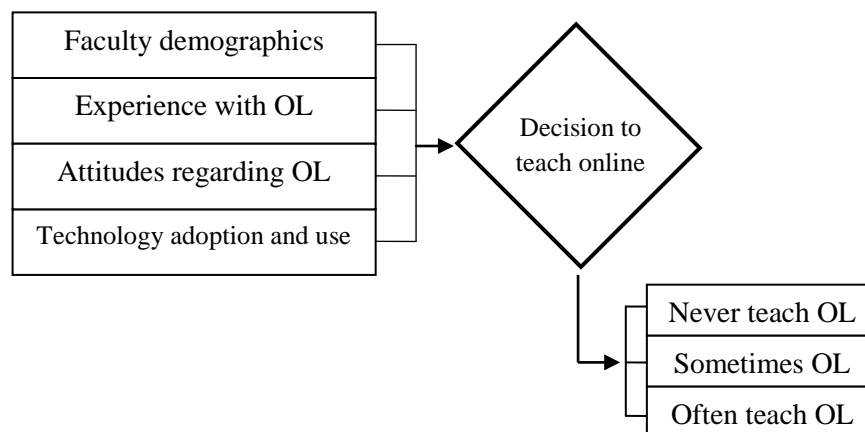


Figure 3. Conceptual Model of Faculty Participation in Online Learning (Tabata & Johnsrud, 2008).

Postulation

The review of the literature provides several very strong models of technology adoption for adult learners. For example, Innovation Diffusion Theory and Social Cognitive Theory provide a solid theoretical framework to examine the problem of faculty adoption of online technology. Self-efficacy is an important lens for studying faculty adoption rates. Both theoretical lenses have solid pedigrees in a variety of research fields and should serve this study well.

One of the major research questions for this study is an examination of the factors that motivate college faculty to adopt online instruction. Based on the literature, there are several factors that are included in a discussion of motivation. The first is performance expectancy, what is required of you through your faculty workload agreement. A review of some of the motivation models indicate a faculty member may be less likely to engage in online learning if being pushed from the top down.

A second key component is the external compensation for teaching online. It is believed that if online teaching is rewarded with extra financial compensation, then more faculty members would be eager to teach online.

Besides money, effort expectancy is another key variable to explain the adoption patterns. How much energy and time is a user willing to give to learn a new technology? Secondly, if the expectation in your work environment is to design and deliver online instruction, then there's a greater chance that the faculty will meet this expectation. The effort expectancy goes hand-in-hand with the social pressures placed on the faculty member. If the mission of the university is to increase its online offerings, then the expectation and alignment of resources should be in place.

Facilitation of technical support is a major tool to relieve user stress and is used as an indicator in the adoption process.

Aligned with the mission, the facilitating conditions are vital to eliminating the barriers of adoption. For example, technical support, pedagogical support, and instructional design skills are needed at various levels to support a variety of learners. The support may come in the form of traditional professional development classes or one-on-one meetings, but there is a concerted effort to provide training for upgrading skills.

After an examination of the barriers, the study will examine how faculty members perceive the quality of online instruction. Much of the literature in *The No Significant Difference Phenomenon* will be cited as a foundation for the discussion of quality. This will also be a focus of this study to explore and document the perceptions of quality from the faculty members.

Experience, time, peer-pressure, and self-efficacy are themes described by Zhen, Garthwait, and Pratt (2008) and provide a foundation for this study. While Tabata and Johnsrud's model asserts that (1) demographics, (2) experience with OL, (3) attitudes towards OL, and (4) the adoption and use of technology impacts the faculty member decision to teach online, Venkatesh et al. (2003), includes gender, age, and experience as important variables to track the adoption patterns. These three studies are used as models for this research and provide a solid foundation that is rooted in the literature.

Here are a few final postulates based on this literature review. Faculty will increase a feeling of self-gratification for teaching online (Rockwell et al, 1999). Adoption of other technologies may signal the adoption of online instruction, so a question will be asked about the

level of cell phone usage. Is there a correlation between cell phone usage and the adoption of online learning?

An important consideration is the use and role of mentors to increase adoption. There is a postulation that more social interactions among peers will produce more online courses. Therefore, discussion of how the faculty member gains information and their professional development relationships are an important focus of this research.

The final postulate hopes to uncover and identify the barriers that block technology integration, and provide the knowledge to help remove these barriers.

Summary

The literature provides excellent models of motivation, human learning, social learning, technology integration, and models of change. IDT, SCT, and self-efficacy are keen theoretical foundations to examine the problem of faculty adoption of online technology. The literature provides many models of motivation, rates of adoption, technology integration, and levels of concern. These models serve as a departure point for new research. Using the works and thoughts of other scholars makes this study more creditable by looking to similar studies for design elements and theoretical anchoring. One of the key elements discussed is the concept of quality. Both sides of the argument use this tenant to perpetuate their argument. One of the major topics of debate in the literature regards the concept of quality and symmetry of online instruction. This debate sheds light on how we perceive quality and is a special focus of this study.

Common themes such as technology complexity and unwillingness to learn new things are seen over and over in this literature review. Another important concept illustrated by the

literature is the power of vicarious learning and learning from modeling. Understanding how people process change is much clearer with a review of the literature on change theory. Rogers presents a strong model to categorize the different types of adopters from the innovators to the laggards. The literature illustrates reasons why people are reluctant to change. A discussion of motivators and barriers are explored and range from time and workload to issues of compensation and tenure and promotion.

Although this is not an exhaustive review of the literature, it provides enough foundation material to ground the study. This study will make a significant contribution to the field of teaching online by providing concrete evidence of how the faculty members perceive the online instruction issue.

CHAPTER THREE

METHODOLOGY

Introduction

Grounded in the theoretical lenses of self-efficacy, Social Cognitive Theory (Bandura, 1986) and Innovation Diffusion Theory (Rogers, 2003), this study explored the faculty adoption process of online learning in one university culture. This research provided a snapshot of the state of online learning identifying both the motivators and barriers. As discussed, college faculty members are the lynchpins to the design, development, and delivery of online instruction (Dooley & Murphrey, 2000; Maguire 2006; O'Quinn & Corry, 2002). The identification of resistance patterns among them will inform future professional development and provide insight into the removal of the barriers.

Research Questions

The following research questions guided this study:

- RQ1. What are the demographic characteristics of faculty who teach online?
- RQ2. What is the level of online teaching experience of faculty members?
- RQ3. What factors motivate faculty adoption of online instruction?
- RQ4. What barriers inhibit faculty adoption of online instruction?
- RQ5. How do faculty members perceive the quality of online instruction?
- RQ6. How do faculty members prepare themselves to teach online?

Research Design

Case study research is a powerful and efficient method to address and explore the research questions. Yin (2006) suggests that the single case is the *representative case* for extrapolating major themes and concepts in the research process. To provide evidence for the case study, a mixed-method research design was used to address the research questions. Mixed-method research allows for quantitative and qualitative data as the evidence to support or disprove the research questions (Tashakkori, & Teddlie, 2010). The primary methodology for the quantitative data was descriptive research survey design (Creswell, 2008; Lunenburg & Irby, 2008). Creswell pointed out, "survey design provides a quantitative or numeric description of trends, attitudes, or opinions for a population by studying a sample of that population" (2008, p. 145). The qualitative interviews followed a structured protocol (Marshall & Rossman, 2006).

Based on the work of Seaman (2009), Tabata and Johnsrud (2008), and Zhen, Garthwait, and Pratt (2008) the research model (see Figure 4) was designed to address the six research questions.

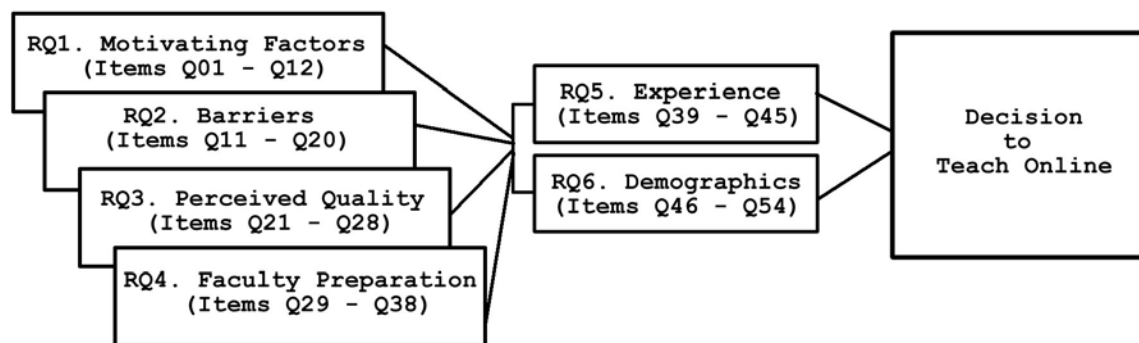


Figure 4. Conceptual Research Model.

Setting and participants

This case study examined 363 teaching faculty at a large, suburban university in the Southeastern United States. The university has a population of 23,000 undergraduate and graduate students and a teaching population of 738 full-time faculty and 557 part-time faculty members. To eliminate the need for sampling techniques, all faculty members were invited via email to participate in the study.

The total faculty population of this case study had a gender breakdown of 52% female and 48% male. Forty percent of the faculty were tenured, while 34% are tenure-track, and the remaining 26% were non tenure-track. The faculty rank breaks down as follows: 20% Professor, 23% Associate Professor, 37% Assistant Professor, 7% Instructor, and 13% Lecturer. The racial breakdown of this population is 76% white, 11% African-American, 9% is Asian, and 2% Hispanic.

The qualitative interview participants were randomly selected from a pool of volunteers who were screened by the reliability panel of experts and the distance learning coordinators. After the participants anonymously submitted the quantitative survey, they were asked if they wanted to be interviewed. The volunteers provided their name, college, contact information, and their skill level with online learning. Two participants were selected from each college for a total of 14 interviews. The interviewees were randomly selected (Wiersma, & Jurs, 2005) to provide a sample of all skill levels from across the campus. To paint a detailed picture of online learning for this case, three types of online users participated in the interview process. Novice online instructors, medium ability online instructors, and advanced online instructors were interviewed to provide insight into each perspective (see Table 4). The participants for interviews were

randomly selected to ensure a proper balance of user types including novice users, intermediate users, and expert users.

Protection of Human Subjects

To protect human subjects, this study was granted approval (Appendix A) by the Institutional Review Board (IRB). Informed consent was obtained from all participants in the study for the survey (Appendix B) and the interviews (Appendix C). The data is kept confidential and participant anonymity was maintained throughout the study. To ensure anonymity and comply with the IRB requirements, the electronic data collection forms did not capture the Internet Protocol (IP) addresses of the participants.

Instruments

The self-developed quantitative survey instrument (Appendix D) was constructed based on the work of Seaman (2009) and Tabata and Johnsrud (2008) with permission from the authors. The instrument had six sections; each section corresponded to one of the research questions. To address each research question, 10 questions were used to examine motivating factors, and 10 questions were used to explore the barriers. Eight questions were used to examine faculty perceptions of quality, and 10 questions were used to address faculty preparation to teach online. There were sixteen questions used to discover the level of experience and the demographic characteristics. Table 1 describes the sub-scale breakdown of the items related to the research questions.

The participants selected responses on a five-point continuum where number one was designated as *Strongly Disagree* and five was designated as *Strongly Agree*. The survey items 11

through 20 focused on the barriers that prevent the adoption of online instruction. These items were negatively worded and reverse coded.

The second instrument for this study was a self-developed interview protocol (Appendix E) for the qualitative data (Marshall & Rossman, 2006). The interview protocol was based on the same themes of the survey and broken into five sections. The first section examined the motivating factors for faculty participation in online instruction. The second section explored the barriers that obstructed faculty teaching online. The third set of questions revolved around the perception of quality of online instruction. The fourth set of interview questions addressed professional development and the methods faculty use to prepare to teach online. The final questions allowed the faculty members to provide their opinion regarding the facilitation and direction of the online instructional initiative. The use of open-ended questions shed light on various aspects of teaching online and the methods faculty use to prepare for online instruction.

Validity

A panel of eight distance-learning *experts* was solicited from across the campus to establish content validity (Creswell, 2008). The panel incorporated a wide range of talent, including professors from Information Management, Computer Science, and Instructional Technology. The panel also included the distance learning coordinator for a College, one data manager for the campus, and two instructional designers. The panel was asked if the items have the proper content to address the research questions. If not, should the items be changed or deleted. The panel was asked to evaluate the language of each question. Do the items contain the proper language and meaning to address the research questions? The panel was also asked to examine the organization of the instrument and identified areas that caused confusion.

An electronic copy of the instrument was created with extra fields by each question. The experts were asked to review each questionnaire item. Every question had a Keep, Modify, or Delete menu option. Also, the panel members could make comments, and many of the items were modified based on the feedback of the validity panel. The panel agreed on the content and presentation of the questions. The survey was modified per the suggestions of the panel.

Additionally, the interview protocol was reviewed by the same panel and the dissertation committee. Changes in wording, question order, and syntax were made based on recommendations of the panel members to produce a standardized interview protocol.

Reliability

Tabata and Johnsrud (2008) developed an instrument to investigate faculty attitudes towards online learning. Using a factor analysis 129 items were reduced into 26 constructs. The 26 constructs were tested to determine if the alpha values fell within a 0.70 percent threshold.

The reliability for the self-developed survey was established by using Cronbach's alpha coefficient (Creswell, 2008). To establish the reliability of the instrument, 60 faculty members were asked to take the instrument over a two-week period. There were 39 respondents who took the pilot test, and the alpha value of internal consistency was 0.84 for all the items. Table 2 shows the Cronbach's alpha values for all questions and all sub-scales. The final survey research instrument had an extremely high alpha value of internal consistency of 0.91 for all 38 items.

Data collection procedures

Web-based surveys are quick and efficient methods for data collection (Rea & Parker, 2005). Working with the Center for Distance Learning, several e-mails were sent to faculty

members across the campus inviting their participation in the study. Additionally, several Deans of the various colleges were asked to encourage their faculty to complete the survey. The majority of the Deans were gracious enough to comply with this request. Two follow-up reminder emails were sent once a week for two weeks. The data was collected in a four-week period.

The faculty interviews occurred during a six-week period. After all the potential interview candidates were reviewed, the participants were randomly selected from novice, intermediate, and experienced categories. Once the interview subjects were identified, the interview time was scheduled. The interviews followed a precise protocol, and were done by the same person to eliminate interviewer-induced bias (Marshall & Rossman, 2006). The interviews were audio recorded to make it easier for the analysis. All interview participants provided signed informed consent.

Integrity and security of the data collection process was paramount. Best practices and industry standards were used in the protection and storage of the digital data. The database was housed on a server with limited access and password security on the campus intranet. No IP addresses were collected, and all responses were anonymous. The audio interview recordings were only accessible by the researcher.

Data analysis

The survey instrument data was analyzed using descriptive statistics in the Predictive Analytics SoftWare (PASW) version 18. The unit of analysis for this study was the individual faculty member (Lunenburg & Irby, 2008). Descriptive statistics were generated for the six major sections of the instrument that align to the research questions. Aggregate mean scores and

standard deviations were determined for the six sections, as well as, individual mean scores and standard deviations for individual survey items. The participants selected responses on a five-point continuum, where three was the midpoint of the continuum and signified a neutral position. Any mean score above three showed a positive association with a particular question, idea, or concept. The same held true for anything below the mean of three that showed a weaker or negative reaction to a particular question, idea, or concept. The survey items 11 through 20 focused on the barriers that prevent the adoption of online instruction. These items were negatively worded and reverse coded to ensure that all data were pointing in the same direction so the same inferences regarding strong and weak associations were determined.

Survey item Q41 asked if the participant had taught online. A more sophisticated measure of experience level was needed instead of relying solely on one item. An online learning experience index was constructed to account for all experiences with online learning, including hybrid courses, and research with online learning. Weighted values were assigned to items Q39=2, Q40=1, Q41=4, Q42=3, and Q43=3 to generate an aggregated experience index. The highest weighted value was Q41 and asked if the faculty member had taught online. The next highest weighted value was assigned to question Q42 and Q43. These items asked if a faculty member had taught a hybrid class or conducted research dealing with online instruction. The last two weighted values were assigned to Q39 and Q40. These items asked the faculty member if they had taken an online class or a hybrid class as a student. The goal of this calculated index was to account for all experiences with online instruction. The higher the value, the more experience the faculty member had with online instruction.

The qualitative data was analyzed to identify factors that enable or block the faculty transition to online learning. The first step in this process was the identification of patterns,

themes, and links within the data. The pattern analysis and node structure evolved and surfaced during the data analysis phase. The method for the data analysis first included the identification of the tree and free nodes. A spiral method of analysis was used to reduce the nodes to themes, and then group the themes that informed the findings (Creswell, 2008; Marshall & Rossman, 2006).

The researcher is ethically bound to keep all discoveries, revelations, and participant information confidential until the final research report where the findings will be presented in an aggregated format. The final research conclusions and findings are presented in Chapter Five.

Limitations

All research studies have inherent limitations (Creswell, 2009), and it was important to acknowledge the limitations upfront. This study was not designed to be the definitive compilation of all faculty perceptions about teaching online. The purpose was to address a particular set of motivators and barriers regarding the faculty's perceptions of online learning.

Moreover, this was a case study of one university. A primary limitation of the study was the homogeneous nature of the sample population. Although the university is quite large with a full-time faculty of 737, they share the same culture that has the potential of producing groupthink within the sample.

A second major limitation of the study is the sample size. Although a return rate of 41% is an extremely high number for a web-based questionnaire (Cooper, 2005; Dillman, 2000), this begs the question about the other 59% of the campus. Only 14 members of the faculty were interviewed. Does the sample reflect the actions and opinions of the rest of the population? Rea and Parker (2005) concluded that the survey design methodology is one of the best ways to draw generalizations and conclusions about larger population. Perhaps faculty members that favor

online instruction are more inclined to answer the survey. Nonetheless, this is an inherent problem and limitation of the study.

One of the major advantages of survey design was the ability to draw generalizations about a larger population (Rea & Parker, 2005). The instrumentation was designed to look for general patterns, issues, and barriers within the population. However, some faculty may fear their unique perspective or point of view was lost within the survey so they did not respond. This is a limitation of the study.

Another limitation of the study is the accuracy and reliability of the self-reported data (Wiersma & Jurs, 2005). The faculty members were asked to complete the web-based survey regarding their perceptions. Do the participants respond accurately when completing the survey? This is a limitation of self-reported data. For example, the participants rated their tech skills very high on the survey. However, this did not match a high level of participation in online instruction. If this study was to be repeated, perhaps a technical competency assessment should be used to determine the level of skills instead of using self-reported data.

Question 43 on the survey instrument asked if the faculty member had conducted any research or scholarship regarding online learning. The premise of this question was to establish a deeper level of experience and sophistication with the topic. However, just because a faculty member researched a particular topic does not guarantee experience with the content. Many researchers study topics that are outside the scope of their expertise. Perhaps the author falsely assumed that if a faculty member researched a topic, they had a level of competence in that subject. The driving motivator of research is asking the unknown questions (Marshall & Rossman, 2006). Curiosity does not denote competence, and this is may be a flaw and limitation of this study in calculating the true picture of experience with online instruction.

Summary

The methodology is one of the most important aspects of any study. The design of the instrument and interview protocol guarantees the collection of valid and reliable data to address each research question. The mixed-method approach provides the best variety of data to address the six research questions. The survey proves to be valid and reliable and affords the best method to collect information from a large sample (Couper, 2005; Dillman, 2000). Additionally, the design of the instrument allows the participant to answer the items fairly quickly. Based on the feedback from the expert panel, the instrument is much tighter in focus and in word. Consistently, the feedback from the pilot study stated the survey instrument was clear and easy-to-follow.

Another advantage of the mixed-method approach is the qualitative data generated from the faculty interviews. The faculty interviews allowed for deeper discussion and explanation of the variables used to address the research questions. This level of detail was not available in the survey instrument. Overall, the design and structure of the research methodology was solid and produced a strong data set. The research instruments provided quality data that explained many motivating factors, obstructing barriers, perceptions of quality, and the process that faculty members obtain information relating to online instruction.

CHAPTER FOUR

FINDINGS

Introduction

The presentation of the research findings regarding faculty perceptions of online teaching is discussed in this chapter. Data from both quantitative and qualitative sources were synthesized to provide evidence to address each of the research questions. The mixed-method approach provided a sturdy data set of 363 quantitative responses and 14 qualitative interviews from all colleges at the university. This research and analysis was an exploratory exercise to identify patterns and themes about a single case study.

The quantitative research instrument

The quantitative research instrument was designed in six sections and each section corresponded to one of the research questions. The participants selected responses on a five point continuum where the number one was designated as *Strongly Disagree* and five was designated as *Strongly Agree*. Three was the midpoint of the continuum and signified a neutral position; therefore, any mean score above three showed a positive association with a particular question, idea, or concept. The same held true for anything below the mean of three indicating a weaker or negative reaction to a particular question, idea, or concept.

The survey items 11 through 20 focused on the barriers that prevent the adoption of online instruction. These items were negatively worded and reverse coded to ensure that all data were pointing in the same direction so the same inferences regarding strong and weak associations were determined.

Using Cronbach's alpha coefficient the survey research instrument had an extremely high alpha value of internal consistency of 0.91 for all 38 items. This value was higher than the alpha value of 0.84 for the same 38 items in the pilot study. However, a potential problem surfaced with the subscale that measured motivation. Survey questions one through 10 measured the motivating factors. In the pilot study, these 10 items had an alpha value of 0.89 while the alpha value in the final data set was 0.60. This value is acceptable, but much lower than the pilot study.

In the subscale that measured motivating factors, one item appeared to be problematic. Item Q5 asked if pressure was felt from the department chair, dean, or other administrators to teach online ($M=2.23$, $SD=1.34$). If this item was deleted, the alpha coefficient increased from 0.60 to 0.64. Both of these alpha values are acceptable, but this section of the instrument had less reliability than the pilot test (Wiersma & Jurs, 2005).

The reliability for the remaining subsections of the instrument was quite strong. The subscale items that measured the adoption barriers had an internal consistency alpha value of 0.79; the eight survey items that measured faculty perceptions about quality had an extremely high alpha value of 0.95. This matched fairly close to the pilot alpha value of 0.91. The final subscale measured faculty preparation to teach online. This section had a respectable alpha value of 0.83, which is slightly higher than the pilot study value of 0.80. Overall, the instrument had a high level of reliability.

The qualitative faculty interviews

To gain deeper understanding of the faculty's feelings and perceptions, face-to-face interviews with 14 faculty members were conducted over a six week period. The qualitative data for this project proved to be thoughtful and robust. The format and structure of the interviews

mirrored the same ideas as the quantitative survey. To review the faculty interview questions and protocol, see Appendix E.

The interview was broken into five sections. The first section examined the motivating factors for faculty participation in online instruction. The second section explored the barriers that obstructed faculty teaching online. The third set of questions revolved around the perception of quality of online instruction. The fourth set of interview questions addressed professional development and the methods faculty use to prepare to teach online. The final questions allowed the faculty members to provide their opinion regarding the facilitation and direction of the online instructional initiative.

Two people were randomly selected from each college to be interviewed for a total of 14. The demographic data for the interview participants (see Table 4) include five novice users, five intermediate users, and four users with experience teaching online. The sample was split with 50% female and 50% male. Half of the participants held the rank of Associate Professor ($n=7$), five were Lecturers, and two were full Professors. Examining the range of experience in higher education, two had 0-5 years of experience, two had 6-10 years of experience, six had 11-15 years of experience, three had 16-20 years of experience, and one had 35-40 years of experience in higher education.

Examination of the research questions

Research question one: What are the demographic characteristics of faculty who teach online?

The quantitative survey items Q46 - Q53 provided the evidence and findings to address question one. Specifically, survey item Q41 asked if the faculty member had taught online. Of

the 363 participants, 45% had taught online while 55% of the sample had not taught online. Of the 45% of faculty who had taught online, 86% were full-time and 14% were part-time. Tenured faculty composed 51%, while tenure track faculty was 23%. The non-tenure track faculty who taught online was 26%. The amount of participants who taught in the hybrid format is 52%, a slight 7% increase over 45% of faculty members who taught online.

The bulk of the participants who taught online ranged from 35 to 64 years of age. Only 9% of the faculty who taught online were from 23 to 34 years of age. The faculty members who ranged in age from 35-44 were 29%, while 26% of the population ranged from 45-54 years of age. The largest group of participants (31%) ranged from 55-64 years of age. Only 6% were 65 years of age or older.

Of the 164 faculty members who taught online, two percent of the participants held the rank of Emeritus, while 24% were full Professors, 25% were Associate Professors, 23% Assistant Professors, 7% Instructors, 14% Lecturers, and 5% listed themselves as *other*. The *other* category included adjunct professors, temporary instructors, and administrators. The range of experience in higher education varied while 7% of the participants had zero to four years of experience, 21% had five to nine years of experience, 35% had 10-14 years of experience, 10% had 15-19 years of experience, and 28% had 20 or more years of experience in higher education. The largest segment of faculty who teach online had 10 to 14 years of experience. Table 3 lists the demographic breakdowns of the survey participants who had taught online.

Of the 14 qualitative interviews (see Table 4), five of the participants were considered novice users, and three of those five had no online experience. Most of interview participants ($n=11$) had online experience. The 11 participants were divided with six females and five males.

Seven ranged in age from 36-49, three were 50-62 years of age, and one of the participants was 63-70 years of age. The sample was randomly selected and four of the participants held the rank of Lecturer, six held the rank of Associate Professor, and one held the rank of Professor. The final demographic characteristic of the interview subjects was total years in higher education. One of the participants had 0-5 years, two had 6-10 years of experience in higher education, six had 11-15 years of experience, and two had 16-20 years of experience in higher education.

In conclusion, a slightly higher amount of females in the sample taught online. The largest majority of faculty members who taught online were full-time employees and 51% were tenured. The academic ranks of those who taught online were fairly evenly distributed between Assistant Professors (23%), Associate Professors (25%), and full Professors (24%). The largest population that taught online ranged in age from 55 to 64 years of age. This is one of the most interesting findings regarding the faculty demographics.

Research question two: What is the level of online teaching experience of faculty members?

To address this question, the quantitative survey items Q39 - Q45 (Appendix D) were used along with the first question in the interview. Survey items asked if the college professor had taken a hybrid class or online class as a student, as well as, having taught a hybrid course. As discussed in the previous section, Q41 asked if the participant had taught online. To construct a more sophisticated gauge of experience level, a final question about faculty participation in research and scholarship activities revolving around online learning. A weighted value was assigned to each one of these questions to create an aggregated experience index. This index accounted for all experiences with online learning, including hybrid courses, and did not solely rely on Q41 to address this research question. Weighted values were assigned to items Q39=2,

Q40=1, Q41=4, Q42=3, and Q43=3 to generate an aggregated experience index. The highest weighted value was Q41 and asked if the faculty member had taught online. The next highest weighted value was assigned to question Q42 and Q43. These items asked if a faculty member had taught a hybrid class or conducted research dealing with online instruction. The last two weighted values were assigned to Q39 and Q40. These items asked the faculty member if they had taken an online class or a hybrid class as a student. The goal of this calculated index was to account for all experiences with online instruction. The higher the value, the more experience the faculty member had with online instruction. Figure 5 shows the level of faculty experience with online instruction in this study.

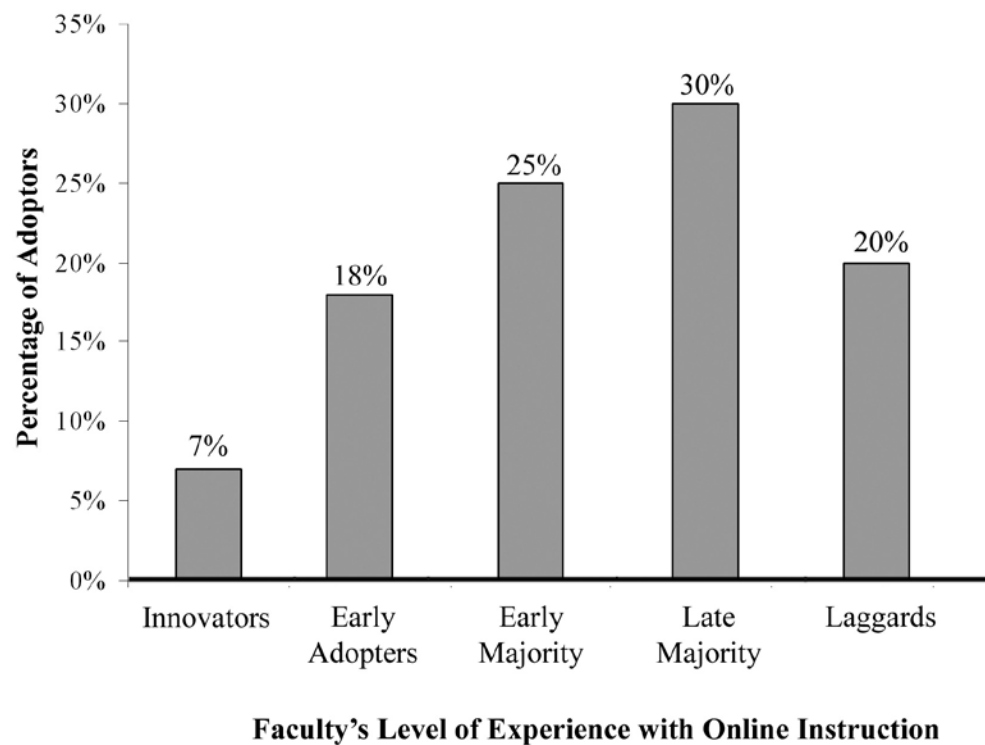


Figure 5. Faculty's Level of Experience

Perhaps the most telling indicator of faculty experience with online instruction was captured in survey items Q44 and Q45. These items asked the percentage of a normal teaching

load devoted to online or hybrid classes. Table 9 displays the detailed breakdown of the percent of online and hybrid classes. Strikingly, 61% responded they did not teach any online classes, and 54% stated they did not teach any hybrid classes. Seventeen percent indicated that up to a quarter of a normal teaching load was taught online. Conversely, 24% indicated that up to a quarter of a normal teaching load was taught in the hybrid format. Only 12% of the respondents taught from a quarter up to half of their academic load online. This compared to the 10% who taught from a quarter up to half of their academic load in a hybrid format. Finally, only 11% of the respondents taught fifty to a hundred percent online, and 12% of the respondents taught fifty to a hundred percent in the hybrid format.

The final piece of evidence to address Research Question Two came from the qualitative interview participants (see Table 4). Of the 14 qualitative interviews, 11 had experience in teaching online; four were considered advanced users, five were considered intermediate users, and two were considered novice users.

Research question three: What factors motivate faculty to adopt online instruction?

The faculty interviews and the qualitative survey items Q1 - Q10 provided the key evidence to address this research question, and explain the motivating factors for adoption of online instruction. The survey items Q1 and Q2 asked about the flexible working conditions for both the student and the instructor. Item Q3 addressed extra financial compensation. Items Q4, Q5, Q6, and Q7 examined the type and level of external pressure to teach online. Items Q8 and Q9 addressed the personal decision and self-efficacy of teaching online. The final item in this section addressed the availability of technical support. The issue of technical support is analyzed with the adoption barriers. The motivating factors addressed the four key dimensions of (1)

flexibility for the student and instructor, (2) extra financial compensation, (3) external pressure to teach online, and (4) the personal decision to teach online. Table 5 descriptive statistics for the motivating dimensions examined in the survey.

Moreover, the qualitative interviews unearthed several unique themes. For example, flexibility and convenience, extra pay, and the ability to meet the needs of diverse learners were the primary motivating factors mentioned by the faculty members.

Flexibility and convenience

The descriptive statistics showed that flexibility and convenience for the student ($M=4.07$, $SD=1.02$) and the teacher ($M=3.89$, $SD=1.17$) proved to be the strongest motivating factor in the quantitative data. Additionally, flexibility with time and location proved to be the most prevalent theme and motivating factor in the interviews. Thirteen of the 14 interviewees cited flexibility as a key motivating factor.

The ability to shift time and location has strong appeal to both the student and the faculty. The student is not constrained by driving to campus at a specific date or time. One of the business professors concluded, “they [the students] liked the flexibility that comes from an asynchronous delivery format. They like the time flexibility. They like the flexibility in the week to work on whatever deliverable is due that week. They also like the flexibility to work ahead.” The ability to arrange one's schedule to maximize time to devote to a particular project or assignment was a major advantage of online instruction. They enjoy the convenience of working at their own pace, and deciding what activities they would do at their own schedule

This allows the student to maintain personal commitments while continuing to pursue an education. For example, a professor in the performing arts highlighted the benefits of flexibility with this scenario.

Flexibility is the first thing, particularly for our students. Our students are different from other universities. A substantial amount of students in our department have to work and some even full-time. Often times in the performing arts arena, they get a role in a show far away. They also want to try to fit in a class, so they are able to take a class from a distance. A lot of it has to do with the ability to work in courses here and there.

Online instruction allowed a student to take an acting job in a performance company that was touring the country and still make progress towards graduation. The student was gaining professional experience on the road, while continuing to meet their academic requirements.

Time shifting and flexibility are also a major advantage to the professor. One of the professors stated, “The biggest benefit is it gives me a large block of time to do research or grade papers. It frees up a blocks of time to work on other things.” Another science professor described, “I do like the flexibility because I am inherently a late night person. I can do my office work during the day, and with my online class, when I hit my peak at 10 or 11 PM, I can step in and answer the students’ questions.”

Another professor in the Fine Arts discussed the flexibility of teaching online for adjunct professors. She stated, “Most of them are theater professionals or arts professionals in they are constantly piecing together an income of multiple sources. . . . they don't have a traditional 9-to-5 life. The online classes fit better with the kinds of lives they have.”

Flexibility in the online classroom allowed doing things that were not possible in a 50 minute block of time. One of the professors stated, “I can have discussion groups they go on for weeks at a time. We can have quizzes twice a week. You can make the class smaller [online].”

Overwhelmingly, the quantitative and qualitative data suggest the flexibility and convenience to learn anywhere and anytime was the predominant motivator for adopting online instruction. Flexibility and convenience proved to be a significant finding of this study.

Extra financial compensation

The university implemented a financial incentive system to compensate professors for the increased workload to teach online. According to the quantitative data, extra pay for teaching online ($M=3.77$, $SD=1.14$) proved to be a major motivating factor. However, some of the interviews contradict the quantitative findings. Only four of 14 interview participants stated that the extra pay was very important. One professor said, “If the extra financial compensation was taken away, watch out. You would have a rebellion on your hands.” Another professor concluded that the extra pay was extremely beneficial, especially for adjunct instructors who were trying to piece together an income from multiple sources. This professor concluded, “the pay is so modest it is not worth it for them to drive to campus to teach one class. . . . This makes it more affordable and flexibility in their time.” Finally, one interviewee stated, “It helps. As you know, most of us are dealing with same financial salaries we have had for the last several years, so a financial incentive to do the additional work [is nice].”

One the opposite side one of the business faculty stated, “When I started teaching online, there was no extra income, so this was not a motivator. Now it is a nice recognition bonus that I

enjoy.” The majority of the interviewees echoed the extra pay was a nice reward and acknowledgment, but played no motivating factor in their decision to teach online.

Another professor passionately proclaimed that getting paid extra to do your job was out and out wrong. Teaching and designing curriculum is part of the faculty’s expectations, and extra pay for teaching online was unfair. The professor indicated: “At this university where we value teaching, you should not have to pay extra to do something. My sense is people do it for the extra money and to get out of teaching.”

The findings regarding the role of extra financial compensation as a motivator are mixed. The majority (10 out of 14) the interviewees stated that extra financial compensation was not a primary motivator. This directly conflicts with the qualitative survey findings. The data is mixed regarding the importance of extra financial compensation as a motivating factor.

External pressure to teach online

Four survey items examined the source and effect of the external pressures. The aggregate mean score of the four variables that addressed pressure was $M=2.07$ ($SD=0.92$). For example, the outside pressure from competitors ($M=2.52$, $SD=1.41$), the internal pressure from the campus administration ($M=2.23$, $SD=1.34$), peer pressure from colleagues ($M=1.78$, $SD=1.04$), and pressure from the students ($M=1.76$, $SD=1.01$) to teach online did not prove to be strong motivators. The research participants recognized external and internal pressures to teach online; however, these pressures were not a major factor of motivation.

The interview participants also acknowledged the pressure, but did not feel the effects of the pressure. One professor stated, “No, I would not say I feel pressure. I do enjoy it, so I am happy to do it.” Almost every faculty admitted the existence of pressure from multiple sources.

They felt the sense of urgency expressed by the university to be involved in distance education. However, not one of the interview subjects admitted they felt direct pressure or any changes their behavior due to the pressures. For example, one professor stated, “I don't feel pressured as much as I feel this is an opportunity.” All interview participants understood that online learning was a direct goal of the university, but this goal did not impact their day-to-day decision to participate in online learning.

One professor in the Fine Arts stated, “I feel the universal pressure from the Board of Regents saying we need to do more. I have never felt direct pressure.” Another professor stated, “My chair is a techie, and he has not pressured me to teach online.” Finally, a third faculty member concluded, “I would not say like it is an overt pressure. More like this is where the university is heading. The college is certainly emphasizing distance learning and so there is a subtle encouragement.”

The effect of external competition from online universities was an important theme in the qualitative interviews. A professor stated, “I am the program coordinator for our graduate program, and we are getting the stuffing knocked out of us from the online universities. The last time I looked, the online universities were up 459% and we are down.” Ironically, the professor expressed reservations about the quality of the competition's online graduate degree program.

The majority of the interview participants acknowledged the competition from online universities, but external competition had minimal impact on the actual decision making process. Most acknowledge the overall direction the university, but did not feel the pressure individually. Overall, the qualitative and quantitative data findings concluded the participants recognized the existence of external pressures, but the pressure was not a motivating factor.

Personal decision to teach online

Of the four motivating factors outlined in the survey instrument, the personal decision to teach online was identified by the research participants to be one of the strongest motivators. The faculty rated the importance of personal choice to teach online ($M=4.03$, $SD=1.22$) the second highest motivating factor behind flexibility and convenience.

The faculty members had a high affirmation for their own personal decision to teach online; paradoxically, they felt marginal about deriving personal satisfaction from teaching online ($M=3.03$, $SD=1.43$). The level of personal satisfaction teaching online is a positive aspect but not an important motivator. One professor concluded, “I wanted to do it because I thought it would be an interesting experience.” Another complimented, “I like technology. I like to interact with students that way. I like to grow and challenge myself and learn more how to teach students in this way.” The findings suggest the faculty are rather independent and the choice to teach online is their own decisions.

Addressing the needs of the learner

One of the most powerful revelations and findings was the ability of online learning to better address the needs of the learner. A professor commented, “My key motivation is to meet the needs of the learner. It goes back to the learner. They want more things on the web, and this is a better way to reach them.” Another professor stated, “You can make a large class small when you teach online.” Online instruction affords the unique ability to address a wide range of learners and learning styles.

For students who are homebound or looking after an elderly parent or a sick child, online learning provides opportunities to continue their education. Teaching online provides a logical

instructional format for students with physical handicaps or medical conditions. Conversely, the ability to serve non-traditional students is another powerful motivator. One faculty stated that single mothers were the largest users of a particular online program. The ability to meet a wide audience of underserved or even marginalized learners is a powerful motivating factor for the adoption of this technology.

Reaching a global audience is a major selling point of distance education. Online education provides a fantastic vehicle to reach and monitor foreign students or pupils in a study abroad program. One faculty related a story of a series of courses offered to other educators in the Middle East and Latin America. The students expressed their gratitude because the access to this content and instructional material was not available in their country. The influence of a professor's expertise was magnified to a global audience because of the online delivery. As this professor put it, "let's put the D in distance education."

Using online learning to address students' needs was one of the most prominent themes articulated in the interviews. One professor indicated the importance of the direct contact with the students. "It goes to the communication. I can communicate with the students quicker and they can communicate with me. I am able to give feedback directly to that student much easier than a face-to-face class." Another professor stated that they were able to meet the learning needs of their students *better* in an online class than in a face-to-face class. In a face-to-face class you may engage with select students; however, in an online forum you talk and interact with every student. The professor said she had a better understanding on the issues and concerns of each student. If the student needed prompting, feedback, or remediation, the professor was able to directly address that student.

For example, remediation was an important motivating theme mentioned in the interviews. The ability for a student to repeat an activity over and over at his or her own pace is a powerful part of online learning. One professor explained this situation:

[In] one of my courses, I teach statistical operations, regression, and process controls. Some of the problems get very involved. They actually liked learning how to do problems like that online, if the instructor had a video or recording the step-by-step instructions. The students could review and play it back as many times as they needed.

The students were able to replay the movie and review the material as many times as needed. Recording a movie on solving an equation provided a way for continuous instruction and remediation.

Furthermore, the qualitative and quantitative data support the findings of flexibility and convenience, personal decision to teach online, and the ability to address the needs of the learner as the primary motivating factors. The data presented mixed findings regarding effects of extra financial compensation as a key factor in the motivation process. External pressure to teach online was not supported in the findings as a crucial motivator.

Research question four: What barriers inhibit the adoption of online instruction by faculty?

The qualitative and quantitative data focused on the barriers for faculty adoption of online instruction were used to address research question four. Several barriers were investigated in the online survey and faculty interviews. These barriers included: (a) the amount of work and time, (b) problems teaching online, (c) tenure and promotion concerns, (d) the instructor's philosophical position, (e) academic dishonesty, (f) intellectual property rights, and (g) technical

abilities and technical support. Table 6 displays the descriptive statistics of the barriers of adoption from the survey data. It is important to note that the survey questions were negatively worded and the scores were reverse coded to align with the rest of the data set.

More work, more time

The extra work and extra time are considerable barriers to any new initiative. Of all the obstacles examined in the interviews and section two of the survey, the amount of work ($M=2.20$, $SD=1.14$) and extra time ($M=2.25$, $SD=1.17$) it takes to teach online was cited as the strongest barrier. The participants slightly disagreed with the premise that the time spent on online instruction would be better spent on other aspects of their work ($M=3.04$, $SD=1.31$). One professor commented, “The workload is roughly equal during the semester. But that does not include the large amount of time on the front end and the back end. So when you look at it over the course of the semester, these classes are significantly more work than a traditional course.” Many faculty members stated the process was extremely labor intensive and time consuming.

Another pronounced barrier in the interviews was the quality assurance process for certifying online classes. One professor stated this opposition to the quality control process for online classes.

I fully support the concept of quality of all courses including online courses. I strongly believe that current system inhibits the development of quality courses and measures the *wrong things*. The bottom line is whether students learn the material [and] learning objectives achieved. There are many ways to achieve the learning objectives but the current system is more concerned about whether the i's are dotted and the t's are crossed rather than did the students learn the material.

The most distinctive theme to emerge from the interviews was the issues of the amount of work and the time it takes to teach an online class. All 14 interview participants cited that online instruction takes as much time or more time than a face-to-face course.

Problems teaching online

The survey data suggests that teaching an online course was more frustrating than teaching a traditional face-to-face course ($M=2.85$, $SD=1.24$). However, the participants were not concerned about the loss of control over the teaching and learning process ($M=3.19$, $SD=1.39$). This suggests a positive level of self-efficacy regarding the amount of control in an online environment. Another barrier that was expressed in the interviews was the fear of being electronically bound to the classroom 24 hours a day, seven days a week. A professor stated that one advantage of the face-to-face class is the ability to leave problems or issues until the next class. The level of frustration teaching an online class and being electronically bound to the classroom were identified barriers. The loss of control teaching in an online class was not a barrier to adoption.

Tenure and promotion concerns

The second most prominent barrier identified in the data was the credit of online activities in the tenure and promotion process ($M=2.91$, $SD=1.21$). The findings suggested a slight negative level of concern with this particular barrier, just below the mean midpoint of three. Online learning is not broadly recognized in the traditional tenure and promotion process. It is important to note that the tenure and promotion requirements are established at the department level, and each department may reward different aspects of teaching, scholarship, and service. This theme was not prevalent in the faculty interviews. However, nine of the 14

participants already have tenured. Tenure and promotion consideration is a significant finding of the study.

Philosophical opposition

Philosophical opposition to online learning was not a major barrier to adoption. The survey data showed that most faculty members do not possess a philosophical opposition to online instruction ($M=3.67$, $SD=1.39$). This perspective was supported in the interviews. For example, of the 14 participants, only one professor had a strong philosophical opposition to online instruction. In the interviews, several examples were cited about colleagues who held this opinion.

Academic integrity

Cheating and academic dishonesty were serious issues of concern and cited as barriers. A professor said, “It is easier it does seem easier to cheat online. I don't see how you can know that the person on the other hand is who they say they are.” One professor stated, “Yes, I think it's easier for them to cheat in an online environment. . . . This is one of the reasons it takes so long to develop an online course. For every assessment, I have to make multiple versions of the questions.” Another professor commented, “If they are going to cheat, they will cheat.” Yet another teacher concluded, “My students are good at it [cheating] no matter what. I'm sure it is. We have to rethink assessment. I would never say quizzes are bad and tests are bad because I use them both, but using activities they have to complete which is hard to cheat.”

This last comment illustrates one of the most important findings of the study. Online learning demands differentiated instruction. Perhaps traditional multiple-choice exams are not

effective in this environment. A business professor paints a different picture of cheating with this example.

They come from an environment where open book is cheating. But I want you to learn how to use your resources. When student was complaining that they knew student who bought the key textbook. And during the quiz he was using the search function. I did not say it, but is that not a great skill to learn.

The qualitative findings illuminated the theme of academic integrity as a major barrier to online instruction. If traditional tests are employed, faculty suggested the use of proctored testing centers to ensure academic integrity. The interview participants suggested that the type of tests and evaluations used in the online environment should be re-examined, while serious consideration must also be given to the development of critical thinking skills. Additionally, concerns regarding the quality of student interactions, academic effectiveness, and academic integrity prove to be barriers for faculty to teach online.

Technical skills and technical support

The faculty reported a positive association with their ability to learn the technical skills to teach online and a high level of confidence in the ability to obtain technical support. The descriptive statistics concluded that faculty members were not anxious about their ability to teach online ($M=3.77$, $SD=1.24$) possessing a high level of self-efficacy. The participants felt confident in their ability to learn the technology needed to teach online ($M=3.65$, $SD=1.18$).

Technical support was not identified as a barrier to adoption. Two survey items addressed the availability and quality of technical support. The aggregate mean score showed a positive

association with technical support ($M=3.65$, $SD=0.97$). Overall, the survey participants did not view technical support as a major barrier.

The majority of the interviews echoed the same confidence and satisfaction for the availability and quality of technical support. One professor provided this example. “I have never had a problem going through the campus tech support. They are real good, and I have done some fairly complicated things, and every single time they have quickly and efficiently solved problem.” Another professor voiced strong support, “I would say anything that I have asked they have corrected it via the phone or the remote login [and] make the correction. Just an aside, they don't make you feel foolish that you had the question.” Almost all of the people interviewed expressed a high level of satisfaction and appreciation for the fast and accurate tech support on the campus. Technical support was not a barrier to adopting online instruction.

In conclusion, the qualitative and quantitative data suggested the most prominent barriers to adopting online technology were the amount of work and time involved to deliver an online course. Another major barrier that surfaced in the findings was the apprehension about the reward of online teaching in the tenure and promotion process. The faculty cited concern about academic dishonesty and intellectual property rights in the online environment as prominent barriers to adoption. However, instructor's philosophical position, technical abilities, and the availability of technical support for not considered major obstacles to teaching online.

Research question five: How do faculty members perceive the quality of online instruction?

To address this research question, the third section of the research instrument focused on faculty perceptions of quality of online instruction. Table 7 displays the descriptive statistics for

the perceptions of quality from the survey data. The mean score was below the midpoint and showed a slight negative opinion about the quality of online instruction.

The item that provided the most positive responses in this section was Q27 which asked the importance of students using innovative technology ($M=3.36$, $SD=1.20$). The remainder of the items elicited marginal responses right at or below the neutral point of three.

When asked if the quality of learning outcome in an online environment is at least as good as a traditional face-to-face course, the faculty responded in the middle ($M=2.99$, $SD=1.35$). This held true for all the questions in the section. For example, the question about the quality of student work in an online course is at least as good as a traditional face-to-face course ($M=2.99$, $SD=1.33$), or when asked if the quality of the course content is at least as good as a traditional face-to-face course ($M=2.93$, $SD=1.38$).

The primary item for this section asked if there are pedagogical advantages to teaching online ($M=2.92$, $SD=1.21$). The responses were slightly negative regarding the pedagogical advantages. When asked if the advantages of teaching online far outweigh the disadvantages ($M=2.84$, $SD=1.38$), the faculty had a negative opinion.

Perhaps the most telling item regarding quality of online instruction asked if the participants felt the quality of instruction in an online course is at least as good as a traditional face-to-face course ($M=2.83$, $SD=1.34$). The faculty also felt negative towards the quality of online instruction. A professor in the interviews made this very poignant comment. "If you can prove to me that this is a better method of teaching, I would do it. But right now, is not better than what I'm doing in the classroom." This is a major finding of the study.

The faculty expressed the lowest confidence in the ability to create deeper comprehension and understanding of the content online ($M=2.44$, $SD=1.16$). In other words, the faculty struggle with creating critical thinking skills in the online environment.

Many of the interviews did not express the same level of negativity regarding the issue of quality. A professor in the Fine Arts commented, “The students that take online classes, the quality of their discussions and responses are outstanding. It's one of those things that if the student has already taken online and they understand is not an easy way out.” Another professor stated, “Online learning is effective for some people for some classes. For example, in an English composition course if students received richer comments, this can be effective.” A business professor stated, “I don't gauge quality based on the medium. I gauge the quality based on how well I engage my students.” This professor stated that student engagement was the key to meeting the objectives which had very little to do with the instructional medium.

Overall, the sample felt the same learning objectives could be accomplished in an online environment; however, they had a slight negative feeling toward the quality of instruction in an online environment. One of the key findings for this section was the negative opinion about creating deeper understanding comprehension in the online environment.

Research question six: How do faculty members prepare themselves to teach online?

The faculty interviews and the qualitative survey items Q29-Q38 provided the key evidence to address this research question, and explain how faculty members acquire the technical and instructional skills to teach online. This section had an aggregate mean score of 3.71 ($SD =0.73$). All of the items in this section had a mean score over three.

The item with the highest mean score asked if the faculty member had the necessary technical skills to teach online ($M=4.11$, $SD=1.03$). The faculty felt very confident with high level of self-efficacy regarding their technical skills. The faculty had opportunities to learn how to develop their technical skills to teach online ($M=4.02$, $SD=1.03$). Additionally, the faculty felt they had adequate opportunities to develop their pedagogical skill ($M=3.98$, $SD=1.01$) to teach online. Participants had a high degree of confidence in their ability to develop structural materials ($M=3.95$, $SD=1.07$) to teach online. For example, one faculty member concluded that teaching online force faculty members to be better planners of instruction.

Professional development

The faculty signified that they had taken advantage of professional development opportunities to learn how to teach online ($M=3.63$, $SD=1.41$). Participants also acknowledged that they had opportunities to learn how to develop instructional material for teaching online ($M=3.87$, $SD=1.12$); along with opportunities to develop pedagogical skills ($M=3.85$, $SD=1.11$) for teaching online. The faculty felt positive about the amount of financial resources to support their professional development ($M=3.48$, $SD=1.20$). Table 8 displays the descriptive statistics for the faculty preparation from the survey data. This was corroborated in the qualitative interviews. The interview participants stated there was enough resources to support their professional development provided they planned in advance.

The majority of the faculty interviews did not like workshops. The most common complaint was that workshop times did not match their schedule. Other comments heard about workshops were they started the beginning and never get to the topics that I need. The workshop format was too structured and does not allow me to go my own pace.

The survey responses suggested a positive association with one-on-one training instead of a workshop format ($M=3.19$, $SD=1.27$). One professor stated, “I’m not one who really takes a lot of these courses that are offered because I never feel they get you what I need. They start at the beginning and go from there. . . . I would prefer to have some one-on-one time to answer my questions.” The desire to have one-on-one training with an expert that would address specific faculty needs at the appropriate pace was a prevalent theme heard in the interviews. This theme was supported by Clay (1999) who found that one-on-one sessions allowed faculty to focus on their particular issues or concerns as well as providing a less threaten environment for adult learning.

The item with the lowest mean score in this section examined if a faculty had opportunities to observe other faculty members teaching online ($M=3.01$, $SD=1.36$). However, the interviews suggested a good method of learning new skills was peer-to-peer interaction with colleagues. For example, hallway conversations with colleagues are an effective way to learn new ideas. The survey findings suggest faculty are not sharing teaching strategies and course materials in the online environment.

Five of the interview participants stated their preferred method of problem solving was Google. One professor stated that, “crowd sourcing a problem was much faster than calling tech support.” One professor explained that the current system in place was very effective with the right amount of workshops and technical support.

To address the question of faculty preparation to teach online, most respondents felt there was adequate funding and professional development opportunities. The faculty possessed a high level of self-efficacy and confidence in their technical skills to teach online. They also felt

extremely confident in their ability to develop instructional materials and their pedagogical skills to deliver this material in an online environment.

Summary

A little less than half of the sample had experience teaching online, and more women than men teach online. The breakdown among tenure status is relatively equal as with the breakdown of faculty ranks. However, those who teach online are older and have more experience teaching in higher education.

There was a larger percent of Innovators and Early Adopters in this case study. In other words, there are more people leading the online learning initiative. However, there is a large group of people to lead because over half of the sample population did not have any experience in online learning.

The key motivating factors for faculty to teach online were overwhelmingly flexibility and convenience. Also, the ability to reach a wide range of diverse learners was another primary motivator. External pressure from outside universities or the administration was not a factor in faculty member's decision to teach online. The faculty felt very comfortable in making their own personal decisions regarding whether to teach online or not. The findings were mixed regarding extra pay as a motivating factor, but it appears most college faculty enjoy extra pay.

The extra time and a large amount of effort were cited as the primary obstacles to adopting online learning. The quality control process for certifying the online courses was also cited as a barrier. Additionally, questions regarding academic dishonesty and intellectual property rights of the course were substantial barriers. There was a moderate level of concern regarding online instruction being counted in the tenure and promotion process. Ironically, the

faculty had very little philosophical opposition to online instruction. They also cited the quality of technical support in this case study was very good and not considered an adoption barrier.

The faculty members in this study had a rather poor opinion of the quality of online instruction. One the most noteworthy issues were the ability to create higher-level learning and deeper understanding in an online environment. The faculty do not see many pedagogical advantages to teaching online and felt the quality of student work was inferior to that of a face-to-face course.

Finally, the faculty had extremely high confidence in their technical and pedagogical abilities. The data includes that faculty members had ample opportunities to receive training for technical, instructional, and design needs. The participants had taken advantage of many training opportunities usually via a workshop. The qualitative data showed a dislike for workshops and a preference for one-on-one training. The survey findings were just above the median in regards to one-on-one instruction. However, the interview participants identified the World Wide Web as a primary source of problem-solving knowledge.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

Introduction

This chapter outlines the discussion, conclusions, and implications of this research study. Perhaps the most important chapter, the findings are threaded back to the literature and connections are drawn from the findings. Importance and significance of the study will be discussed as well as the author's reflections. One of the key elements of this chapter is the discussion of the flaws and limitations of this research design and methodology. Suggestions are made for implementation in the practice of faculty members in this case study and for other universities and organizations attempting to implement online instruction. Finally, there is a discussion of future research possibilities that will build upon this study.

Discussion of Findings

This research study demonstrated that faculty members had a wide variety of reasons for teaching online. The source of motivation for the majority of faculty members to teach online was internal. This echoes the findings of the research by Knowles (1980). As Keller (1983) pointed out, relevance was the primary motivator for trying anything new. Each faculty member possessed his or her own reasons for teaching online. However, the findings of this study indicated that faculty were extremely independent and not been influenced by external pressures. Regardless of the reasons, online learning is part of the modern college experience. This was exemplified by studies conducted by DeTure (2004) and Mitchell and Geve-May (2009).

The primary selling point of online education is the ability to learn anytime and anywhere (Allen & Seaman, 2007; Maguire, 2005). Overwhelmingly, the primary motivator for adopting

this technology for both the teacher and the student was the flexibility and convenience of shifting workload, time, and geography (Maguire, 2005). Nonetheless, the qualitative and quantitative findings of this study suggest that flexibility afforded in an online environment was the strongest motivator to adopt this technology.

Besides flexibility and convenience, one of the most significant findings of this research is the ability of online instruction to meet a wide range of diverse learners. Studies by Allen and Seaman (2007), DeTure (2004) and Seaman (2009) reflected the same ideas. Providing equity and equality for all learners has been a long-standing goal of education (Dewey, 1915; Freire, 2000). For example, the unprecedented Salamanca Statement (UNESCO, 1994) called for the countries of the world to include all children in the educational process. If the learner is confined by a physical disability, geographical barriers, or other external commitments, then online learning provides a unique way for diverse learners to obtain education.

This theme was expressed cogently by one of the faculty members in the interviews. This professor stated that their entire professional career was focused on helping educate disadvantaged students. The discovery of distance learning literally opened the world to a whole new way of reaching and teaching this underserved population. The possibility of serving non-traditional learners was cited over and over in the interviews as the primary reason for adopting online technology. Online learning provides a vehicle for removing these barriers and including marginalized and disenfranchised students in the learning process. This is one of the most powerful findings of this study.

Research question one: Demographic characteristics of faculty who teach online

A higher percentage of females (60%) in this study engaged in online instruction than their male (40%) counterparts. This finding mirrors the conclusion drawn by Seaman (2009) in a large nationwide study that females were more likely to develop and teach online.

Conventional wisdom asserts that younger faculty members would be quicker to adopt technology more than older faculty members. However, the largest category of online teachers in this study (31%) fell into the second highest age range of 55-64 years of age. This was an exciting finding and realization that older faculty were using online technology, especially because this age group only makes up 22% of the entire full-time faculty population. Realistically, there were very little differences in the distribution of ages with 29% in the 35-44 age range and 26% in the 45-54 age range. Approximately 90% of the sample population fell into the three age groups from 35 to 65 years of age. The largest group by percentage (35%) had 10 to 14 years of experience in higher education. Therefore, some of the most seasoned and experienced are taking up the challenge in teaching online. Seaman (2009) also reflected similar results in his study. He concluded, "The most experienced faculty, those with more than 20 years of teaching experience, are teaching online at rates equivalent to those with less experience" (p. 5). This is the most noteworthy conclusion about the demographic characteristics of the faculty who teach online.

Research question two: Level of faculty experience who teach online

A little less than half of the sample participants in this study had taught online (45%). As previously discussed, to obtain a more detailed picture of the level of online experience a weighted formula was deployed. Rogers' Innovation Diffusion Theory (IDT) (2003) is the

primary theoretical foundation for this study. Therefore, it is logical to use the IDT model to explain the level of users' experience.

Rogers' predicted that 16% of the population would be in the advanced stages of adoption and considered an innovator or early adopter. The quantitative findings of this study showed a larger percentage of the sample participants adopting online technology (25%) in the innovator and early adopter category. Not only are the users of online technology in this case study seasoned veterans, a higher percentage was leading the pack. There were 9% more innovators and early adopters on this campus than predicted in the IDT model.

The users considered to be the early majority was nine percentage points less than expected in the model. The final two categories of the late majority and laggards matched Rogers' prediction of 50%. However, the breakdowns were a bit different with the late majority of the sample participants at 30%, and the laggards 20%. Half of the sample participants had little to no experience or involvement in online learning. Although there was a higher proportion of faculty leading the adoption of online technology, still half of the sample participants had not embraced this mode of instruction. There continues to be a digital divide between technology adopters and resisters. Figure 6 shows Rogers' adoption curve overlaid on the user experience levels.

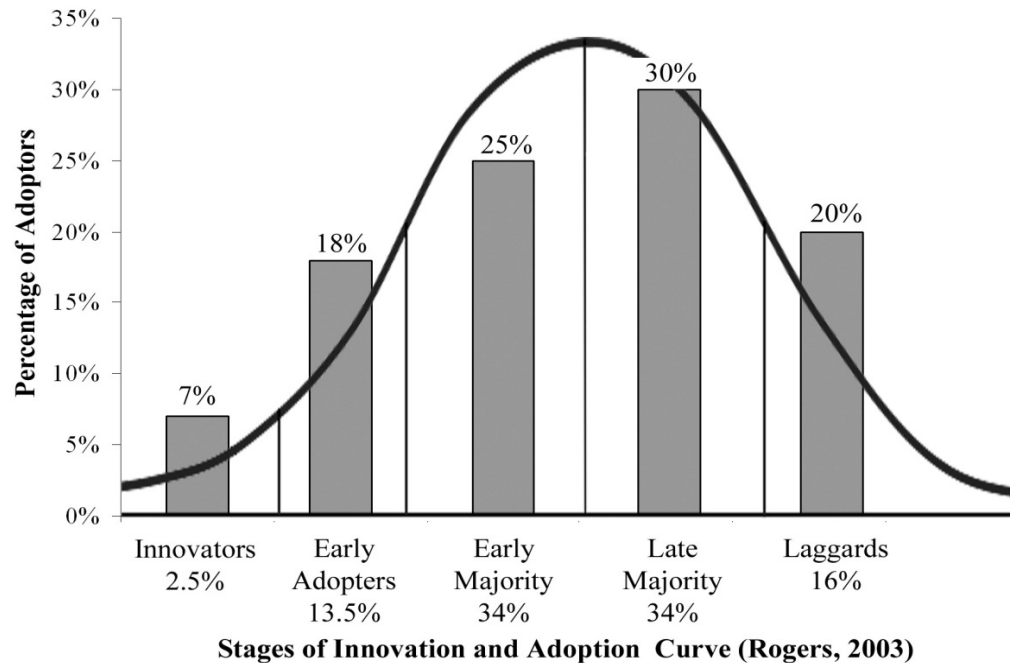


Figure 6. Overlay of the Adoption Curve with the Level of Faculty's Experience

Research question three: Motivating factors for faculty

Flexibility and convenience were overwhelmingly the primary motivator for teaching online ($M=4.07$). The advantages of flexibility and convenience are afforded to both the student and the faculty member. The power and attraction afforded by the flexibility and convenience of shifting time and location has been discussed. One professor stated, "I may work harder, but I can arrange my schedule the way I want which allows me to do other things during the day."

The second primary motivator for teaching online is the ability to reach and teach a wider range of students. From the traditional student who is working, to the business professional that is traveling, to the single mother, online learning presents unique opportunities for the students to achieve their educational objectives. In addition, meeting the needs of the diverse learner proves

to be a major advantage of online instruction. Regardless of the individual circumstances, the faculty cited the ability of online courses to meet the needs of the learner as a primary motivator.

The primary motivators found in this case study also reflected the findings of several other studies in the literature (Natrillo, 2005; Schopierary, 2006; Seaman, 2009). Both flexibility and the ability to reach more learners were cited as the top two reasons to teach online in Seaman's (2009) nationwide study of 10,700 college faculty members. Parker (2003) identified, "self-satisfaction, flexible scheduling and wider audience as the intrinsic rewards and stipends, decreased workload, release time and new technology as the extrinsic motivators." (para. 21).

Extra financial compensation

One of the most interesting and confounding conclusions of the study deals with extra financial compensation for teaching online. Berg (2000) described two types of compensation models for online teaching: (a) direct as extra pay, and (b) indirect with royalties, release time, or professional recognition. In this case study, both models existed, but the survey focused on the former – direct payments. The majority of the faculty and the face-to-face interviews stated that extra pay was a nice acknowledgment, but they were internally motivated to teach online. Studies of Knowles (1980), Kotter (1996) and Rogers (2003) reflected similar findings. Berg (2000) concluded that the trend was to treat online classes as part of the traditional teaching load, and if extra compensation was given, it could take the form of indirect payments like release time or the purchase of hardware and software.

However, the findings from qualitative data analysis for this study pointed in opposite directions regarding the question of faculty extra conservation. The majority of interview participants stated money was not a motivating factor. The survey data showed this was a

positive motivator with the mean score of 3.77 ($SD=1.14$). Seaman (2009) concluded that money was cited as a motivator to teach online except by more experienced faculty members with more than 20 years of teaching experience. Further analysis of data in this study disaggregated this finding along faculty ranks (Table 10) and showed that all ranks of faculty seemed to like extra pay for teaching online. There appears to be no definitive conclusion regarding extra financial compensation. The quantitative survey data strongly supported this notion. Figure 7 breaks down extra pay motivation by years of experience.

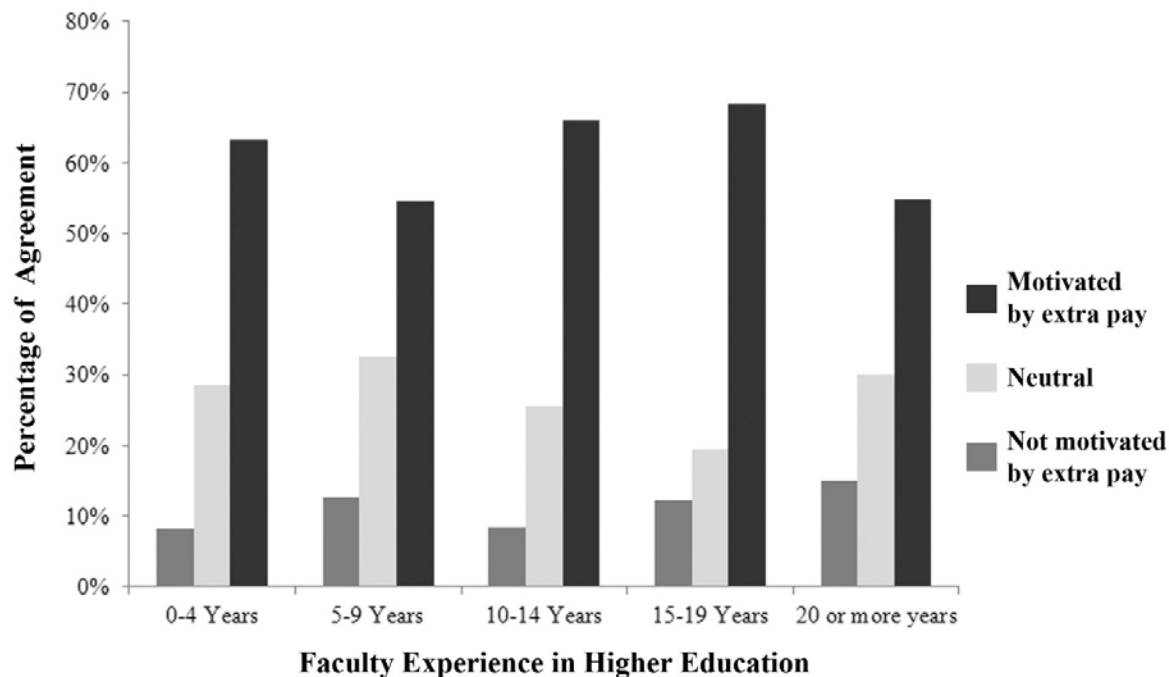


Figure 7: Extra financial compensation as a motivating factor to teach online

The effects of external pressure

Almost all faculty members acknowledged the existence of external pressure. One professor in the Humanities stated, “I would not say it is like an overt pressure, there is a sense that this is where the university is heading.” The colleges provide encouragement and resources

to increase participation in distance learning. The faculty members did not feel the effects of external pressure.

Allen and Seaman (2007) cited the explosion of online universities like Phoenix as a source of competition and external pressure on the traditional university. More importantly, competitiveness was a stated objective of the university to pursue online learning. One faculty in the interviews stated, “We are getting the stuffing knocked out of us by the private, online universities.” The pressure maybe overt or covert and may occur from external sources or from internal pressure from the university administration, deans, or chairs.

To explore the direct or indirect pressure from the administration, Q5 was analyzed from the perspective of tenured faculty ($n=169$), tenured track faculty ($n=80$), and non-tenured track ($n=114$) faculty members with the mean score was 2.34 ($SD=1.38$) for tenured faculty, 2.27 ($SD=1.32$) for tenure-track faculty, and 2.04 ($SD=1.29$) for non-tenured track faculty respectively. Ironically, faculty members who do not teach online ($M=2.38$, $SD=1.38$) felt more pressure from the administration than those who teach online ($M=2.05$, $SD=1.27$). Regardless of tenure status or experience teaching online, it appears that all faculty members were not concerned with pressure from the administration. This conclusion was echoed in the interviews with faculty. Perhaps the autonomous nature of faculty illuminates this finding. Nobody seemed to be affected by external pressure.

Kotter (1996) described the importance of change fostered from a common mission and vision for the organization. A fundamental part of systematic change is getting all members of the organization to accept and perpetuate the mission and vision. Perhaps the department chairs, who scheduled classes, are not fully invested in the mission and vision of online learning. Yang

(2010) contended that, “Administrators should be motivators in ensuring the quality of online programs. They should motivate faculty to teaching online . . .” (p. 365). One of the recommendations of this research is to emphasize and clearly articulate the goals and expected outcomes of the online learning initiative.

To summarize the most important motivating factors for faculty members to adopt online instruction were flexibility and convenience. Additionally, this sample concluded that online instruction was a great way to address a wide range of learners with diverse needs. The survey data indicated that money was a motivating factor, but this opinion was not supported in the interviews. Finally, pressure from external sources was not a motivating factor for faculty members to teach online.

Research question four: Barriers that inhibit faculty adoption

The literature presented a myriad of perceived barriers for the adoption of online instruction (Clay, 1999; Dooley & Murphrey, 2000; O'Quinn & Corry, 2002). The majority of participants in this study were not philosophically opposed to online instruction or not very anxious about their abilities to teach online ($M = 3.77$, $SD=1.24$). However, participants were very concerned about the amount of work and time it took to teach online as reflected by other studies (Allen & Seaman, 2007; Mitchell & Geve-May, 2009; Natrillo, 2005; Schopierary, 2006). The concern regarding time and effort extended to the quality control certification process for online classes, and several faculty members acknowledged the quality control process was a barrier. The findings expressed support for the traditional teaching paradigm. Also, there were concerns regarding the reward of online activities in the tenure and promotion process. High

level of anxiety was expressed regarding student cheating online, and the concern over the ownership and intellectual property rights of faculty develop courses.

More work, more time

The volume of work and time needed to design and deliver online courses were the strongest barriers of adoption (Schopieray, 2006; West, Waddoups, Graham, 2007; Wilson, 2001). This supports the findings of Zhen, Garthwait, and Pratt (2008) that showed faculty resistance to online instruction was driven by time constraints and the large volume of work. The majority of the participants in this study agreed it took more time upfront to design and build an online class. One professor stated that depending on the configuration of the course, the amount of work and time to teach the course varied. They stated for example, using multiple-choice assessments took less work and effort than grading written papers or discussion forums. Several professors concluded that although there was more front end work, the total amount of work was a wash and equivalent to face-to-face course, especially after the course was built.

Whether online teaching actually takes more work and time, the perception was identified as a barrier. However, several faculty members acknowledged that the time and extra effort was worth it. One faculty member gave this explanation when asked if teaching online took more time. "If you do it right, it does . . . I reply to everybody, so everybody gets quality feedback. Yes, this takes more time, but isn't that the goal to give good feedback to all students? Isn't this better?"

Resistance to the quality control process

Another major barrier cited in the findings was the amount of time and energy needed to complete the review process for quality certification for the online course. One very prominent faculty member made this comment:

I fully support the concept of quality of all courses including online courses. I strongly believe that current system inhibits the development of quality courses and measures the wrong things. . . . There are many ways to achieve the learning objectives, but the current system is more concerned about whether the I's are dotted and the T's are crossed, rather than did the students learn the material.

The quality control system is the primary method for certifying the course and facilitating the extra compensation, thus, the source of conflict. Regardless, the amount of time and effort needed to develop an online course is substantial and a potential barrier to adopting online instruction. One solution to this problem would be to provide more support from instructional designers who understand the process and can facilitate the creation of online classes. Providing more resources and expertise to assist the faculty member can lower the stated barrier.

This is not teaching

Online instruction challenges core values and beliefs about the teaching process (Natriello, 2005; Schopieray, 2006). Schifter (2000) explained, “many faculty, who have spent their entire educational careers within the traditional environment, the DE environment requires learning and embracing new teaching methods, which again takes time to master” (para. 26). The interviews exposed a certain amount of pushback from traditionally minded faculty as a prominent barrier to adoption. One professor stated, “distance education seems rather distant.”

Another highly regarded professor voiced a loud and clear opposition to online instruction concluding:

This is not teaching! They do it because they can teach from Bermuda. And they say, 'wow, what a deal', I can teach from Bermuda. Well, I don't think that's teaching. I don't think the only thing to teaching is the delivery of content and assessment. There's a lot more to it than those two things.

This faculty member exclaimed that teaching online was a way of ducking responsibilities and avoiding interactions with the students. A good teacher has to roll up their sleeves and address the different needs within the classroom, and each class and each student interaction is different. In an environment that values academic freedom, the resistance to online instruction is expected. Nonetheless, many traditionally minded faculty members do not view online instruction as teaching.

Tenure and promotion concerns

Faculty members traditionally follow strict tenure and promotion (T&P) requirements. Wolcott (1997) suggested that teaching online had a peripheral status in the tenure and promotion process and was not highly valued as scholarship. The survey findings presented a medium level of concern for distance learning activities recognized in the T&P process. Schifter (2000) concluded, "Without clearly articulated specific instructional support, faculty participation in distance education efforts will be compromised at research universities" (para. 5). One of the key suggestions of this research was the systematic inclusion of online activities as valid evidence for teaching, service, and scholarship. This is a difficult task because T&P

requirements are created at the department level. However, if the university wants to see change, the administration would need to take the initiative of modifying the T&P requirements.

Academic integrity

A major barrier to online adoption was the faculty's concern about cheating in the online environment (Grijalva, Kerkvliet, & Nowell, 2006; Stuber-McEwen, Wiseley, & Hoggatt, 2009; Watson, & Sottile, 2010). Rowe (2004) summarized this issue as "Online assessment raises serious security issues. Many methods of cheating are facilitated, some quite new, and it is inevitable that cheating will increasingly be automated and distributed as software packages" (Conclusion, para. 1). This message was heard loud and clear in the faculty interviews of this study. This is a complicated issue that requires a coordinated and systematic solution. Many answers are just a mouse click away for this copy and paste generation (Watson, & Sottile, 2010). If traditional tests are employed, faculty suggested the use of proctored testing centers to ensure academic integrity. Another method to increase security is the use of plagiarism software like Turnitin.com. Additionally, other techniques to secure integrity of the assessment process included the time limits on tests, the use of multiple versions, and more subjective open-ended question types. However, this begs a larger question regarding the nature and quality of the assessment process.

It is important for faculty members to rethink the assessment strategies implemented in the online and face-to-face environments. Multiple-choice tests should give way to more creative activities that foster deeper and more critical thinking. For example, a multi-step project that has tutor milestones is much more secure than a multiple choice test. Conversely, this places an extra burden of work on the instructor, but the quality of learning should improve.

In addition to rethinking the assessment process, a clarion call was heard that faculty need to learn how to teach higher-level thinking in an online class. There is an assumption that teachers will naturally know how to integrate higher-order instruction into the classroom. Modeling such techniques would have positive effects on the online and the face-to-face environments. Faculty members must be taught creative and higher-order thinking in the online environment. There is a strong possibility that faculty members do not know how to accomplish this task in face-to-face classes. A positive outcome of this research is the future creation of professional development that teaches critical thinking through meaningful and creative assignments, projects, and assessments. To quote one of the interview professors, “teaching as a verb – let’s use it.”

Intellectual property rights

A stated barrier in the faculty interviews was the concern over the rights of content produced by the college faculty member. Several faculty members expressed concern over the ownership and control of the digital work product. This is a sensitive topic without clearly articulated rules and policies to govern the digital domain. An important outcome of this research may spur the conversation and creation of such policies, and thus removing this barrier.

The barriers discussed in this conclusion are legitimate and pronounced, but they are not insurmountable. The planned removal of the stated barriers must be intentional, systematic, and coordinated (Kotter, 1996) from the administration, to the deans and chairs, and the faculty. Starting the conversation about a systematic way to remove these obstacles is encouraged as a result of this research study.

Research question five: Faculty's perceptions about the quality of online instruction

Overwhelmingly, the faculty had a fairly negative opinion regarding the quality of online instruction. The majority of faculty viewed online instruction as less rigorous than the face-to-face classes. Perhaps this is due to lack of exposure and experience with online classes.

The U.S. Department of Education concluded, "Students who took all or part of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction. Learning outcomes for students who engaged in online learning exceeded those of students receiving face-to-face instruction, with an average effect size of +0.24 favoring online conditions" (Mean et al, 2009, p. xiv).

One faculty member had a rather clear explanation. "Online classes are no better or worse than a face-to-face class. Just as you have good face-to-face classes and teachers, you have good online classes and online teachers." After examining over 300 studies, Russell (1999) concluded there was no significant difference in learning outcomes between distance and traditional courses. The variability quality of the online instruction is comparable to the variability of instruction in a face-to-face class. One of the faculty interviews stated, "Why is it assumed that everything we do in the face-to-face class is so brain poppingly great?"

Another professor concluded, "We have to catch up with the world. If we don't start offering substantial and rigorous online classes, we are out of the loop." When asked about the quality of instruction online, one professor concluded that they could address student needs better in an online environment than in a traditional classroom. Regardless, there is a stigma attached to online instruction.

To combat the stigma many of the ideas previously discussed about training faculty to use higher-order thinking is appropriate. Additionally, seeing the models of what other faculty members are doing in their online classes should spur creative and challenging ideas. Ultimately, these challenges of existing paradigms of traditional instruction and change can be uncomfortable. Therefore, the resistance is understandable. Perhaps one solution is to allow the faculty to be the student. The resistance can be attributed to the lack of understanding. Allowing the faculty to experience higher-order, engaging instruction from the students perspective can shed light on the development process, thus dispelling the notion that online instruction is inferior. Online instruction is no better or no worse than traditional face-to-face instruction. The focus must be on the design and development process to ensure quality and address higher-order thinking skills.

Research question six: Faculty preparation to teach online

One of the interviewed participants stated that most students were much more advanced with technology than their instructors. Online learning is a fairly new medium for many faculty members who have trained their entire lives with face-to-face instruction. An English professor commented, "I think this produces a lot fear in faculty who are not tech[nical] at all. That they're feeling they will get left behind if they don't get on the train." This fear and anxiety extended to technical skills to teach online and pedagogical abilities. Compounding this anxiety about being able to deliver an online class is the concern about obtaining the proper training to be a successful online instructor.

The way faculty acquires information is fundamental to the adoption process. Technology is moving at a rapid pace, and there is an expectation for faculty members to engage with

technology. One professor pointed out, “It is a subtle encouragement, or not so subtle encouragement, that produces fear in faculty who are not so tech savvy.”

No faculty member wants to appear to be dumb. Therefore, to maintain the position of authority a faculty member will often avoid areas of little expertise. This is an important consideration when providing technical professional development. The person providing the support must not talk down or belittle the faculty member highlighting the insecurities and anxieties. One of the faculty members in the Health Sciences stated, “they don't make you feel foolish for having the question.”

However, the faculty rated their technical skills to teach online fairly high with a mean score of 4.11. This may be a testament to the universities continued investment in the integration of instructional technology on the campus. This exposes several striking factors in the analysis of faculty preparation to teach online. The first was an extremely high level of confidence, or self-efficacy, in the faculty’s perception of their technical skills, instructional design skills, and pedagogical skills. It is important to note that this is self-reported data. Nonetheless, the faculty had a high level of self-efficacy with these particular topics.

Secondly, the faculty had very little trouble accessing or attending professional development to address their skills to teach online. Another professor made this comment: “I never read books. I don't like online tutorials. If I have to do it [I will go to] face-to-face workshops, but for me one-on-one instruction is the best.” The interviews included that most faculty members had enough resources and flexibility in their schedules to attend professional development. Although the resources were available, not all faculty members took advantage of training opportunities. Perhaps some faculty members may have a heavy workload and do not

want to undertake any new projects or initiatives. However, a suggestion based on this study is to consider a professional development credit structure of technology that faculty can plan to achieve. For example, each faculty member would be required to earn six professional learning credits every two years. The faculty would earn the professional learning credits for attending workshops or taking online technology training courses.

Finally, information, recommendations, and knowledge provided by a peer are the strongest communication channels (Parisot, 1997; Rockwell, Schauer, Fritz, & Marx, 1999). Adult learners are more apt to try innovations if they have seen a colleague successfully use innovation. Rogers (2003) suggested that, “social modeling can occur in interpersonal networks or by a public display by some with whom one is unacquainted” (p. 305). One of the survey items asked if the participant had opportunities to observe other faculty members teaching online. The mean response was low.

A recommendation of the study is to facilitate professional learning communities and allow easy access for faculty members to view colleagues’ work. One of the interview participants suggested a showcase of online courses to provide an opportunity to see what others were doing. The showcase does not have to be exemplar best practices, just away to generate new ideas. Another professor stated, “We need to dial back the expectations to allow more to enter.” One final suggestion is the facilitation of idea exchanges via support wiki or listserv.

It is interesting to note that the faculty members in this study self-identified their instructional and technology skills and strengths. This may be explained by the tremendous effort the university has invested to integrate technology into the curriculum. However, this high technology self-efficacy did not correlate into more online classes. Perhaps technology is not the

barrier; nonetheless this topic demands continued study. In future research, the use of a technology assessment tool would accurately determine the skill level of the instructor instead of relying on self-reported data.

Researcher observations

This research study proved to be challenging and rewarding. If this study was to be replicated, several modifications would happen to improve the process and strength results. The wording of several of the survey items could be clarified. For example, Q44 and Q45 would be reworked to avoid confusion about a typical teaching load. Some feedback that came in the interview process suggested asking the typical face-to-face teaching load to provide a baseline. This could be implemented if the study is replicated.

The mixed method approach provided the strongest data elements for the study. Minor tweaks in the verbiage and format for the survey instrument have been suggested. If this study was to be repeated, a larger sample of qualitative interviews would be used. Because of the constraints of time, only two faculty members from each college were interviewed. In the future, a larger sample of interviewees from each college would be used.

One of the striking findings and conclusions drawn from this research is the quality of the professional development training and technical support provided at this university.

Overwhelmingly, faculty members from all walks of life had high praise for the amount and quality of the support that was available. Although not everyone took advantage of the support, there was a keen acknowledgment and appreciation for the support. This was especially evident for faculty members who had come from another university. Several of the interviews included people that worked at other places and provided a comparison. Almost across the board every

faculty member had strong praise for the professional development opportunities and technical support.

From a theoretical perspective, several seminal philosophies ground this research. Perhaps the theoretical framework is too broad and should be narrowed to one or two complementary conceptual foundations. The problem with a wide theoretical base is the tension between multiple theories pushing and pulling the research in multiple directions. This research is fairly narrow in scope and addresses one case; however the theoretical perspectives span a wide range of learning theory, change management, and information systems as a building block. Future research will have a narrower scope with more cogent theoretical underpinnings.

Implications for future practice in local context

The development and perpetuation of online instruction is a stated goal of the university in this case study. To maintain a competitive advantage or alleviate overcrowding are stated goals for pursuing this initiative. To alleviate the barriers and obstacles discussed earlier, the university administration must work in concert with the faculty to achieve the objective. A stated objective of this research was to construct knowledge to inform future interventions and professional development. The following suggestions are tailored to the local context of this case study. Nonetheless, other universities or organizations that are trying to implement online instructional programs may heed these suggestions.

- Provide example courses for other faculty members to view. These do not have to be best case scenarios, but more importantly, they stimulated the faculty member to see what possibilities are available. Lewis (2007) identified a major gap in the lack of pedagogical

and technical integration for teaching online. The faculty were not taught how to pedagogically teach online.

- Designate and fund an instructional designer for each college. This person will assist faculty members in the development of their online courses. More importantly, this person can provide one-on-one support and encouragement to the individual faculty member.
- Design and implement formal training programs that all faculty members can attend. In the K-12 environment, faculty members are required to obtain a certain amount of professional development units over a period of time. This model may work at the collegiate level.
- Do not decrease or eliminate financial compensation model for online instruction. Although the financial compensation was not the primary motivator, many faculty members stated they would not teach online without the extra compensation.
- Provide clear financial incentives that are equitable, transparent, and available to all colleges. Some colleges have more resources than others; therefore, it should be a priority to design and implement an incentive system that is equitable.
- To increase faculty participation, the university should employ co-teaching model with online classes. For example, a professor would co-teach with another faculty member the first or second time they taught the class. This would reduce the stress and pressure on the new instructor, and allow a gradual transition into online teaching. This may raise potential resource issues with the allocation of FTE credits but is worth considering as a bold step to increase faculty participation.

- The co-teaching model should be used in the course development process. Currently, individual faculty members design and build their own courses. They may receive help from an instructional designer; however, if the faculty member collaborated with other professors perhaps they would develop stronger classes.
- Reward the development and instruction of online courses in the tenure and promotion process.
- Marketing to online course enrolling populations has not been developed across state lines even to overseas interested participants.
- Keep the walls down between faculty members. Encourage collaboration across departments and across the campus.

Implications for future research

The most exciting aspects of this research were the multitude of *what if* questions that were generated throughout process. At every turn, a new set of ideas or theoretical constructs bubbled to the surface. It was important to maintain focus and designate these new ideas. However, this research is the genesis of an entire agenda focused on technology adoption and the removal of obstacles to enhance the learning process.

One of the most exciting topics for future research involves faculty attrition in the online environment. Faculty members spend large amounts of resources and capital to develop their technical and pedagogical skills to teach online. Then, why do they quit? Hogan and McKnight (2007) found that faculty who taught online for many years experienced decreased levels of accomplishment. They also experienced levels of depersonalization which lead to higher rates of burnout among online teachers. Therefore, it is important to understand the factors that drive instructor away from this instruction method.

A second potential research avenue is the examination of quality instruction in the online environment. As the interview data illuminated, there is strong variability among the quality of online teaching. This holds true for the face-to-face classes; some professors are good teachers, and some courses are well designed. An interesting research question that has blossomed from this study is the characteristics and elements that make an effective, quality online course. The identification of these factors should lead to the construction of more dynamic and effective online instruction.

Instructional elements are important, but so too is online pedagogy. A theme heard over and over in the interviews was, how do I learn to teach online? Most college faculty are willing to invest the time and energy to teach online, but want to know the most effective and engaging techniques. This is especially true with the development of critical thinking skills. The examination of the degree of high quality in an online course will shed light on engaging in effective instructional methods. The follow-up to this line of research may be a series of professional development courses to teach faculty members to teach online.

The examination of faculty attrition in online courses and an exploration of the factors, practices, and methods used to produce a quality online experience are both potential logical extensions of this research. Standing on the shoulders of giants, it is interesting that research creates more questions than answers. This embryonic research has opened Pandora's box and helped establish a solid research agenda that will span many years.

Conclusion

The study showed that females (60%) participate in online learning for slightly higher rate than males (40%). The highest faculty rank participation in online learning was the

Associate Professor (25%). However, there was very little difference between the ranks of Assistant Professor (23%) and the full Professor (24%) ranks. The faculty participating in online learning was fairly experienced with the largest group (35%) having 10-14 years in higher education. Additionally, the largest group (31%) with online experience were 55-64 years of age.

The most prevalent motivator for teaching online was flexibility and convenience ($M=4.07$, $SD=1.02$) as well as the faculty's own choice ($M=4.03$, $SD = 1.22$). One professor stated the primary motivator of online learning was, "Student convenience, they can access their course when they want, or work at their own pace."

The primary barriers to the adoption of online learning is the amount of work ($M= 2.20$, $SD = 1.14$) and the amount of time ($M = 2.25$, $SD = 1.17$) needed to prepare and teach online. These findings support the conclusions of Seaman (2009) in his nationwide survey of college faculty. Seaman concluded, "Faculty members overwhelmingly believe that it takes more effort to develop and teach an online" (p. 26).

One of the most positive finding of this study was the large percentage of leaders in the first two stages of adoption, Innovators and Early Adopters, described by Rogers (2003). This is exciting to see a large group leading the charge. However, of greater concern is the 50% of the faculty population who were not involved in the online learning initiative. This needs to be the focus of concentrated efforts to tip the balance.

The study indicated a high level of self-efficacy regarding faculty computer competencies ($M=4.11$, $SD= 1.03$) and pedagogical skills to teach online. However, the findings showed a rather poor perception regarding the quality of online courses. For example, when asked about

the faculty's ability to create deeper comprehension and understanding in an online environment, the participants had a negative opinion of their abilities ($M = 2.44$, $SD = 1.16$).

This is perhaps the most significant contribution of this study. Faculty members appear to have high level of skills and abilities, but do not think that online instruction is “real teaching.” The majority of college faculty has spent their entire career in the face-to-face environment, and online learning threatens many core values and assumptions (Mitchell & Geva-May, 2009; Maguire, 2006; Schifter, 2000).

Russell (1999) examined over 300 studies and concluded there was no significant difference in learning outcomes between distance and traditional courses. One science professor astutely commented, “Online learning is as variable as face-to-face instruction. There are weak professors and strong professors; there are weak online professors and strong online professors. I just see a different medium at the same people with the same skill sets.” A professor in the Humanities provided this observation:

There is also some pushback to from traditionally minded faculty. . . .Some faculty, for understandable reasons, they still want the argument made that distance learning is as valid as face-to-face learning. They are not convinced that the results are the same. They want more discussion of that evidence and research. Instead, like that's already been settled. We are moving on, so let's go.

Means et al. (2009) after reviewing over 1000 empirical studies strongly suggested there should be no more research comparing the outcomes of face-to-face and online courses. Nonetheless, teaching faculty how to teach online is the primary objective if the online initiative will be successful.

Therefore, the primary recommendation in this conclusion is to create an awareness of the effectiveness of online instruction and bridge this gap between faculty skills and their perceptions of quality. Showing examples of quality online instruction may change faculty's minds.

The lessons learned from this study primarily revolve around the nature of the research process. For example, the ability to quickly digest a research article and determine the author's point of view as well as the value of the contribution was a major skill learned this process. Additionally, being able to determine the type of study and empirical significance of a published article was an important lesson learned from this research. Perhaps more beneficial is the enhanced organizational skills needed to conduct research of this type. Additionally, the improvement in writing and communication skills is a noteworthy accomplishment.

The study itself shed light on the nature of faculty interactions. College faculty members are extremely autonomous. Perhaps this is the culture of the Academy; however, removing the barriers between the various silos on campus should benefit all parties involved. The findings of this study showed faculty members are very busy with multiple priorities. If online learning is to be successful, the faculty members must make it a priority.

The study is significant because it adds to the collective body of knowledge regarding faculty perceptions of online learning. The findings directly support the conclusions reported by Seaman (2009) in his nationwide survey of over 10,000 college faculty members. The small sample adds to the literature and illuminates the faculty perceptions of one university. The findings of this study mirror those of Seaman (2009), Tabata and Johnsrud (2008), and Zhen, Garthwait, and Pratt (2008). There is a clearer picture of the motivators and barriers in the

adoption process. In this case, the focus is online instruction; however, this foundational information can be applied to other universities or organizational settings that are adopting other types of technology initiatives.

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Table 1

Alignment of research questions to instrument items

Research Questions	Survey Items
RQ3 What factors motivate faculty adoption of online instruction?	Q01 - Q12
RQ4 What barriers inhibit faculty adoption of online instruction?	Q11 - Q20
RQ5 How do faculty members perceive the quality of online instruction?	Q21 - Q28
RQ6 How do faculty members prepare themselves to teach online?	Q29 - Q38
RQ2 What is the level of online teaching experience of faculty members?	Q39 - Q45
RQ1 What are the demographic characteristics of faculty who teach online?	Q46 - Q54

Table 2

Reliability Test of Research Instrument

	Cronbach's Alpha	Questions	<i>N</i>
RQ3 Motivating Factors Q1 - Q10	0.89	10	39
RQ4 Barriers to Adoption Q11 - Q20	0.87	10	39
RQ5 Percepts of Quality Q21 - Q28	0.91	08	39
RQ6 Faculty Preparation Q29 - Q38	0.80	10	39
Total All Questions Together	0.84	38	39

Table 3

Demographic Profile of Research Population (N= 363)

Category	Online Experience		No Online Experience		Total	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Gender						
Female	60	99	55	110	58	209
Male	40	65	45	89	42	154
Work Status						
Full-time	86	141	82	163	84	304
Part-time	14	23	18	36	16	59
Tenured Status						
Tenured	51	84	43	85	47	169
Tenure Track	23	37	22	43	22	80
Non-tenure Track	26	43	36	71	31	114
Rank						
Emeritus	2	4	2	3	2	7
Professor	24	40	19	83	22	78
Associate Professor	25	41	23	45	24	86
Assistant Professor	23	37	25	50	24	87
Instructor	7	11	10	20	9	31
Lecturer	14	23	17	33	15	56
Other	5	8	5	10	5	18
Age Range						
23-34	9	14	10	20	9	34
35-44	29	47	26	51	27	98
45-54	26	42	28	56	27	98
55-64	31	51	30	59	30	110
65 or older	6	10	7	13	6	23
Years in Higher Education						
0-4 Years	7	11	19	38	14	49
5-9 Years	21	34	26	52	24	86
10-14 Years	35	57	19	37	26	94
15-19 Years	10	16	13	25	11	41
20 or more years	28	46	24	47	26	93

Table 4

Demographic Profile of Interview Participants

	Rank	Experience	College	Gender	Age Range	Years in Higher Ed
01	Lecturer	None	University	M	25-35	0-5
02	Associate Prof.	None	Health Science	M	63-70	35- 40
03	Professor	None	Science & Math	F	50-62	16-20
04	Lecturer	Novice	The Arts	F	36-49	6-10
05	Associate Prof.	Novice	Education	F	50-62	16-20
06	Lecturer	Intermediate	Education	F	63-70	0-5
07	Lecturer	Intermediate	Health Science	F	36-49	11-15
08	Associate Prof.	Intermediate	Humanities	M	36-49	16-20
09	Associate Prof.	Intermediate	The Arts	M	50-62	11-15
10	Associate Prof.	Intermediate	University	F	36-49	11-15
11	Associate Prof.	Advanced	Business	M	36-49	11-15
12	Lecturer	Advanced	Business	M	50-62	6-10
13	Associate Prof.	Advanced	Humanities	F	36-49	11-15
14	Professor	Advanced	Science & Math	M	36-49	11-15

Table 5

Descriptive Statistics for Motivating Factors (N=363)

Questions	<i>Mean</i>	<i>SD</i>
Aggregate total for this section	3.07	0.55
Q1 Teaching online courses provides my students with more flexible learning opportunities.	4.07	1.02
Q2 Teaching online courses provides me with more flexible working conditions.	3.89	1.17
Q3 Teaching online courses provides opportunities for extra financial compensation.	3.77	1.14
Q4 I feel pressured by competitors (e.g., other universities, programs) to teach online courses.	2.52	1.41
Q5 I feel pressured by my department chair, dean, or other administrators to teach online courses.	2.23	1.34
Q6 I feel pressured by my colleagues to teach online courses.	1.78	1.04
Q7 I feel pressured by my students to teach online courses.	1.76	1.01
Q8 Teaching online is my own personal decision (as opposed to being required by my department).	4.03	1.22
Q9 I derive personal satisfaction from teaching online courses.	3.03	1.43
Q10 When I need technical support, I am able to obtain the appropriate help.	3.61	1.05

Table 6

*Descriptive Statistics for Adoption Barriers (N=363)**

Questions	Mean	SD
Aggregate total for this section	3.12	0.73
Q11 I am philosophically opposed to teaching online.	3.67	1.39
Q12 I feel anxious about my abilities to teach online.	3.77	1.24
Q13 Teaching online courses is more frustrating than teaching traditional face-to-face courses.	2.85	1.24
Q14 Teaching online courses takes more work than teaching traditional face-to-face courses.	2.20	1.14
Q15 Teaching online courses takes more time than teaching traditional face-to-face courses.	2.25	1.17
Q16 The time it would take to teach an online course would be better spent on other aspects of my work.	3.04	1.31
Q17 I am concerned about a loss of control over the teaching and learning process in an online environment.	3.19	1.39
Q18 It is difficult to learn how to use the technology needed to teach online.	3.65	1.18
Q19 It is difficult to obtain the proper technical support to help me deliver online instruction.	3.70	1.14
Q20 Teaching online courses is not rewarded in the tenure and promotion process.	2.91	1.21

* Items are negatively worded and reverse coded

Table 7

Descriptive Statistics for Perceptions of Quality (N=363)

Questions	<i>Mean</i>	<i>SD</i>
Aggregate total for this section	2.91	1.11
Q21 There are pedagogical advantages to teaching online.	2.92	1.21
Q22 I feel the quality of online course content is at least as good as a traditional face-to-face course.	2.93	1.38
Q23 I am able to create deeper comprehension and understanding of the content when I teach online.	2.44	1.16
Q24 I feel the quality of instruction in an online course is at least as good as a traditional face-to-face course.	2.83	1.34
Q25 I feel the quality of learning outcomes in an online course is at least as good as a traditional face-to-face course.	2.99	1.35
Q26 I feel the quality of student's work in an online course is at least as good as a traditional face-to-face course.	2.99	1.33
Q27 I feel students will use more innovative technology in an online course than they would in a traditional course.	3.36	1.21
Q28 The advantages of teaching online far outweigh the disadvantages.	2.84	1.38

Table 8

Descriptive Statistics for Faculty Preparation (N=363)

Questions	<i>Mean</i>	<i>SD</i>
Aggregate total for this section	3.71	0.73
Q29 I have taken advantage of professional development opportunities to learn how to teach online courses.	3.63	1.41
Q30 Funding is available to attend professional development to support my development as an online instructor.	3.48	1.20
Q31 I have had opportunities to observe other faculty members who teach online courses.	3.01	1.36
Q32 I have the necessary technical (computer) skills to teach online courses.	4.11	1.03
Q33 I have had opportunities to learn how to develop the technical (computer) skills for teaching online courses.	4.02	1.03
Q34 I have the necessary pedagogical skills needed to teach online courses.	3.98	1.01
Q35 I have had opportunities to learn how to develop the pedagogical skills for teaching online courses.	3.85	1.11
Q36 I have the necessary knowledge to develop instructional materials for online courses.	3.95	1.07
Q37 I have had opportunities to learn how to develop instructional materials for online courses.	3.87	1.12
Q38 I prefer to receive one-on-one training to develop my online skills instead of attending workshops.	3.19	1.27

Table 9

Percentage of Average Teaching Load

Amount of time	%	<i>n</i>
Online Courses Taught		
0%	61	220
1 - 25%	17	62
26 - 50%	12	42
51 - 75%	4	13
76% - 100%	7	26
Hybrid Courses Taught		
	<u>%</u>	<u><i>n</i></u>
0%	54	196
1 - 25%	24	88
26 - 50%	10	35
51 - 75%	5	18
76% - 100%	7	26

Table 10

Extra Financial Compensation as a Motivator by Faculty Rank

Rank	Not a Motivator		Neutral		Motivator		Total
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	<i>n</i>
Emeritus	14%	1	14%	1	71%	5	7
Professor	17%	13	24%	19	59%	46	78
Associate Professor	12%	10	27%	23	62%	53	86
Assistant Professor	11%	10	34%	30	54%	47	87
Instructor	13%	4	16%	5	71%	22	31
Lecturer	4%	2	34%	19	63%	35	56
Other	11%	2	28%	5	61%	11	18

Appendix A

Institutional Review Board (IRB) Approval

February 2, 2012

To: James Wright, Ed.S.
KSU Department of Secondary and Middle Grades Education

RE: Your application dated 2/2/2012,
Study #12-254: Faculty's Perceptions of Online Instruction: A Case Study

Dear Professor Wright:

I have reviewed your application for the new study listed above. This study qualifies as exempt from continuing review under DHHS (OHRP) Title 45 CFR Part 46.101(b)(2) - educational tests, surveys, interviews, public observations. You are free to conduct your study without further reporting to the IRB.

Please note that all proposed revisions to an exempt study require IRB review prior to implementation to ensure that the study continues to fall within an exempted category of research. A copy of revised documents with a description of planned changes should be submitted to irb@kennesaw.edu for review and approval by the IRB.

Thank you for keeping the board informed of your activities. Contact the IRB at irb@kennesaw.edu or at (678) 797-2268 if you have any questions or require further information.

Sincerely,

Christine Ziegler, Ph.D.
Institutional Review Board Chair

cc: tchan@kennesaw.edu

Appendix B

Informed Consent for Online Survey

Thank you for your willingness to participate in this study, **Faculty's Perceptions Regarding Online Instruction (IRB #12-254)**. Kennesaw State University is making great strides to promote and develop online learning across multiple disciplines. The faculty members are the key to the success of this initiative. Therefore, the purpose of this research is to understand your perceptions about teaching online, and discover factors that promote and obstruct the adoption of this technology.

Your thoughts and opinions are highly valued! More importantly, they are essential to constructing a clear and accurate picture of the current condition of online learning at KSU. Your contribution benefits the university as a whole, and will influence the direction of online learning on campus.

The following points have been explained to me:

- The questionnaire should take about **8 to 10 minutes** to complete.
- Participation is completely voluntary and anonymous.
- All KSU faculty members and administrators are invited to participate in this study.
- There are **no known risks** to participation in this study.
- This study maintains complete confidentiality in compliance with IRB requirements.
- Your IP address **will not be** collected.

If you have any questions or concerns about this research, please contact:

Jim Wright, Principal Investigator
Department of Middle Grades Education
Kennesaw State University
1000 Chastain Road, MB #0122
Kennesaw, GA, USA 30144-5591
Email: jwright@kennesaw.edu
Phone: (770) 420-4739

T.C. Chan, Professor and Doctoral Chair
Department of Educational Leadership
Kennesaw State University
1000 Chastain Road, MB #9107
Kennesaw, GA, USA 30144-5591
Email: tchan@kennesaw.edu
Phone: (770) 423-6889

The purpose of this research has been explained and my participation is voluntary. I have the right to stop participation at any time without penalty. I understand that the research has no known risks, and I will not be identified. By completing this survey, I am agreeing to participate in this research project.

Research at Kennesaw State University that involves human participants is carried out under the oversight of an Institutional Review Board. Questions or problems regarding these activities should be addressed to the Institutional Review Board, Kennesaw State University, 1000 Chastain Road, #0112, Kennesaw, GA 30144-5591, (678) 797-2268.

[I agree to participate in this study](#)

Appendix C

Informed Consent for Faculty Interviews

February 22, 2012

Dear Colleague:

Thank you for your willingness to participate in the Faculty's Perceptions Regarding Online Instruction. Kennesaw State University is making great strides to promote and develop online learning across multiple disciplines. Faculty members are the key to the success of this initiative. Therefore, the purpose of this research is to understand your perceptions about teaching online, and uncover factors that promote and obstruct the adoption of this medium.

Your thoughts and opinions are highly valued! More importantly, they are essential to the construction of a clear and accurate picture of the current condition of online learning at KSU. Although you may perceive no direct benefits from participation, ultimately, your contribution benefits the university as a whole, and will influence the direction of online learning on campus.

The following points have been explained to me:

- The interview process should take **approximately 30 minutes** to complete.
- Participation is completely voluntary and anonymous.
- The interview will be audio recorded. The audio recordings will only be reviewed by the principal investigator or the dissertation committee. The audio recording will be destroyed on December 1, 2012.
- There are **no known risks** to participation in this study. However, may experience discomfort or stress discussing their ability to accept change and/or the adoption of new technology.
- This study maintains complete confidentiality in compliance with the Kennesaw State IRB requirements. The results of this participation will be anonymous and no identifiable information will be released.
- Select faculty members are invited to the interview process and they are over 18 years of age.

Signature of Participant, Date

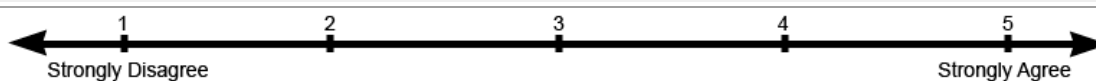
Signature of Principal Investigator, Date

Research at Kennesaw State University that involves human participants is carried out under the oversight of an Institutional Review Board. Questions or problems regarding these activities should be addressed to the Institutional Review Board, Kennesaw State University, 1000 Chastain Road, #0112, Kennesaw, GA 30144-5591, (678) 797-2268.

Appendix D

Online Survey Instrument

Please select from **1 - 5** on the **continuum** that best represents your opinion to the following statements or questions regarding online teaching. Please note that all responses are anonymous and confidential. **This should take you 8 - 10 minutes.**



Motivating Factors

1.	Teaching online courses provides my students with more flexible learning opportunities.	1	2	3	4	5
2.	Teaching online courses provides me with more flexible working conditions.	1	2	3	4	5
3.	Teaching online courses provides opportunities for extra financial compensation.	1	2	3	4	5
4.	I feel pressured by competitors (e.g., other universities, programs) to teach online courses.	1	2	3	4	5
5.	I feel pressured by my department chair, dean, or other administrators to teach online courses.	1	2	3	4	5
6.	I feel pressured by my colleagues to teach online courses.	1	2	3	4	5
7.	I feel pressured by my students to teach online courses.	1	2	3	4	5
8.	Teaching online is my own personal decision (as opposed to being required by my department).	1	2	3	4	5
9.	I derive personal satisfaction from teaching online courses.	1	2	3	4	5
10.	When I need technical support, I am able to obtain the appropriate help.	1	2	3	4	5

Adoption Barriers

11.	I am philosophically opposed to teaching online.	1	2	3	4	5
12.	I feel anxious about my abilities to teach online.	1	2	3	4	5
13.	Teaching online courses is more frustrating than teaching traditional face-to-face courses.	1	2	3	4	5
14.	Teaching online courses takes more work than teaching traditional face-to-face courses.	1	2	3	4	5
15.	Teaching online courses takes more time than teaching traditional face-to-face courses.	1	2	3	4	5

16.	The time it would take to teach an online course would be better spent on other aspects of my work.	1	2	3	4	5
17.	I am concerned about a loss of control over the teaching and learning process in an online environment.	1	2	3	4	5
18.	It is difficult to learn how to use the technology needed to teach online.	1	2	3	4	5
19.	It is difficult to obtain the proper technical support to help me deliver online instruction.	1	2	3	4	5
20.	Teaching online courses is not rewarded in the tenure and promotion process.	1	2	3	4	5
Perceptions of Quality						
21.	There are pedagogical advantages to teaching online.	1	2	3	4	5
22.	I feel the quality of online course content is at least as good as a traditional face-to-face course.	1	2	3	4	5
23.	I am able to create deeper comprehension and understanding of the content when I teach online.	1	2	3	4	5
24.	I feel the quality of instruction in an online course is at least as good as a traditional face-to-face course.	1	2	3	4	5
25.	I feel the quality of learning outcomes in an online course is at least as good as a traditional face-to-face course.	1	2	3	4	5
26.	I feel the quality of student's work in an online course is at least as good as a traditional face-to-face course.	1	2	3	4	5
27.	I feel students will use more innovative technology in an online course than they would in a traditional course.	1	2	3	4	5
28.	The advantages of teaching online far outweigh the disadvantages.	1	2	3	4	5
Faculty Preparation						
29.	I have taken advantage of professional development opportunities to learn how to teach online courses.	1	2	3	4	5
30.	Funding is available to attend professional development to support my development as an online instructor.	1	2	3	4	5
31.	I have had opportunities to observe other faculty members who teach online courses.	1	2	3	4	5
32.	I have the necessary technical (computer) skills to teach online courses.	1	2	3	4	5
33.	I have had opportunities to learn how to develop the technical (computer) skills for teaching online courses.	1	2	3	4	5
34.	I have the necessary pedagogical skills needed to teach online courses.	1	2	3	4	5
35.	I have had opportunities to learn how to develop the pedagogical skills for teaching online courses.	1	2	3	4	5

36.	I have the necessary knowledge to develop instructional materials for online courses.	1	2	3	4	5
37.	I have had opportunities to learn how to develop instructional materials for online courses.	1	2	3	4	5
38.	I prefer to receive one-on-one training to develop my online skills instead of attending workshops.	1	2	3	4	5

Faculty Experience

For the purposes of this questionnaire, the following definitions are used:

- **Fully Online Course:** A course where 90-100% of the content is delivered online. Typically there are no face-to-face class meetings, and the instruction can be delivered in a synchronous or asynchronous format (SUNY Potsdam, 2011).
- **Hybrid/Blended Course:** A course where 25-89% of the content is delivered online while the rest of the instruction is delivered in a traditional, face-to-face setting. There is a reduction in traditional seat time (SUNY Potsdam, 2011).

39.	I have taken a fully online course as a student.	<input type="checkbox"/> Yes <input type="checkbox"/> No
40.	I have taken a hybrid/blended online course as a student.	<input type="checkbox"/> Yes <input type="checkbox"/> No
41.	I have taught a fully online course.	<input type="checkbox"/> Yes <input type="checkbox"/> No
42.	I have taught a hybrid/blended online course.	<input type="checkbox"/> Yes <input type="checkbox"/> No
43.	I have conducted research or engaged in other scholarly pursuits connected with online learning.	<input type="checkbox"/> Yes <input type="checkbox"/> No

On average, what percentage of your teaching load do you teach?

44.	Fully Online Course	0%	1 - 25%	26 - 50%	51 - 75%	76% - 100%
45.	Hybrid/Blended Course	0%	1 - 25%	26 - 50%	51 - 75%	76% - 100%

Demographics

46. Select your primary academic college:	47. Professional rank:
<input type="checkbox"/> Bagwell College of Education <input type="checkbox"/> Coles College of Business <input type="checkbox"/> College of Humanities and Social Sciences <input type="checkbox"/> College of Science and Mathematics <input type="checkbox"/> College of The Arts <input type="checkbox"/> Graduate College <input type="checkbox"/> University College <input type="checkbox"/> WellStar College of Health Services	<input type="checkbox"/> Emeritus <input type="checkbox"/> Professor <input type="checkbox"/> Associate Professor <input type="checkbox"/> Assistant Professor <input type="checkbox"/> Instructor <input type="checkbox"/> Lecturer <input type="checkbox"/> Other
48. Tenure status:	49. Employment Status:
<input type="checkbox"/> Tenured	<input type="checkbox"/> Full-time

<input type="checkbox"/> Tenure track (not tenured) <input type="checkbox"/> Non tenure track	<input type="checkbox"/> Part-time
50. Gender: <input type="checkbox"/> Female <input type="checkbox"/> Male	
51. Age range: <input type="checkbox"/> 23 - 34 <input type="checkbox"/> 35 - 44 <input type="checkbox"/> 45 - 54 <input type="checkbox"/> 55 - 64 <input type="checkbox"/> 65 or older	
52. Number of years teaching at KSU: <input type="checkbox"/> 0 - 4 <input type="checkbox"/> 5 - 9 <input type="checkbox"/> 10 - 14 <input type="checkbox"/> 15 - 19 <input type="checkbox"/> 20 or more	
53. Number of years teaching in higher education: <input type="checkbox"/> 0 - 4 <input type="checkbox"/> 5 - 9 <input type="checkbox"/> 10 - 14 <input type="checkbox"/> 15 - 19 <input type="checkbox"/> 20 or more	
54. Are you a cell phone user? Please select the best statement to describe you:	
<input type="checkbox"/> I do not have a cell phone	
<input type="checkbox"/> I am a basic plan user - just use the basic operations	
<input type="checkbox"/> I am a basic plan user - just use the basic operations	
<input type="checkbox"/> I am a moderate cell phone user - some calling and texting	
<input type="checkbox"/> I am heavy cell phone user - talk, text, email, some web	
<input type="checkbox"/> I am cell phone guru - talk, text, surf the web, download apps	
<input type="button" value=" << Submit >>"/>	

Appendix E

Protocol for Faculty Interviews

Interview number:

College:

Date:

Type of user: None / Novice / Intermediate / Experienced

Please complete the following demographic data:

1. Please indicate your gender. Male Female

2. Please indicate your age range.

25-35 36-49 50-62 63-70 71 - above

3. Please indicate your professional rank at this institution.

_____ Professor
 _____ Associate Professor
 _____ Assistant Professor
 _____ Instructor
 _____ Other
 _____ Lecturer

4. How many years have you been at Kennesaw State University?

0-5 16-20 31-35
 6-10 21-25 35-40
 11-15 26-20 above 40

5. How many total years of college teaching experience do you have?

0-5 16-20 31-35
 6-10 21-25 35-40
 11-15 26-20 above 40

THANK YOU FOR AGREEING TO PARTICIPATE IN THIS INTERVIEW. THE PURPOSE OF THIS INTERVIEW IS THE FOLLOW-UP ON QUESTIONS AND ISSUES ADDRESSED IN THE RECENT SURVEY YOU TOOK. THIS DISCUSSION PROVIDES AN OPPORTUNITY TO DIG DEEPER INTO THE MOTIVATORS AND BARRIERS TO ONLINE LEARNING. THIS INTERVIEW SHOULD ONLY TAKE ABOUT 30 MINUTES.

THE INFORMATION AND ANSWERS YOU PROVIDE WILL BE KEPT CONFIDENTIAL AND YOUR NAME WILL NOT APPEAR IN ANY OF THE RESEARCH MATERIALS. TO KEEP AN ACCURATE ACCOUNT OF OUR CONVERSATION, I WOULD LIKE TO RECORD THIS INTERVIEW. ARE YOU OKAY WITH THIS INTERVIEW BEING RECORDED?

- Yes =====> Start the audio recording Start time: _____ AM/PM
- No

Motivating Factors

1. Describe your experiences with online learning.
2. What do you see as some of the major benefits to teaching online?
3. Do you feel pressured by outside forces to teach online? If so, what are they?
4. Is the possibility of making extra income a strong enough motivator to for you to teach online?
5. What is your key motivation for teaching / or not teaching online?

Barriers

6. Describe your technical abilities to teach online.
7. Do you think the time needed to teach online is more or less than a traditional face-to-face class? Is it worth spending the time to teach online?
8. When you have a technical issue, how do you go about getting support to solve the problem or issue?
9. Describe what you think are the primary barriers to faculty adoption of online learning?

Perceptions of Quality

10. Discuss your perception of the quality of online instruction.
11. Do you feel that online learning is as effective as traditional face-to-face instruction?
12. Do you think you can meet the same learning outcomes in an online class?
13. Are you concerned with a loss of academic integrity as more classes and programs are put online?
14. Do you it is easier for students to cheat in an online environment?

Faculty Preparation

15. Describe your process of learning a new technology. Are workshops a productive method to learn new technologies?

16. How much do you learn from colleagues or peers in your department?
17. Do you find it difficult to attend professional development?
18. Discuss your department support of your professional development. Do you look outside your department for resources?

Final Questions

19. Do you think it is appropriate for KSU to be pursuing more online courses and programs?
20. If you could provide the Provost and President any suggestions to facilitate online learning at KSU, what suggestions would you provide?
21. What can KSU do for you, to help your development as an online instructor?

I want to thank you for your time and effort with this interview. The information that you provided will help propel Kennesaw State further down the road with online learning.

Stop recording